

<b>Seat No.</b>	
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Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) Question no. 1 and 2 are compulsory.  
2) Attempt any three questions from Q. No. 3 to Q. No. 7  
3) Figure to right indicate full marks.

## 10

- Which of the following is not the property of SO<sub>2</sub>?  
a) Colourless                      b) Odourless  
c) Bent molecule                  d) Polar molecule
- The nitriles show IR absorption peak at about \_\_\_\_\_ cm<sup>-1</sup>  
a) 2200 - 2250                    b) 2730 - 2700  
c) 1720 - 1700                    d) 1650 - 1600
- How many fundamental modes of vibrations are observed in IR of ammonia molecule?  
a) 6                                    b) 3  
c) 7                                    d) 15
- \_\_\_\_\_ acts as an anode in Dropping Mercury Electrode.  
a) Pool of mercury                b) Platinum  
c) Glass                             d) DME
- Which of the following is used as fluorescence indicator?  
a) Phenolphthalein               b) Methyl orange  
c) Eosin                             d) Eriochrome Black-T
- The total volume of water in the body can be determined by using \_\_\_\_\_ radioactive element as a tracer.  
a) Cu                                 b) Ti  
c) Hg                                 d) Na
- In paper chromatography, aqueous medium acts as \_\_\_\_\_ phase.  
a) Solvent                          b) Mobile  
c) Stationary                       d) Organic
- The 1, 2 coupling is also known as \_\_\_\_\_ coupling.  
a) Geminal                         b) Vicinal  
c) Long range                      d) None of these
- When the sample is bombarded by slow neutrons, the mass number of element is increased by \_\_\_\_\_ unit.  
a) Four                               b) Two  
c) Three                              d) One
- Influenza shows \_\_\_\_\_ type of hazard to our body.  
a) Chemical                        b) Psychological  
c) Physical                          d) Biological

**B) Fill in the blanks.****06**

- 1) In NMR spectroscopy, the multiplicity of peak due to proton on adjacent carbon atom is given by \_\_\_\_\_ rule.
- 2) In mass spectrometer \_\_\_\_\_ beam is used for ionization of gaseous molecules.
- 3) In mass spectroscopy, base peak has assigned the \_\_\_\_\_ intensity.
- 4) The fluorescence intensity does not depend upon \_\_\_\_\_.
- 5) In Ilkovic equation, n stands for \_\_\_\_\_.
- 6) In benzoic acid \_\_\_\_\_ sets of proton are present.

**Q.2 Answer the following****16**

- a) Describe types of development of chromatogram in paper chromatography.
- b) Explain how analysis of ammonia is carried out.
- c) Write note on voltage current curves in polarography.
- d) Write note on GCMS technique.

**Q.3 Answer the following.****16**

- a) Describe principle, methodology and applications of thin layer chromatography.
- b) Write principle and methodology of fluorescence spectroscopy.

**Q.4 Answer the following.****16**

- a) Write applications of neutron activation analysis.
- b) Write applications of polarography in analysis of Agrochemicals.

**Q.5 Answer the following.****16**

- a) Explain principle and instrumentation of HPLC.
- b) Describe types of electronic excitations in UV spectroscopy.

**Q.6 Answer the following.****16**

- a) Describe types of vibrations in IR spectroscopy.
- b) Draw NMR spectra of acetophenone and 2- butanone.

**Q.7 Answer the following.****16**

- a) Describe functional group region and finger print region in IR spectroscopy.
- b) Describe various types of ions in mass spectroscopy.

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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**APPLIED GEOLOGY**  
**Research Methodology**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions. 10**

- 1) Which of the following requirements for a dissertation may depend on your institution?
  - a) Whether an abstract should be included
  - b) The format for referencing
  - c) The size of the study
  - d) All of the above
- 2) The role of a project supervisor is to: \_\_\_\_\_.
  - a) give you a reading list
  - b) provide academic support, guidance and critical feedback on your work
  - c) negotiate access to the research setting on the student's behalf
  - d) ensure you keep to your schedule and deadlines
- 3) The F-test: \_\_\_\_\_.
  - a) Is essentially a two-tailed test
  - b) Is essentially a one-tailed test
  - c) Can be one-tailed as well as two-tailed depending on the hypotheses
  - d) Can never be one tailed test
- 4) What is the shortcut key for find in Microsoft word document?
 

a) Ctrl + K	b) Ctrl + G
c) Ctrl + I	d) Ctrl + F
- 5) Which of the following is recording source of data?
  - a) Books
  - b) Journal, magazine and news paper
  - c) Internet clipping
  - d) All the above
- 6) 'International Standard Book Number (ISBN)' is a \_\_\_\_\_ digit unique numeric commercial machine-readable identification number meant for monograph publications.
 

a) Eight	b) Thirteen
c) Ten	d) Eleven
- 7) One of the following is not an open source software: \_\_\_\_\_.
 

a) D space	b) Windows
c) Green-stone	d) Linux

- 8) What abbreviation is used to mention more than four authors of a research work to be cited?
  - a) at al
  - b) et all
  - c) ot all
  - d) et al
- 9) "Web of Science" is \_\_\_\_\_.
  - a) Citation Index
  - b) A Bibliography
  - c) An Abstracting Service
  - d) All of the above
- 10) Motivation Research is a type of \_\_\_\_\_ research.
  - a) Quantitative
  - b) Applied
  - c) Pure
  - d) Qualitative

**B) Fill in the blanks OR Write True/False:**

06

- 1) The first page of the research report is 'Title page'. (True/false)
- 2) Field analysis is a type of self-reporting technique? (True/false)
- 3) International Standard Serial Number (ISSN) consists of 10 digits. (True/False)
- 4) CTRL+N is Shortcut key to Open a \_\_\_\_\_ document in MS-Word?
- 5) A report is an \_\_\_\_\_ work.
- 6) How to judge the depth of any research?

**Q.2 Answer the following**

16

- a) h-Index
- b) MS-Power point
- c) ISBN number
- d) Purpose of literature review

**Q.3 Answer the following.**

16

- What is impact factor? How is impact factor is calculated?
- Give a full account on search engine.

**Q.4 Answer the following.**

16

- a) What is meant by data collection? Give different methods of data collection.  
b) Write a full note on MS-Excel.

**Q.5 Answer the following.**

16

- Write an essay on coral draw.
- Write full note on key word.

**Q.6 Answer the following.**

16

- a) What is e-resources? Discuss various types of e-resources.
- b) What do you mean by Research Problem and how can you identify the Research Problem?

**Q.7 Answer the following.**

16

- Discuss characteristics and types of research objectives.
- Write a full note on results and discussion.

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Set **P**

**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**PHYSICS (APPLIED ELECTRONICS)**  
**Communication & Digital Electronics**

Day & Date: Monday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions.****10**

- 1) Which type of antenna is used for edge excited cells?
  - a) Omni-directional antenna
  - b) Grid antenna
  - c) Sectorized directional antenna
  - d) Dipole antenna
- 2) The expression  $Y = (A+B)(B+C)(C+A)$  shows the \_\_\_\_\_ operation.
  - a) AND
  - b) Product of sum
  - c) Sum of product
  - d) NAND
- 3) Modulation index is denoted as \_\_\_\_\_.
  - a)  $\mu$
  - b)  $\theta$
  - c)  $\Phi$
  - d)  $\Omega$
- 4) Abbreviate PSK?
  - a) Phase Shift Keying
  - b) Phase Side Keying
  - c) Push Shift Keying
  - d) Push Side Keying
- 5) Which of the following are the multiplexing techniques used in GSM?
  - a) FDMA
  - b) TDMA
  - c) FDD
  - d) All the above
- 6) Which frequency band does the direct broadcast satellite system use?
  - a) C band
  - b) X band
  - c) Ku band
  - d) MF band
- 7) TDMA is a multiple access technique that has \_\_\_\_\_.
  - a) Different users in different time slots
  - b) Each user is assigned unique frequency slots
  - c) Each user is assigned a unique code sequence
  - d) Each signal is modulated
- 8) Which of the following are the GSM network systems?
  - a) Switching system
  - b) Mobile station
  - c) Base station system
  - d) All of these
- 9) In different types of Pulse Width Modulation \_\_\_\_\_.
  - a) Leading edge of the pulse is kept constant
  - b) Tail edge of the pulse is kept constant
  - c) Centre of the pulse is kept constant
  - d) All of the above

- 10) The process of reconstructing back the original signal is called \_\_\_\_\_.  
a) Modulation                      b) Demodulation  
c) Phasing                         d) None of the above

**B) State true or false.**

06

- 1) Bluetooth supports analog type of mobile communication.
- 2) Medium earth orbit is 36,000 km away from the geocenter of the earth.
- 3) In Hand-off technique the mobile moves from the original cell to a new cell and the call in progress has to be continued smoothly.
- 4) The double complement of A is equal to A.
- 5) The area covered by CDMA is large compared to TDMA.
- 6) The primary use of communication satellites is in long-distance telephone service.

**Q.2 Answer the following**

16

- Describe satellite orbits.
- Describe briefly frequency reuse concept of cellular system.
- Write a note on Wi-Fi.
- Explain AND gate with its gate representation and truth table.

**Q.3 Answer the following.**

16

- a) With a neat block diagram, explain the following analog modulation technique.
- 1) AM
  - 2) FM
- b) Explain the following.
- 1) PAM
  - 2) PWM

**Q.4 Answer the following.**

- |           |   |           |
|-----------|---|-----------|
| <b>a)</b> | Explain different generations of communication system with its merits and demerits. | <b>10</b> |
| <b>b)</b> | What is GSM? Explain various subsystems of GSM technology.                          | <b>06</b> |

**Q.5** Answer the following.

- |           |  |           |
|-----------|--|-----------|
| <b>a)</b> | What is satellite communication? With a neat block diagram, explain satellite transponder. | <b>10</b> |
| <b>b)</b> | What is modulation? Compare AM with FM.  | <b>06</b> |

**Q.6 Answer the following.**

- |    |  |    |
|----|--|----|
| a) | Convert the following decimal number to binary.            | 10 |
| 1) | Convert $123_{10}$ to binary                               |    |
| 2) | Convert $85_{10}$ to binary                                |    |
| b) | State and Explain Demorgan's theorem with its truth table. | 06 |

**Q.7 Answer the following.**

- a)** What is logic gate? Explain different gate with its classification **10**
- b)** Explain the following term. **06**
- 1) WiMAX
- 2) LTE network

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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**BIOSTATISTICS**  
**Applied Statistics**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions.**

**10**

- 1) Sampling frame is a term used for \_\_\_\_\_.  
 a) A list of random numbers  
 b) A list of voters  
 c) A list of sampling units of a population  
 d) Census survey
- 2) The number of possible samples of size n from a population of size N units with replacement is \_\_\_\_\_.  
 a)  $\binom{N}{n}$   
 b)  $N^n$   
 c)  $\infty$   
 d)  $N!$
- 3) The component of a time series attached to long-term variation is termed as \_\_\_\_\_.  
 a) cyclic variation  
 b) secular variation  
 c) irregular variation  
 d) constancy
- 4) Most preferred type of the average for index numbers is \_\_\_\_\_.  
 a) Arithmetic mean  
 b) Geometric mean  
 c) Harmonic mean  
 d) None of the above
- 5) Which of the following satisfies both factor reversal and time reversal test?  
 a) Laspeyre's index number  
 b) Paasche's index number  
 c) Fisher's index number  
 d) All of these
- 6) Probability of drawing a unit at each selection remain same in \_\_\_\_\_.  
 a) Simple random sampling with replacement (SRSWR)  
 b) Simple random sampling without replacement (SRSWOR)  
 c) Both SRSWR and SRSWOR  
 d) Neither in SRSWR nor in SRSWOR
- 7) In simple random sampling with replacement, the same sampling unit may be included in the sample \_\_\_\_\_.  
 a) Only once  
 b) Only twice  
 c) More than once  
 d) Hundred times
- 8) The faults due to assignable causes \_\_\_\_\_.  
 a) Can be removed  
 b) Cannot removed  
 c) Can sometimes be removed  
 d) Impossible to remove

- 9) The geometric mean of Laspeyre's and Paasche's price indices is also known as \_\_\_\_\_.  
a) Cost of living index  
b) Fisher's price index  
c) Either cost of living index or Fisher's index  
d) Neither cost of living index nor Fisher's index
- 10) The value of Net Reproduction Rate (NRR)>1 is indicative of \_\_\_\_\_.  
a) Increase in population      b) Reduction in population  
c) Constancy in population      d) All of the above

**B) Write True / False.****06**

- 1) The increase in sales of a departmental store on Dusshera and Diwali are associated with the seasonal component of time series.
- 2) The sample should always be 5% of the total population.
- 3) The variation due to manmade reasons is called as assignable cause variation.
- 4) Increase in prices of Air Conditioners in Summer is an example of cyclical variation of time series.
- 5) Base year for Index numbers should be an year in which flood or earthquake has occurred.
- 6) Chance causes can be completely removed from the process.

**Q.2 Answer the following****16**

- a) Explain time reversal test for index numbers.
- b) Explain non-sampling errors.
- c) Write a note on life tables.
- d) Explain factor reversal test for index numbers.

**Q.3 Answer the following.****16**

- a) What is cost of living index number? Explain its uses. Describe the procedure followed in its construction.
- b) Explain the advantages of sampling. Also explain simple random sampling with replacement as well as simple random sampling without replacement.

**Q.4 Answer the following.****16**

- a) What is time series? Describe in brief its components. Give example of each component.
- b) Explain, in detail, stratified random sampling. Discuss the allocation problem for this method.

**Q.5 Answer the following.****16**

- a) Discuss the below methods for measurement of trend.
  - 1) Moving average method
  - 2) Progressive Average method
- b) Explain the construction of mean and range control charts, giving formulae for upper and lower limits in both cases when sample means and sample ranges are given.



**Q.6 Answer the following.****16**

- a) Explain the terms:
  - 1) Crude Death Rate
  - 2) Specific Death Rate
  - 3) Standardized Death Rate
  - 4) Total Fertility Rate
  - 5) Crude Birth Rate
- b) Explain the need of base shifting for index numbers. Also explain how base shifting is carried out.

**Q.7 Answer the following.****16**

- a) Discuss the c chart for number of defects per unit.
- b) Define the following index numbers:
  - 1) Laspeyre's index number
  - 2) Paasche's index number
  - 3) Fisher's index number

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Set P
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**M.Sc. (Sem-III) (New) (CBCS) Examination: Oct/Nov-2022**  
**BIOTECHNOLOGY**

**Advanced Pharmaceuticals**

Day & Date: Friday, 17-02-2023

Max. Marks: 80

Time: 11:00 AM To 02:00 PM

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions. 10**

- 1) Which kind of molecules cannot pass through a pore transport?
  - a) Low Molecular weight molecules
  - b) Water-soluble drugs
  - c) Molecules up to 400 Dalton
  - d) Molecules greater than 400 Dalton
- 2) Which one of these is a physicochemical property of Drug substance?
  - a) Drug solubility
  - b) Disintegration time
  - c) Age of patient
  - d) Dissolution time
- 3) Which one of these does not come under a physicochemical property of drugs?
  - a) Drug solubility
  - b) Disintegration time
  - c) Dissolution rate
  - d) Drug stability
- 4) Patient-related factors of drug absorption do not deal with which one of these?
  - a) Age
  - b) Gastric Emptying time
  - c) Intestinal transit time
  - d) Pharmaceutic ingredients
- 5) Which of the following is not a form of excipients?
  - a) Paracetamol
  - b) Disintegrants
  - c) Lubricants
  - d) Binders
- 6) Which phase in clinical development is the largest investment of both time and money?
  - a) Phase I
  - b) Phase II
  - c) Phase III
  - d) Phase IV
- 7) Purpose of Phase 1 clinical trials?
  - a) To identify a target population
  - b) To select a lead compound from a lead series
  - c) To establish the safety of administration to humans
  - d) To test whether the proposed drug actually works
- 8) Which method is implemented in lead compound screening?
  - a) Combinatorial chemistry
  - b) Medicinal chemistry
  - c) High throughput screening
  - d) All of the above

- 9) What is the function of a granulating agent in drug formulation?
  - a) Promote cohesive compacts
  - b) Added if the required dosage is inadequate so that necessary bulk can be produced
  - c) Tablets can disintegrate easily
  - d) Used as solubilizer
- 10) Which tablets have longer Disintegration time?
  - a) Single coated tablets
  - b) Uncoated tablets
  - c) Sugar-coated tablets
  - d) Capsules

**B) Fill in the blanks OR Write true/false.****06**

- 1) Disintegration time is directly proportional to the amount of binder present in the tablet.
  - a) True
  - b) False
- 2) Greater the surface area lesser is the dissolution.
  - a) True
  - b) False
- 3) Diffusion coefficient of drug D, Greater the value faster is the dissolution.
  - a) True
  - b) False
- 4) A drug can be absorbed by more than one mechanism
  - a) True
  - b) False
- 5) Particle size can be determined by optical microscopy method.
  - a) True
  - b) False
- 6) Miceller are spherical amphiphilic structure having hydrophobic and hydrophilic shell.
  - a) True
  - b) False

**Q.2 Answer the following****16**

- a) Define Drug.
- b) What is Bio-Availability of a drug?
- c) How do you define the half-life of a drug?
- d) Define Biological drug targets.

**Q.3 Answer the following.****16**

- a) How does particle size affect the solid, liquid and gaseous phase of drug formulation?
- b) Write note on Drug Vs. Vaccine.

**Q.4 Answer the following.****16**

- a) What is Lipinski Rule of Five and its applications in drug development?
- b) Describe in detail about solubility of drugs and its parameters.

**Q.5 Answer the following.****16**

- a) Write a note on the process of drug discovery and development.
- b) Describe pharmacokinetics in detail.

**Q.6 Answer the following.****16**

- a) Explain different types of drug formulations.
- b) Describe the role of drug particle size in pharmaceuticals.

**Q.7 Answer the following.****16**

- a) Describe phase I & II in clinical trials.
- b) Describe biological implications of surfactants.

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Set **P**

**M.Sc. (Sem-III) (New) (CBCS) Examination: Oct/Nov-2022**  
**BIOTECHNOLOGY**

**Computational Structure Biology and Drug Designing**

Day &amp; Date: Friday, 17-02-2023

Max. Marks: 80

Time: 11:00 AM To 02:00 PM

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions.**

**10**

- 1) Ionic interaction between protein-protein is \_\_\_\_\_ interaction.
  - a) Stable
  - b) Transient
  - c) Covalent
  - d) None covalent
- 2) X-ray diffraction is a \_\_\_\_\_ detection method for protein-DNA interaction.
  - a) *In vivo*
  - b) *In vitro*
  - c) *In situ*
  - d) *In silico*
- 3) \_\_\_\_\_ is the major drug-metabolizing enzyme.
  - a) CYP2D6
  - b) CYP3A4
  - c) Oxidase
  - d) CYP2C19
- 4) FDA approval of drugs are obtained after \_\_\_\_\_ phase of clinical trials.
  - a) I
  - b) II
  - c) III
  - d) IV
- 5) Relationships between chemical structure and toxicity in a quantitative manner can be predicted by \_\_\_\_\_.
  - a) QSPR
  - b) QSAR
  - c) QSTR
  - d) QSBR
- 6) PDB gives \_\_\_\_\_ structures.
  - a) Protein & ligand
  - b) Only protein
  - c) Only ligand
  - d) Only DNA
- 7) \_\_\_\_\_ is a biological pathway database.
  - a) GenBank
  - b) MINT
  - c) DDBJ
  - d) SwissProt
- 8) \_\_\_\_\_ provides active site residue annotation for enzymes in the Protein Data Bank.
  - a) EAS
  - b) ASR
  - c) CSA
  - d) ATLAS
- 9) \_\_\_\_\_ route of administration does not require drug absorption.
  - a) Oral
  - b) Intravenous
  - c) Intra muscular
  - d) Intraperitoneal
- 10) \_\_\_\_\_ is not a protein-ligand docking tool.
  - a) Autodock
  - b) HADDOCK
  - c) SWISSDOCK
  - d) ChemDOCK

**B) Fill in the blanks OR Write true/false.****06**

- 1) "Y2H" system is developed in \_\_\_\_\_ organism.
- 2) The amino acids connects the two alpha helical structure is called \_\_\_\_\_.
- 3) Major and minor grooves are found in \_\_\_\_\_.
- 4) ProTox tool is used for \_\_\_\_\_.
- 5) PyMol is \_\_\_\_\_ tool.
- 6) What body does to a drug is called \_\_\_\_\_.

**Q.2 Answer the following****16**

- a) Write a note on protein – protein interaction.
- b) Describe in detail about KEGG database
- c) explain in detail Chou – Fasman method for protein structure prediction.
- d) Write a note on types of RNA structure.

**Q.3 Answer the following.**

- a) Explain the structure based and ligand based drug design.
- b) Write a note on Metalloproteins.

**10****06****Q.4 Answer the following.**

- a) Explain different phases of clinical trials.
- b) Describe the QSAR in detail.

**10****06****Q.5 Answer the following.**

- a) Explain the steps involved in homology modeling.
- b) Describe the mutation in drug targets.

**10****06****Q.6 Answer the following.**

- a) What is protein 3D structure? Explain various protein 3D structure validation tools
- b) What is pharmacodynamics? Explain pharmacodynamics properties.

**10****06****Q.7 Answer the following.**

- a) Explain the steps involved in *in-silico* drug discovery process.
- b) Describe molecular docking process in detail.

**10****06**

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## Plant growth and Development

Max. Marks: 80

**Instructions:** 1) Question no. 1 and 2 are compulsory.  
2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
3) Figure to right indicate full marks.

## 10

- Brassinosteroids were first isolated from the bee-collected pollen grains of \_\_\_\_\_.
  - B. campestris*
  - B. napus*
  - B. oleracea*
  - B. species*
- Antigibberellins such as CCC find extensive use in \_\_\_\_\_.
  - food industry
  - breweries
  - floriculture industry
  - tissue culture
- \_\_\_\_\_ has become an important research tool for plant molecular biologists in recent years.
  - Arabidopsis thaliana*
  - Brassica napus*
  - Solanum tuberosum*
  - Xanthium* species
- In plants, the richest source of phytochrome is \_\_\_\_\_.
  - leaves
  - stem
  - light grown seedling
  - etiolated seedling
- \_\_\_\_\_ a plant growth regulator is also employed as human medicine.
  - Batassins
  - Maleic hydrazide
  - Salicylic acid
  - Brassinosteroids
- Monocarpic senescence is seen in \_\_\_\_\_.
  - mango
  - coconut
  - pomegranate
  - bamboo
- \_\_\_\_\_ is not a secondary messenger.
  - $\text{Ca}^{++}$
  - c AMP
  - c GMP
  - ABA
- Blue light responses are mediated through \_\_\_\_\_.
  - phytochrome
  - cryptochrome
  - carotenoids
  - anthocyanin
- Programed cell death is scientifically known as \_\_\_\_\_.
  - automy
  - cell lysis
  - apoptosis
  - none of these
- \_\_\_\_\_ is a fruit ripening hormone.
  - Cytokinin
  - Ethylene
  - Gibberllins
  - Auxin

**B) True or False.****06**

- 1) Absciscic acid plays important role during stomatal closing
- 2) During senescence Expression of senescence associated genes (SAGs) decreases.
- 3) Polyamines are synthesized from two amino acids like Lysine and Arginine.
- 4) P<sub>r</sub> form of phytochrome pigment absorbs red light.
- 5) During seed germination starch is hydrolyzed first into maltose.
- 6) Tobacco is a short day plant.

**Q.2 Answer the following****16**

- a) Give role of TIBA
- b) Role of auxins in plants
- c) Write a note on morphactins.
- d) Metabolism of stored seeds

**Q.3 Answer the following.****16**

- a) Explain in brief discovery and role of Jasmonate.
- b) Give an account of discovery, properties and role of cryptochrome in plants.

**Q.4 Answer the following.****16**

- a) Describe in brief triacontanol.
- b) Describe in brief secondary messengers.

**Q.5 Answer the following.****16**

- a) Describe the biochemical and physiological changes during fruit ripening.
- b) Explain signaling mechanism of cytokinin in plants.

**Q.6 Answer the following.****16**

- a) Explain biosynthesis and role of ethylene in plants.
- b) What are Plant growth retardants? Explain role of Maleic hydrazide.

**Q.7 Answer the following.****16**

- a) Explain role of mutants in physiological studies with reference to *Arabidopsis thaliana*.
- b) Describe the physiological and biochemical changes during senescence of leaves.

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## Herbal and Drug technology

Max. Marks: 80

**Instructions:** 1) Question no. 1 and 2 are compulsory.  
2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
3) Figure to right indicate full marks.

## 10

- Multiple choice questions:
- 1) There are \_\_\_\_\_ types of Vedas.  
a) one  
b) two  
c) three  
d) four
  - 2) Panchmahabhuta & Tridosha theory is related to \_\_\_\_\_.  
a) Homeopathy  
b) Aromatherapy  
c) Unani system  
d) Ayurveda
  - 3) Richest source of vitamin C is \_\_\_\_\_.  
a) *Capsicum frutescence*  
b) *Embllica officinalis*  
c) *Citrus sinensis*  
d) *Citrus limon*
  - 4) Leaf juice of which plant is given in chronic fever, haemorrhage, dysentery & dyspepsia & also used to check vomiting \_\_\_\_\_.  
a) Pan  
b) Tulsi  
c) AK  
d) Arusa
  - 5) Macroscopic methods include \_\_\_\_\_.  
a) Shape & Size  
b) Total ash value  
c) Cellular structure  
d) Water solubility
  - 6) Screen capacity is NOT a function of \_\_\_\_\_.  
a) atmospheric humidity  
b) screening surface  
c) screening mechanism  
d) it's opening size
  - 7) Which of the following can be used for separation of pulp?  
a) Elutriator  
b) Cone classifiers  
c) Drag classifier  
d) Liquid cyclone
  - 8) The efficiency of filtration increases if \_\_\_\_\_.  
a) Filter aid is added to the slurry  
b) The compressibility of solids is high  
c) Size distribution of solids is wide in slurry  
d) Filter medium is used
  - 9) Which one of the following forces greatly enhances the separation forces?  
a) Brownian forces  
b) Centrifugal forces  
c) Gravitational forces  
d) Van der Waals forces
  - 10) Colour, odour & taste of the drug belong to which type of evaluation method?  
a) Alphabetical  
b) Chemical  
c) Pharmacological  
d) Morphological



**B) Fill in the blanks.****06**

- 1) The traditional healer who practices the Unani system is termed as \_\_\_\_\_.
- 2) Removal of soluble constituents from solid or liquid with help of a suitable solvent is called \_\_\_\_\_.
- 3) The solvent used for extraction is known as \_\_\_\_\_.
- 4) The part of the \_\_\_\_\_ Plant can be used for the treatment of toothache.
- 5) The spacing between two bars in medium size screen ranges from \_\_\_\_\_.
- 6) Tollen's test is used for phytochemical test of \_\_\_\_\_.

**Q.2 Answer the following****16**

- a) Describe preparation and standardization of Asawas & Aristas
- b) What are the chemical constituents and uses of *Azadirachta indica*?
- c) What are the differences in between crushing & grinding operations?
- d) Define Drug evaluation and add a note on biological drug evaluation methods.

**Q.3 Answer the following.****16**

- a) Define herb and explain processing of herbal raw material.
- b) What are Grinders and describe different types of Grinders?

**Q.4 Answer the following.****16**

- a) Explain electrostatic and magnetic stirrer.
- b) What are the basic principles involved in Siddha and Unani Indian system of medicines?

**Q.5 Answer the following.****16**

- a) Explain morphology, systemic, useful parts, chemical constituents and uses of *Curcuma longa*.
- b) Write the preparation and standardization of Lehya and Bhasma.

**Q.6 Answer the following.****16**

- a) Explain in detail centrifugation and sedimentation.
- b) Define chromatography and explain Paper chromatography.

**Q.7 Answer the following.****16**

- a) Write down the phytochemical screening test for Terpenoids and flavonoids.
- b) Define distillation and explain in brief vacuum distillation.

Seat No.	
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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**COMPUTER SCIENCE**  
**Fundamental of Web Designing**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions.**

**10**

- 1) The document's title, document scripts are all contained in the \_\_\_\_\_ section.
  - a) <head>
  - b) <start head>
  - c) <head>
  - d) <ihead>
- 2) When saving a \_\_\_\_\_ file you should always give it .htm extension.
  - a) Document
  - b) PowerPoint
  - c) HTML
  - d) Word
- 3) \_\_\_\_\_ were both invented by Tim Berners-Lee, who was then working as a computer and networking specialist at a Swiss research institute.
  - a) JavaScript
  - b) HTML and HTTP
  - c) HTML and FTP
  - d) TCP/IP
- 4) The paragraph tag (<p>) is used to delimit entire \_\_\_\_\_ of text.
  - a) Paragraphs
  - b) Lines
  - c) Content
  - d) Body
- 5) Although there are \_\_\_\_\_ predefined levels of headings, you probably will only find yourself using three or four levels in your documents.
  - a) Seven
  - b) Six
  - c) Four
  - d) Five
- 6) The preformatted tag \_\_\_\_\_ causes the HTML client to treat white space literally and not to condense it as it usually would.
  - a) <pre>
  - b) <prefer>
  - c) <pre>
  - d) <pref>
- 7) The <body> element: Often referred to as the \_\_\_\_\_ of the page, this contains the information you actually see in the main browser window.
  - a) Head
  - b) Background
  - c) Body
  - d) Website
- 8) The \_\_\_\_\_ attribute is used to redirect to webpage, where the link should mentioned in source code.
  - a) aref
  - b) Linkref
  - c) href
  - d) arefere
- 9) The \_\_\_\_\_ attribute, indicating the source of the image.
  - a) Src
  - b) Drc
  - c) Irc
  - d) Krc

10) \_\_\_\_\_ are used to create online forms and surveys with multiple question types.

- a) Google documents                      b) Google forms
- c) Google slides                          d) Google drive

**B) Write True / False.**

**06**

- 1) The align attribute is still frequently used with tables.
- 2) Google Drive is the storage space for files online and it's very similar to the hard drive on computer.
- 3) The <caption> element appears directly after the opening <table> tag.
- 4) Google Slide is similar to Microsoft Word.
- 5) The two angle brackets and all of the characters between them are known as a tag.
- 6) Unordered lists, which use a sequence of numbers or letters instead of bullet points.

**Q.2 Answer the following**

**16**

- a) What is Website?
- b) What do you mean by HTML?
- c) Describe Google applications for Education.
- d) What do you mean by WWW?

**Q.3 Answer the following.**

**16**

- a) State and explain in detail five Golden rules of Web in Web Designing and Development.
- b) Discuss in detail structure of HTML forms and its control with suitable example.

**Q.4 Answer the following.**

**16**

- a) What is Internet? Explain in detail various application of Internet.
- b) State and explain types of HTML List with suitable example.

**Q.5 Answer the following.**

**16**

- a) What is Google Slide? Explain how to create Google slide and its various applications?
- b) Discuss in detail HTML Table tag with suitable example.

**Q.6 Answer the following.**

**16**

- a) Discuss HTML Image tag and its attributes with suitable example.
- b) Explain in detail working with text using HTML Font tag and its attribute.

**Q.7 Answer the following.**

**16**

- a) What is mean by Google Site? Discuss in detail components of Google Site.
- b) What is HTML? State and explain basic structure of HTML with suitable example.

Seat No.	
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**M.Sc. (Semester-III) (New) (CBCS) Examination: Oct/Nov-2022**  
**ORGANIC CHEMISTRY**  
**Applied Organic Chemistry**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

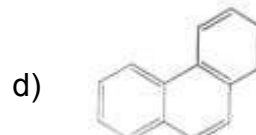
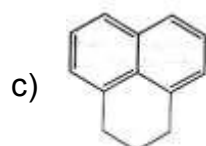
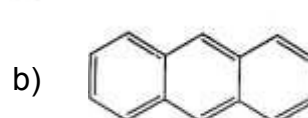
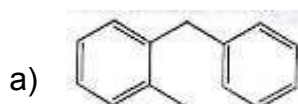
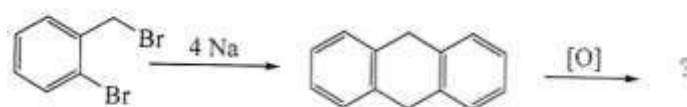
Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

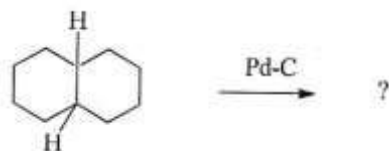
**Q.1 A) Multiple choice questions.**

**10**

- Advantages of Microwave assisted organic synthesis is/are \_\_\_\_\_.  
 a) Short reaction time                      b) Less Energy  
 c) Solvent less method                      d) All of the above
- Which of the following is Green Solvent?  
 a) Chloroform                                  b) Water  
 c) DMSO                                        d) Both A & B
- The term mutarotation is related to \_\_\_\_\_.  
 a) Interconversion of anomers  
 b) conversion of glucose to fructose  
 c) conversion of fructose to glucose  
 d) chain lengthening
- Glucose + Excess Phenyl Hydrazine  $\longrightarrow$  ?  
 a) Glucose Phenyl Hydrazone  
 b) Glucosazone  
 c) n-Hexane  
 d) Both a & b
- Product of the following reaction is: \_\_\_\_\_.



- 6) Product of the following reaction is: \_\_\_\_\_.



- a)
- b)
- c)
- d)

- 7) Supramolecular chemistry has been defined as \_\_\_\_\_.  
 a) Chemistry beyond the molecule  
 b) Chemistry of the large molecule  
 c) Chemistry of the small molecule  
 d) Chemistry of the complex molecule
- 8) Two strands in DNA are held together by \_\_\_\_\_.  
 a) Covalent bond  
 b) Vander Waal's forces  
 c) Hydrogen bond  
 d) Electrostatic force of attraction
- 9) Two or more binding sites acting in a concerted fashion to produce a combined interaction that is stronger than when the binding sites act independently of each other, is called \_\_\_\_\_.  
 a) Co-operativity  
 b) Solvent effect  
 c) Preorganization  
 d) Selectivity
- 10) \_\_\_\_\_ is the term that refers to fixing or limiting the geometry of the molecule to assist in their binding.  
 a) macrocyclic effect  
 b) Solvent effect  
 c) Preorganization  
 d) binding constant

**B) Fill in the blanks.**

**06**

- The chemical reaction in which three or more compounds react with each other to form a single product, is known as \_\_\_\_\_ Reaction.
- Treatment of Fructose with Cone. HCl gives \_\_\_\_\_.
- \_\_\_\_\_ is defined as the extra preference on axial orientation of An electronegative substituent at the anomeric carbon atom.
- Benzantracenes are \_\_\_\_\_ Fused compound.
- In \_\_\_\_\_ reaction, polynuclear hydrocarbons are produced from a diaryl ketone containing methyl group in the o-position to the keto group.
- Guest molecule possess \_\_\_\_\_ binding sites.

**Q.2 Answer the following**

**16**

- What is mutarotation? Explain with suitable example.
- Write a note on Epimerisation with suitable example.
- Write note on Ionic Liquid.
- Explain Multicomponent reaction.

**Q.3 Answer the following.**

**16**

- Explain the various basic principles of green chemistry.
- What are glycosides? Explain their conformations of Methyl  $\alpha$ -D and Methyl  $\beta$ -D-glycosides.

**Q.4 Answer the following.**

16

- Explain the Haworth Synthesis of Phenanthrene.
- What is Cyclodextrin? Write a note on structure, characteristics and applications of Cyclodextrin.

**Q.5 Answer the following.**

16

- Explain the chelate effect and cooperativity effect in supramolecular chemistry.
- Explain:
  - Anomeric effect
  - Kiliani-Fischer's synthesis

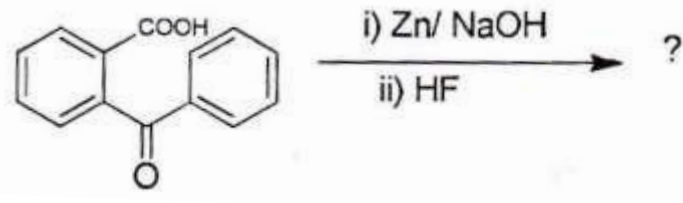
**Q.6 Answer the following.**

16

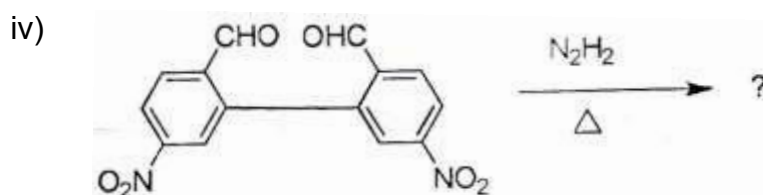
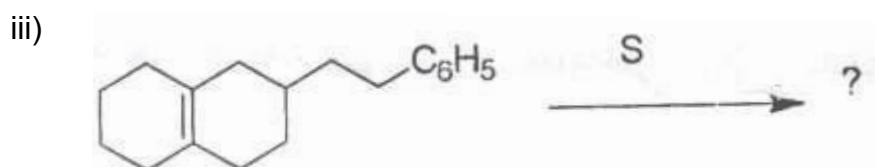
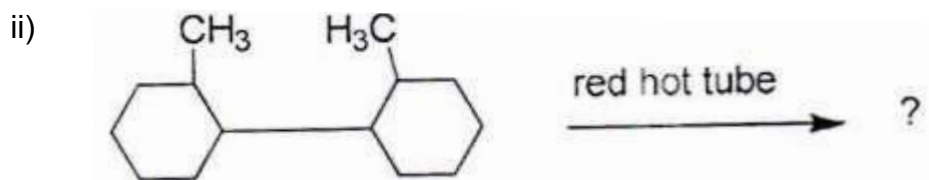
- What is molecular recognition? Explain the concept of complementarity.
- Give one synthesis of each of the following.
  - Naphthacene
  - Chrysene
  - Rubrene
  - Hexacene

**Q.7 Answer the following.**

16

- Explain the Kinetic and thermodynamic selectivity in supramolecular chemistry
- Complete the following reaction
  - 

Reaction of 1-phenyl-2-carboxy-1,2-diphenylethan-1-one with  $\text{Zn/NaOH}$  followed by  $\text{HF}$  to form an unknown product.



Seat No.	
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Set **P**

**M.Sc. (Semester-III) (New) (CBCS) Examination: Oct/Nov-2022**  
**INDUSTRIAL CHEMISTRY**

**Advanced Topics in Industrial Chemistry - I**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions.**

**10**

- 1) The tablet may contains \_\_\_\_\_ along with active drug.
  - a) filler
  - b) binder
  - c) colorant
  - d) all of these
- 2) A calorific value of a fuel is increases with \_\_\_\_\_.
  - a) increase in hydrogen content
  - b) increase in moisture
  - c) increase in carbon content
  - d) both a and b
- 3) In content uniformity test, the uniformity of \_\_\_\_\_ is determined.
  - a) active content
  - b) filler
  - c) colorant
  - d) flavoring agent
- 4) The device used for manual sampling of liquid fertilizers is \_\_\_\_\_.
  - a) Pipette
  - b) measuring bottle
  - c) measuring cup
  - d) all of the above
- 5) Among the following which is not an essential quality of a good fertilizer?
  - a) it should be stable
  - b) it should readily provide the essential nutrients
  - c) it should damage the plant
  - d) all of the above
- 6) Aspirin is an \_\_\_\_\_ drug.
  - a) antipyretic
  - b) antileprocy
  - c) anticancer
  - d) anti HIV
- 7) The process for developing a pharmacophore model involves \_\_\_\_\_.
  - a) conformational analysis
  - b) molecular superimposition
  - c) Abstraction
  - d) all of these
- 8) Which of the following formulation contains more than 85% sugar?
  - a) injection
  - b) syrup
  - c) tablet
  - d) lotion
- 9) During tablets manufacturing, \_\_\_\_\_ operations are involved.
  - a) dispensing
  - b) sizing, granulation
  - c) drying, compression
  - d) all of these
- 10) \_\_\_\_\_ are alcoholic formulations.
  - a) elixirs
  - b) spirits
  - c) tinctures
  - d) all of these

**B) Write true or false.****06**

- 1) Benzene, a green solvent is an important industrial solvent used in the production of pharmaceuticals, plastics and dyes.
- 2) Green chemistry involves 15 principles.
- 3) The type of the formulation depends upon personality of the patient.
- 4) The buccal tablets dissolves slowly in the cheek pouch of the mouth.
- 5) Chloroquine is an antimalarial drug.
- 6) The syrup are aqueous formulations.

**Q.2 Answer the following****16**

- a) Explain the terms half maximal inhibitory concentration ( $IC_{50}$ ) and median lethal dose ( $LD_{50}$ ).
- b) Write any two microwave assisted green synthetic reactions.
- c) Discuss with a neat labelled diagram of disintegration test used in pharmacopoeial analysis of tablets.
- d) Describe:
  - 1) Aniline point
  - 2) Octane number

**Q.3 Answer the following.****16**

- a) Give the role of nitrogen in plants and explain Kjeldahl's method that is used for the determination of nitrogen.
- b) Define calorific value and its units. Explain Bomb calorimeter method for the determination of calorific value of a fuel sample.

**Q.4 Answer the following.****16**

- a) Describe drug and its need and explain in detail the pharmacokinetics of the drug.
- b) Explain pharmacophore. Describe its model development and applications in detail.

**Q.5 Answer the following.****16**

- a) Discuss in detail the synthesis and pharmaceutical applications of salbutamol and ibuprofen.
- b) Describe in short:
  - 1) Prodrug with an example
  - 2) Nuclear receptors

**Q.6 Answer the following.****16**

- a) Discuss in detail types of pharmaceutical dosage forms on the basis of route of administration.
- b) Define pharmaceutical formulation. Discuss its need and explain various excipients that are added during formulation.

**Q.7 Answer the following.****16**

- a) Discuss in detail the dissolution and content uniformity test of aspirin by HPLC method.
- b) Explain in detail the use of ultra-sonication in organic synthesis with suitable examples.



Seat No.	
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Set **P**

**M.Sc. (Semester-III) (New) (CBCS) Examination: Oct/Nov-2022**  
**POLYMER CHEMISTRY**

**Spectral and Instrumental Analysis of Polymers**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions.**

**10**

- 1) For analysis of spherulites \_\_\_\_\_ technique is used.
  - a) TGA
  - b) POM
  - c) DSC
  - d) All of the above
- 2) Thermal stability of polymer is estimated by \_\_\_\_\_.
  - a) XRD
  - b) IR Spectroscopy
  - c) TGA
  - d) None of the above
- 3) In Raman spectroscopy the line with lower frequency than that of original frequency is called as \_\_\_\_\_ line.
  - a) Stoke
  - b) Rayleigh
  - c) Antistoke
  - d) Parallel
- 4) In SEM and TEM \_\_\_\_\_ is used as a source of illumination.
  - a) light
  - b) electrons
  - c) X-rays
  - d) Infra-red
- 5) When a compound is placed in a magnetic field, all the random spins of the nuclei \_\_\_\_\_.
  - a) are unaffected
  - b) reverses the direction
  - c) rotate to 70° away from the induced field
  - d) align either parallel or anti-parallel with the magnetic field
- 6) TMS is used in NMR analysis as \_\_\_\_\_.
  - a) solvent
  - b) internal standard
  - c) catalyst
  - d) reactant
- 7) In TGA analysis nitrogen gas is used to \_\_\_\_\_.
  - a) maintain inert atmosphere
  - b) avoid reduction
  - c) avoid oxidation
  - d) Both a) & c)
- 8) In X-ray diffraction analysis Bragg's law states as \_\_\_\_\_.
  - a)  $n\lambda = 2d \sin\theta$
  - b)  $2n = \lambda \sin\theta$
  - c)  $nd = 2\lambda \sin\theta$
  - d)  $2d = n\lambda \sin\theta$
- 9) In FT-NMR the irradiation of the sample is done with constant magnetic field while the radio frequency is varied; it is called as \_\_\_\_\_ method.
  - a) Field Sweep
  - b) NMR sweep
  - c) Frequency sweep
  - d) Velocity sweep

- 10) By DEPT-45° \_\_\_\_\_ group can be identified.
- a) -CH                                      b) -CH<sub>3</sub>
- c) -CH<sub>2</sub>                                  d) All of these

**B) Fill in the blanks.**

06

- 1) In UV-Visible spectroscopy the unsaturated compound containing heteroatom shows \_\_\_\_\_ transition.
- 2) Raman spectroscopy is carried out in the region of \_\_\_\_\_ A<sup>0</sup>.
- 3) The ATR crystal must have \_\_\_\_\_ refractive index than the sample under analysis.
- 4) \_\_\_\_\_ is used to convert polychromatic light radiations into monochromatic radiations.
- 5) The thermal analysis is the study of properties of material mainly with respect to \_\_\_\_\_.
- 6) The wavelength of X-ray is \_\_\_\_\_ nm.

**Q.2 Answer the following**

16

- Define Spherulite & explain in details about spherulites with diagram.
- Explain the study of kinetics of reaction and hydrogen bonding by IR-spectroscopic method.
- Define 2D NMR spectroscopy & explain COSY with suitable example.
- Write a short note on DEPT technique.

**Q.3 Answer the following.**

16

- What is the Principle of Raman spectroscopy? Give any two applications of it for determination of polymer's characteristic.
- Write a note on FT-NMR spectroscopy & Give its advantages.

**Q.4 Answer the following.**

16

- Describe Laue's photographic method for X-ray diffraction.
- Define Pyrolysis & describe PGCMS technique.

**Q.5 Answer the following.**

16

- Give detail about any two applications of UV-Visible spectroscopy with suitable example.
- Describe XPS technique with diagram.

**Q.6 Answer the following.**

16

- a) Describe briefly the working of TEM technique with schematic diagram.
- b) Give the principle of TGA. Explain the analysis of thermal stability & moisture content by TGA.

**Q.7 Answer the following.**

16

- Describe the method of production of X-rays with diagrammatic representation.
- Describe the principle of AFM technique with imaging modes.

Seat No.	
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Set **P**

**M.Sc. (Semester-III) (New) (CBCS) Examination: Oct/Nov-2022**  
**PHYSICAL CHEMISTRY**  
**Solid State Chemistry**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions.****10**

- 1) Most Bravais lattices are of the type \_\_\_\_\_.  
 a) Primitive unit cell                      b) Body centered unit cell  
 c) End centered unit cell                  d) Face centered unit cell
- 2) Amorphous substances possesses their properties same in all directions. This statement reflects that amorphous substances are \_\_\_\_\_.  
 a) anisotropic                                  b) isotropic  
 c) symmetric                                   d) both a and b
- 3) Typical precursor used in sol-gel are \_\_\_\_\_.  
 a) Metal oxides                                b) Metal dioxides  
 c) Metal alkoxides                            d) Metal fluorides
- 4) A total number of space groups in crystal is \_\_\_\_\_.  
 a) 7    b) 14  
 c) 32    d) 230
- 5) Quantum dots can be used in \_\_\_\_\_.  
 a) Crystallography                            b) Optoelectronics  
 c) Mechanics                                    d) Quantum physics
- 6) Schottky-defect in ceramic material is \_\_\_\_\_.  
 a) Interstitial impurity  
 b) Vacancy- interstitial pair of cations  
 c) Pair of nearby cation and anion vacancies  
 d) Substitutional impurity
- 7) What is the advantage of using Czochralski, Bridgman- Stockbarger and Verneuil method?  
 a) Gives small crystals                      b) High tech apparatus  
 c) Rapid growth rates                        d) Uses plasma torch
- 8) Collimators used in XRD are made up of \_\_\_\_\_.  
 a) thin quartz tube                            b) thin glass plates  
 c) thin metal plates                            d) All of the above
- 9) The reaction between solid silver and molten sulphur is also known as \_\_\_\_\_.  
 a) decomposition reaction                  b) structure sensitive reaction  
 c) additive reaction                           d) tarnish reaction

10) The \_\_\_\_\_ and citrate solution are used as reducing agent in chemical reduction method.

- a) hydrazine hydrate                      b) hydrazine  
c) hydrazone                                d) semi carbazene

**B) Write Fill in the blanks.**

**06**

- 1) In a NaCl,  $\text{Na}^+$  ions are surrounded by \_\_\_\_\_ number of Cl ions.
- 2) When the layer deposition is done on an already existing substrate surface is called as \_\_\_\_\_.
- 3) Bragg's equation = \_\_\_\_\_.
- 4) \_\_\_\_\_ is a crystalline's basic repetitive structural unit.
- 5) The creating of nanoscale materials by chemically or physically breaking down the larger materials is known as \_\_\_\_\_ approach in nanotechnology.
- 6) Spherical gold nanoparticles are \_\_\_\_\_ dimensional nanomaterials.

**Q.2 Answer the following**

**16**

- a) Explain Kirkendall effect.
- b) Discuss Langmuir-Blodgett technique for composite material synthesis.
- c) Illustrate zone refining technology of purification of materials.
- d) Mention different types of crystal systems and mention their characteristics.

**Q.3 Answer the following.**

**16**

- a) Describe the  $\sin^2 \theta$  method for the crystal structure determination of cubic systems.
- b) Draw the schematic diagram of Czochralski method to grow single crystals and mention its advantage over the other.

**Q.4 Answer the following.**

**16**

- a) Discuss the tarnish reactions with reference to its mechanism by considering suitable example.
- b) What are nanomaterials? Mention their advantages. Explain the hydrothermal method for synthesis of nanomaterial

**Q.5 Answer the following.**

**16**

- a) Mention different methods for single crystal growth. Illustrate vemeuil method.
- b) Lists different characterization tools used for nanomaterial characterization. Explain any one electron microscopic technique with respect to its principle and working.

**Q.6 Answer the following.**

**16**

- a) Discuss in detail the term structure factor and electron density.
- b) What is homogeneous nucleation? How this nucleation affects the single crystal growth.

**Q.7 Answer the following.**

**16**

- a) Mention different types of solid state reactions. Discuss the decomposition reactions with reference to is mechanism by taking suitable example.
- b) Discuss the optical and electrical properties of metal nano particles.

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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**ANALYTICAL CHEMISTRY**  
**Analytical Spectroscopy**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Choose correct alternative. (MCQ)** **10**

- 1) The transition zone for Raman spectra is \_\_\_\_\_.  
 a) between vibrational and rotational levels  
 b) between electronic levels  
 c) between nuclear energy levels  
 d) all of these
- 2) All elements produce Auger electron spectra except \_\_\_\_\_.  
 a) Hydrogen  
 b) helium  
 c) Nitrogen  
 d) both a and b
- 3) The electrons which contribute to electric field gradient are \_\_\_\_\_.  
 a) only p- and d-electrons in a valence cell  
 b) closed shell electrons  
 c) s-electrons  
 d) only f-electrons
- 4) The criteria for electron spin resonance is \_\_\_\_\_.  
 a) Periodic change in polarizability  
 b) spin quantum number must be greater than zero  
 c) presence of unpaired electrons  
 d) presence of chromophore in a molecule
- 5) In NQR,  $\eta$  is a measure of \_\_\_\_\_.  
 a) symmetry of EFG  
 b) non symmetry of EFG  
 c) Spins  
 d) couplings
- 6) Unit for magnetic field strength is \_\_\_\_\_.  
 a) Tesla  
 b) Calories  
 c) Debye  
 d) Unitless
- 7) In pure rotational spectrum, transitions are only observed between rotational levels Involving \_\_\_\_\_.  
 a)  $\Delta J=0$   
 b)  $\Delta J=\pm 2$   
 c)  $\Delta J=\pm 1$   
 d)  $\Delta J=0$ , or  $\pm 2$
- 8) Photoacoustic spectroscopy is comparable to \_\_\_\_\_.  
 a) Mossbauer  
 b) Fluorescence  
 c) IR  
 d) NMR
- 9) Which of the following will NOT show electron spin resonance (ESR)?  
 a) Paramagnetic materials  
 b) Free radicals  
 c) Transition metals  
 d) Diamagnetic materials

- 10) The inelastic scattering of a photon is called?  
 a) atmospheric scattering      b) Rayleigh scattering  
 c) Conserved scattering      d) Raman scattering

**B) Fill in the blanks OR Write true / false.****06**

- 1) In Raman spectroscopy, antistokes lines are appeared at higher energy side. (True or False)
- 2) For an unbound electron, value of Lande' factor (g-factor) will be equal to \_\_\_\_\_.
- 3) Photoacoustic phenomena were first discovered by. (Name of the scientist)
- 4) If a non bonding electron is removed, there is virtually no change in bond length or bond strength. (True or False)
- 5) Homonuclear diatomic molecules show Raman spectra. (True or False)
- 6) The fundamental energy equation used in spectroscopy is \_\_\_\_\_.

**Q.2 Answer the following.****16**

- a) What do you mean by hyperfine structure? How do they arise in ESR spectra?
- b) Write a note on PAS gases and condensed system.
- c) Predict the ESR spectrum of the following radicals : (a)  $^1\text{CF}_2\text{H}$  (b)  $^{13}\text{CF}_2\text{H}$
- d) What do you mean by the term electric field gradient (EFG)? Explain this term.

**Q.3 Answer the following.****16**

- a) Discuss applications of electron spin resonance spectroscopy in quantitative analysis.
- b) Explain how NQR spectroscopy is used in molecular structure determination.

**Q.4 Answer the following.****16**

- a) Discuss chemical and surface applications of photoacoustic spectroscopy.
- b) What is Scanning Tunnelling Microscopy? Discuss basic principles of it.

**Q.5 Answer the following.****16**

- a) Write on ESCA instrumentation.
- b) Discuss pure rotational Raman spectrum.

**Q.6 Answer the following.****16**

- a) Discuss scanning electron microscope (SEM) with reference to its principle and working.
- b) Write on applications of atomic force microscopy in various fields of study.

**Q.7 Answer the following.****16**

- a) With the help of block diagram, explain ESR spectrometer.
- b) Explain the quadrupole splitting and hyperfine interaction in Mössbauer spectroscopy with suitable example.

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**M.Sc. (Semester-III) (New) (CBCS) Examination: Oct/Nov-2022**  
**INORGANIC CHEMISTRY**  
**Environmental Chemistry**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Choose the correct alternative.**

**10**

- 1) Which of the following is called the secondary air pollutant?
  - a) PANs
  - b) Ozone
  - c) Carbon monoxide
  - d) Nitrogen Dioxide
- 2) The gaseous layer which protects earth from harmful ultraviolet radiation \_\_\_\_\_.
  - a) Argon
  - b) Nitrogen
  - c) Ozone
  - d) Carbon dioxide
- 3) Which of the following pollutants are responsible for the cause of SMOG?
  - a) From incinerators
  - b) Emissions from vehicles
  - c) Both incinerators and emissions from vehicles
  - d) None of the above
- 4) The first laboratory produced radio nucleus is \_\_\_\_\_.
  - a)  $^{30}\text{P}$
  - b)  $^3\text{H}$
  - c)  $^{14}\text{C}$
  - d)  $^{232}\text{Th}$
- 5) Industrial activities discharge many of the toxic metals in \_\_\_\_\_.
  - a) Air
  - b) Water
  - c) Soil
  - d) All of these
- 6) The dispersion of radioactive isotopes solution can be investigated by \_\_\_\_\_.
  - a) Dialysis
  - b) Electrophoresis
  - c) Autoradiography
  - d) All of these
- 7) Chlorofluorocarbon are nonflammable chemicals mainly used in \_\_\_\_\_.
  - a) Perfumes
  - b) Refrigerators
  - c) Air conditioners
  - d) All of the above
- 8) Which of the following diseases are caused by smog?
  - a) headache
  - b) anxiety
  - c) Breathing Problems
  - d) none of the above
- 9) Which of the following agents is mainly responsible for the secondary pollutants?
  - a) Smog and Ozone
  - b) Sulphur trioxide
  - c) Nitrogen dioxide
  - d) All of the above

10) Isotopes of bismuth and lead have been found to form colloidal solution in \_\_\_\_\_.

- a) Water
- b) H<sub>2</sub>S
- c) Acetone
- d) Dioxane

**B) Fill in the blanks OR Write true/false.**

**06**

- 1) The main sources of Arsenic in water are \_\_\_\_\_.
- 2) \_\_\_\_\_ techniques are used for reducing the total dissolved solids in the water.
- 3) \_\_\_\_\_ metal is associated with hate's shakes.
- 4) \_\_\_\_\_ of the following is the product anaerobic biological decay.
- 5) \_\_\_\_\_ of the following agents is responsible for turning the Taj Mahal yellow.
- 6) Electrostatic Precipitators are used to control \_\_\_\_\_.

**Q.2 Answer the following**

**16**

- a) Bhopal gas tragedy
- b) Disinfection of water
- c) Acid rain
- d) Adsorption and condensation of gaseous effluent

**Q.3 Answer the following.**

**16**

- a) Describe Sources and sinks of gaseous pollutants.
- b) Explain effects of water pollutants on life and environment.

**Q.4 Answer the following.**

**16**

- a) Explain construction and working of wet and dry scrubbers.
- b) Describe about ozone depletion and their consequences on Environment.

**Q.5 Answer the following.**

**16**

- a) Explain about the aerobic and anaerobic waste water treatment.
- b) Write about construction and working principle of bag filters, cyclone separator.

**Q.6 Answer the following.**

**16**

- a) Describe the analysis methods of toxic heavy metals like Cd and Pb.
- b) What are the Sources of pesticides residue in the Environment? How can you analyse pesticides residue.

**Q.7 Answer the following.**

**16**

- a) Discuss about Chemical solutions to environmental problems biodegradability.
- b) Discuss about the ionizing and non-ionizing radiations on living things.



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## Max. Marks: 80

- Page 1 of 2

- 10) Among the following \_\_\_\_\_ is an example of ACE inhibitor.
- Captopril
  - Carvedilol
  - Valsartan
  - All of the above

**B) Write True or False.****06**

- Antidepressants increase the availability of catecholamines at the appropriate receptor site of the brain.
- In Chloramphenicol, shifting of nitro group to o-position increases the antibacterial activity.
- The antibacterial activity of Sulphonamides depends upon direct linkage of Sulphur from sulphonic acid with benzene ring.
- The chemical name of Paracetamol is 2-Acetoxybenzoic acid.
- Ketoconazole is available in oral form, a shampoo and a cream.
- Verapamil is a more potent vasodilator than Nifedipine.

**Q.2 Answer the following.****16**

- What is antibiotic? Give the MOA of Ampicillin.
- Explain the SAR of Diazepam.
- Give classification and uses of antifungal drugs.
- Discuss the SAR of Anti-hypertensive drugs.

**Q.3 Answer the following.**

- Describe in detail mode of action and structure activity relationship of Tetracyclines.

**08**

- What are Cephalosporins? Explain how they differ from penicillins chemically? Write the SAR of Cephalosporins.

**08****Q.4 Answer the following.**

- Give the MOA and metabolism of lidocaine.

**08**

- What is neoplasm? Describe one of the drugs from alkylating agents and metabolites.

**08****Q.5 Answer the following.**

- Explain in detail the pharmacology of Metformin.

**08**

- Explain in detail the pharmacology of Propranolol

**08****Q.6 Answer the following.**

- Write a detailed note on synthesis and SAR of Paracetamol.

**08**

- Explain in detail the pharmacology of Aspirin.

**08****Q.7 Answer the following.**

- Explain the following.

**08**

- Mode of action and metabolism of Barbiturates
- Describe the synthesis of chloroquine.

- Describe the MOA and SAR of Diphenylhydramine.

**08**

Set P

- 10) Lipids are a \_\_\_\_\_ group of compounds.
- |                 |                  |
|-----------------|------------------|
| a) Mixed        | b) Homogenous    |
| c) Heterogenous | d) None of these |

**B) Fill in the blanks.**

06

- 1) \_\_\_\_\_ is the common pyrimidine base present in both DNA & RNA.
- 2) \_\_\_\_\_ imino acid found in protein structure.
- 3) D - Glucose undergo reduction in presence of sodium amalgam to form \_\_\_\_\_.
- 4) \_\_\_\_\_ is the non-reducing disaccharide.
- 5) The hydrolysis of triacylglycerols by alkali to produce glycerol and soaps is known as \_\_\_\_\_.
- 6) The vesicle coat is a protein called \_\_\_\_\_ which facilitates vesicle formation.

**Q.2 Answer the following.**

16

- Give the detailed difference between prokaryotes and eukaryotes.
- What are the physical properties of protein and what is PI?
- Explain in brief Watson and Crick hydrogen bonding pattern in base pair of nucleic acid and phosphodiester bond link in successive nucleotide in nucleic acid.
- Write a note on the Naturally Occurring Amino Acids and enlist any four examples with structure. Describe proteins as Ligands.

**Q.3 Answer the following.**

- Explain in details the structural hierarchy in the molecular organization of cells.
- Write an overview on disaccharides and describe in brief the reducing and non-reducing disaccharides.

**Q.4 Answer the following.**

- Explain in detail any two methods of purification of protein.
- Explain in detail the secondary structure of protein with  $\alpha$ -helix and  $\beta$ -pleated sheet structure.

**Q.5 Answer the following.**

- Write short note on 'A' form, 'B' form and 'z' form of DNA.
- Explain the formation of dimers induced by UV light and discuss the chemical agent that cause DNA damage?

**Q.6 Answer the following.**

- Explain Manipulation of proteins by Gene Cloning and Expression with diagram.
- Explain in detail Iron-sulfur clusters.

**Q.7 Answer the following.**

- Write the Wohl's methods of descending sugar series? Write the conversion of ketose (D- fructose) into an aldose (D-Glucose and D-Mannose).
- Define and classify vitamins. Describe fat soluble and water soluble vitamins in short. Give an account on vitamin A.

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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**COMPUTER SCIENCE**  
**Fundamental of Web Designing**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Fill in the blanks by choosing correct alternatives given below. 10**

- 1) The \_\_\_\_\_ element determines what the browser displays as that the document title appears in the browser's title bar.
  - a) <title>
  - b) <head title>
  - c) <title head>
  - d) <page title>
- 2) When saving an HTML file you should \_\_\_\_\_ give it a .html or .htm extension.
  - a) Sometimes
  - b) Always
  - c) Rarely
  - d) Not at all
- 3) Berners-Lee based HTML on Standard Generalized Markup Language (SGML), an international standard for marking up text for presentation on a variety of physical devices.
  - a) Hen Berners-Lee
  - b) Miche Berners-Lee
  - c) Tim Berners-Lee
  - d) Eric Berners-Lee
- 4) The paragraph tag (<p>) is used to delimit entire paragraphs of \_\_\_\_\_.
  - a) text
  - b) code
  - c) program
  - d) source code
- 5) The heading has \_\_\_\_\_ levels begin with highest, most important, and the lowest, least important.
  - a) Four
  - b) Seven
  - c) Six
  - d) Five
- 6) The preformatted tag (<pre>) causes the \_\_\_\_\_ client to treat white space literally and not to condense it as it usually would.
  - a) HTML
  - b) HTTP
  - c) SGML
  - d) FTP
- 7) The \_\_\_\_\_ element holds the actual content of the page that is viewed in your browser.
  - a) <heading>
  - b) <head>
  - c) <body>
  - d) <background>
- 8) < a \_\_\_\_\_ = "http://www.Google.com" >
  - a) href
  - b) arefer
  - c) Linkto
  - d) Linkref

- 9) The \_\_\_\_\_ attribute tells the browser where to find the image.
- a) Brc                                      b) Src  
c) Arc                                        d) lrc
- 10) Which Google app allows me to create a quiz, poll, or survey?
- a) Google documents                  b) Google forms  
c) Google slides                         d) Google drive

**B) Write True or False.**

06

- 1) The bgcolor attribute sets the background color for the table.
- 2) On Google Drive, files are arranged in folders and show files “shared with me” for files with collaborators.
- 3) Each table should have a caption so that visitors to your site know what the table is for.
- 4) Google Slide is Google’s word processor and is similar to Microsoft Word.
- 5) There are lots of tags and they are all in pairs; there are opening tags and closing tags.
- 6) <ol> element stands for ordered list.

**Q.2 Answer the following.**

16

- What do you mean by Web Page and Web Site?
- State the meaning of HTML.
- What is Google applications for Education?
- Describe in brief WWW?

**Q.3 Answer the following.**

- a) What the five Golden rules of Web in Web Designing and Development?
- b) State and explain structure of HTML forms and its control with suitable example.

08

08

**Q.4 Answer the following.**

- What Internet means? State and explain various application of Internet.
- What are types of HTML List? Explain it's type with suitable example.

08

08

**Q.5 Answer the following.**

- What is Google Drive? State and Explain its various applications.
- What are various HTML Table tag? Explain it with suitable example.

08

08

**Q.6 Answer the following.**

- Explain HTML Image tag and its attributes with suitable example.
- State and explain working with text using HTML Font tag and its attribute.

08

08

**Q.7 Answer the following.**

- What is Google Site? Explain components of Google Site with suitable example.
- What HTML stands for? Explain basic structure of HTML with suitable example.

08

08

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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**PHYSICS (CONDENSED MATTER PHYSICS)**  
**Energy Harvesting Devices**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Fill in the blanks by choosing correct alternatives given below. 10**

- 1) Polymer electrolyte membrane fuel cell operate in the temperature range \_\_\_\_ °C.
  - a) 10-30
  - b) 60-80
  - c) 120-150
  - d) Above 1000
- 2) Piezoelectric crystals produce \_\_\_\_\_.
  - a) No voltage
  - b) Low voltage
  - c) High voltage
  - d) Very high voltage
- 3) Hybrid capacitor electrodes contains \_\_\_\_\_ as the electrode materials.
  - a) Metal oxide
  - b) Carbon
  - c) Combination of a) and b)
  - d) None of these
- 4) The standard emf of the hydrogen-oxygen fuel cell is \_\_\_\_\_.
  - a) 1.23 V
  - b) 2.54 V
  - c) 3.96 V
  - d) 0.58 V
- 5) Which of the following highest power density value?
  - a) Capacitor
  - b) Battery
  - c) Supercapacitor
  - d) None of these
- 6) The Fill Factor of the solar cell is  $FF =$  \_\_\_\_\_.
  - a)  $V_{mlm} \cdot V_{oc} / I_{sc}$
  - b)  $V_{mlm} / V_{oc} I_{sc}$
  - c)  $V_m V_{oc} / I_m I_{sc}$
  - d)  $V_{oc} I_{sc} / V_{mlm}$
- 7) \_\_\_\_\_ material is used as window layer in the solar cell.
  - a) CdSe
  - b) CdTe
  - c) ZnO
  - d) CuInSe<sub>2</sub>
- 8) Solid oxide fuel cells operate at high temperature as high as \_\_\_\_ °C.
  - a) 250
  - b) 500
  - c) 1000
  - d) 2000
- 9) Pseudocapacitors store the charges through \_\_\_\_\_ reactions.
  - a) Faradaic
  - b) Non-faradaic reactions
  - c) Electrostatically
  - d) None of these

10) Which of these gases or liquids are not used as source of hydrogen in fuel cells?

- |             |               |
|-------------|---------------|
| a) $C_2H_6$ | b) $C_2H_2$   |
| c) $C_6H_6$ | d) $C_2H_5OH$ |

**B) Fill in the blanks / Write True or False.**

**06**

- 1) \_\_\_\_\_ is most preferable metal oxide in Dye Sensitized Solar Cell.
- 2) The piezoelectric materials used for converting energy are called as \_\_\_\_\_.
- 3) \_\_\_\_\_ is one of the most preferable electrolytes for liquid solar cell.
- 4) CdS/Cu<sub>2</sub>S based solar cells are a fourth-generation solar cell.  
(True / False)
- 5) Shockley queasier limit is defined for Quantum Efficiency.  
(True / False)
- 6) The efficiency of QDSSC is lower than DSSC because Multiple exciton.  
(True / False)

**Q.2 Answer the following.**

**16**

- a) Hybrid supercapacitors
- b) p-n junction solar cell
- c) Piezoelectric materials
- d) SO Fuel Cell (SOFC)

**Q.3 Answer the following.**

- a) Give an account of principle, working of organic solar cells.
- b) Write a note on photoelectrochemical cell.

**10**

**06**

**Q.4 Answer the following.**

- a) Describe principle, working and materials for DSSC solar cells.
- b) Elucidate CdS / Cu<sub>2</sub>S solar cells.

**10**

**06**

**Q.5 Answer the following.**

- a) Describe charge storage mechanism involved in the electrical double layer and pseudocapacitor.
- b) Elucidate symmetric and asymmetric supercapacitor configurations.

**10**

**06**

**Q.6 Answer the following.**

- a) Give an account of magnetoelectric composites and microcantilever.
- b) Explain principle and working of piezoelectric transducers.

**10**

**06**

**Q.7 Answer the following.**

- a) Describe piezoelectric power generators with power storage circuit.
- b) Explain principle and working of proton exchange membrane in fuel cells.

**10**

**06**



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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**ELECTRONICS**  
**Medical Instrumentation**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Choose correct answer.**

**10**

- 1) Source of bioelectric potential is \_\_\_\_\_ in nature.
  - a) Electronic
  - b) Electric
  - c) Ionic
  - d) Mechanical
- 2) The \_\_\_\_\_ type of electrode is used for EMG measurement.
  - a) Limb
  - b) Needle
  - c) Surface
  - d) Floating
- 3) The term systole and diastole refer to \_\_\_\_\_.
  - a) Sound from the heart
  - b) Artery and vein from to the heart
  - c) Heart contraction and relaxation
  - d) Rates of heart pulse
- 4) The leakage current for biomedical instrumentation should not be greater than \_\_\_\_\_.
  - a)  $10 \mu A$
  - b)  $20 \mu A$
  - c)  $30 \mu A$
  - d)  $50 \mu A$
- 5) The resting potential of the cell is \_\_\_\_\_ mV.
  - a) +20
  - b) -90
  - c) +90
  - d) -20
- 6) The cell membrane in excited state impedes the entry of \_\_\_\_\_ ions.
  - a)  $Na^+$
  - b)  $Cl^+$
  - c)  $K^+$
  - d)  $P^+$
- 7) The X-ray picture in biomedical is called as \_\_\_\_\_.
  - a) Radiology
  - b) Tomography
  - c) Sonography
  - d) Angiography
- 8) Normal EEG frequency range is \_\_\_\_\_.
  - a) 50-500 Hz
  - b) 0.5-50 Hz
  - c) 0.05-5 Hz
  - d) 1-200 Hz
- 9) Electrocardiography was invented by \_\_\_\_\_.
  - a) Willem Einthoven
  - b) Robert Koch
  - c) Werner Forssmann
  - d) Gertrude B. Elion
- 10) The bedside patient monitoring system basically consists of \_\_\_\_\_.
  - a) Preamplifier section
  - b) Logic boards
  - c) Display part
  - d) All of these

**B) Write True or False.****06**

- 1) In arteries blood flow is linear.
- 2) The capillaries are the smallest and last level of blood vessels.
- 3) Differential amplifier always provides the protection against leakage currents.
- 4) The isolation amplifier always provides the protection against leakage currents.
- 5) The body fluid is slightly acidic.
- 6) Limb electrodes are generally made up of steel-silver

**Q.2 Answer the following.****16**

- a) Explain the SA and AV node in detail.
- b) Explain the skin contact impedance.
- c) Describe the electromyography with principle of operation.
- d) Explain the EMG electrode.

**Q.3 Answer the following.**

- a) Explain in detail the central monitoring system.
- b) Explain the ECG electrode.

**10****06****Q.4 Answer the following.**

- a) Explain in detail cardiovascular system with engineering diagram.
- b) Explain the electrode-tissue interface.

**10****06****Q.5 Answer the following.**

- a) Explain the measurement of the pulse rate and heart rate.
- b) Explain the basis of diagnostics radiology.

**10****06****Q.6 Answer the following.**

- a) Explain in detail the EEG system in detail.
- b) What is the general architecture of the X-ray machine?

**10****06****Q.7 Answer the following.**

- a) With suitable diagram, describe in details the MRI method.
- b) Explain the ultrasonic measurements and diagnosis.

**10****06**

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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**Electronic Science**

**Digital Electronics and Communication System**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. No 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No 7.  
 3) Figures to the right indicate full marks.

**Q.1 A) Multiple Choice Questions 10**

- 1) Which type of antenna is used for edge excited cells?
  - a) Omni-directional antenna
  - b) Grid antenna
  - c) Sectorized directional antenna
  - d) Dipole antenna
- 2) \_\_\_\_\_ is the process of using the same radio frequencies on radio transmitter sites within a geographic area.
  - a) Frequency reuse
  - b) Hand-off
  - c) Cell cluster
  - d) cell splitting
- 3) AND, OR & NOT gates \_\_\_\_\_.
  - a) Basic gate
  - b) Universal gate
  - c) Special gate
  - d) All of these
- 4) \_\_\_\_\_ requires guard bands for channel separation to avoid interference.
  - a) FDM
  - b) TDM
  - c) WDM
  - d) TDMA
- 5) For a perfect modulation, the value of modulation index should be 1, which means the modulation depth should be \_\_\_\_\_.
  - a) 100%
  - b) 50%
  - c) 0%
  - d) 90%
- 6) The expression  $Y = (A+B)(B+C)(C+A)$  shows the \_\_\_\_\_ operation.
  - a) AND
  - b) Product of sum
  - c) Sum of product
  - d) NAND
- 7) What is the full form of CDMA?
  - a) Code division multiple access
  - b) Code Dividend much access
  - c) Check diode multiple access
  - d) None of these
- 8) In satellite communication, the frequency which is sent by the transponder is called \_\_\_\_\_ frequency.
  - a) Downlink
  - b) Uplink
  - c) closed
  - d) All of these
- 9) GPRS and EDGE are the standards of \_\_\_\_\_ communication system.
  - a) 2.5G
  - b) 2G
  - c) 3G
  - d) 4G
- 10) 1's complement of 1011001 is \_\_\_\_\_.
  - a) 0100111
  - b) 0101100
  - c) 0100110
  - d) 0110110

- B) Write true/false.** **06**
- 1) Frequency modulation is analog type of modulation.
  - 2) 2G technology started in the early 1990s.
  - 3) The base or radix of octal number system is 8.
  - 4) Wi-Fi is best example of femto cells.
  - 5) Commutative law obeys for logical OR & logical AND operations.
  - 6) Aliasing effect can be reduced by using anti-aliasing filter.
- Q.2 Answer the following.** **16**
- 1) Explain PAM.
  - 2) What is Bluetooth?
  - 3) Compare: TDM and FDM
  - 4) Explain NAND gate with its truth table.
- Q.3 Answer the following.**
- A) With a neat block diagram, explain the following analog modulation techniques. i) AM ii) FM **10**
- B) Explain FDMA with its advantages and disadvantages. **06**
- Q.4 Answer the following.**
- A) Explain different generations of communication system with its merits and demerits. **10**
- B) Explain in detail GSM architecture. **06**
- Q.5 Answer the following.**
- A) What is satellite communication? With a neat block diagram, explain satellite transponder. **10**
- B) Explain modulation index with its different cases: **06**
- i) Under modulation ii) over modulation iii) perfect modulation
- Q.6 Answer the following.**
- A) Explain the following number system with a suitable example. **10**
- i) Binary number system ii) Decimal number system
- B) Explain Boolean operators. **06**
- Q.7 Answer the following.**
- A) Explain the following gates with its gate representation and truth table: **10**
- i) Basic gate ii) Universal gate
- B) State and Explain Demorgan's theorem. **06**



- 10) ——— ही सामाजिक-सांस्कृतिक प्रक्रियेचे लोकसंख्याशास्त्रीय निर्देशाक आहे.
- |               |             |
|---------------|-------------|
| अ) जननक्षमता  | ब) वाहतूक   |
| क) औद्योगिकरण | ड) नागरीकरण |

ब) रिकाम्या जागा भरा.

06

- 1) भौतिक वातावरणातील मानवी क्रियांचा अभ्यास — भूगोल म्हणून ओळखला जातो.
- 2) असे ठिकाण जिथे संस्कृतीची उत्पत्ती होते त्याला — म्हणून ओळखले जाते.
- 3) वंश ही — संकल्पना आहे.
- 4) ग्रामीण वसाहतीतील लोक प्रामुख्याने — व्यवसायात गुंतलेले असतात.
- 5) इजिप्त ही — ची देणगी आहे.
- 6) — ही कलाहरी वाळवंटातील आदिम जमात आहे.

प्र.2 खालील प्रश्नांची उत्तरे लिहा.

16

- अ) सांस्कृतिक भूगोलाचे घटक सांगा.  
ब) संस्कृती प्रसाराचे प्रकार सांगा.  
क) सामाजिक क्षेमकुशलतेची संकल्पना सांगा.  
ड) ग्रामीण समुदायाची वैशिष्ट्ये सांगा.

प्र.3 खालील प्रश्नांची उत्तरे लिहा.

- अ) सांस्कृतिक भूगोलाचा अर्थ सांगा आणि त्याचे स्वरूप व व्याप्ती स्पष्ट करा.  
ब) शेतीतील तांत्रिक बदलाची माहिती स्पष्ट करा.

08

08

प्र.4 खालील प्रश्नांची उत्तरे लिहा.

- अ) जगातील भटक्या जमातीचे थोडक्यात वर्णन करा.  
ब) ग्रामीण व शहरी समाजाचा सांस्कृतीक प्रारूपाची चर्चा करा.

08

08

प्र.5 खालील प्रश्नांची उत्तरे लिहा.

- अ) जगातील सांस्कृतिक परिमंडळ स्पष्ट करा.  
ब) सामाजिक क्षेत्रमक्षलतेचे निर्देशक थोडक्यात स्पष्ट करा.

08

08

प्र.6 खालील प्रश्नांची उत्तरे लिहा.

- अ) जगातील प्रमुख धर्म स्पष्ट करा.  
ब) सांस्कृतिक भूगोलाचे महत्त्व स्पष्ट करा.

08

08

प्र.7 खालील प्रश्नांची उत्तरे लिहा.

- अ) जगातील सांस्कृतिक उगमस्थानाचे वर्णन करा.  
ब) विकसनशील देशातील सामाजिक व सांस्कृतिक प्रक्रिया भारताचा संदर्भ देऊन स्पष्ट करा.

08

08

<b>Seat No.</b>	
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- Q.1 A) Fill in the blanks by choosing correct alternatives given below. 10**

**B) Fill in the blanks. 06**

- 1) The study of human activity in physical environment known as \_\_\_\_\_ geography.
- 2) The place where cultural originates is known as \_\_\_\_\_.
- 3) Race is a \_\_\_\_\_ concept.
- 4) People in rural settlement are mainly engaged in \_\_\_\_\_ occupations.
- 5) Egypt is a gift of \_\_\_\_\_.
- 6) \_\_\_\_\_ are a primitive tribe of the Kalahari desert.

**Q.2 Answer the following. 16**

- a) State the components of cultural geography.
- b) State the type of cultural diffusion.
- c) Give the concept of social well being.
- d) State the characteristics of rural community.

**Q.3 Answer the following.**

- a) Define cultural geography and explain its nature and scope. 08
- b) Explain the technological changes in agriculture. 08

**Q.4 Answer the following.**

- a) Describe the brief various tribes of the world. 08
- b) Discuss the cultural pattern of rural and urban society. 08

**Q.5 Answer the following.**

- a) Explain the world cultural realms. 08
- b) Explain in brief social well-being indicators. 08

**Q.6 Answer the following.**

- a) Explain major religious of the world. 08
- b) Explain significance of cultural geography. 08

**Q.7 Answer the following.**

- a) Describe the world cultural hearths. 08
- b) Explain in brief social cultural processes in the developing countries with special reference to India. 08





- 10) 'ओपेक' ची स्थापना ---- मध्ये झाली.  
 अ) 1950 ब) 1955  
 क) 1960 ड) 1965

**ब) रिकाम्या जागा भरा.**

**06**

- 1) माल, सेवा व कल्पना योग्य मोबदल्याच्या बदल्यात देणे म्हणजे ---- होय.
- 2) वस्तु आणि लोक एका ठिकाणाहून दुसऱ्या ठिकाणी होणारी हालचाल म्हणजे ---- होय.
- 3) युरोपच्या आर्थिक समाज संघटनेचे मुख्यालय ---- देशात आहे.
- 4) किरकोळ आणि ---- व्यापार या व्यापाराच्या दोन पद्धती आहे.
- 5) ---- हे भारताचे मॅचेस्टर म्हणून ओळखले जाते.
- 6) भारतातील प्रमुख खनिजतेल क्षेत्र ---- नदीच्या खोऱ्यात आहेत.

**प्र.2 खालील प्रश्नांची उत्तरे लिहा.**

**16**

- अ) व्यापारी भूगोलाचे महत्त्व सांगा.
- ब) प्राकृतिक व सांस्कृतिक पर्यावरणाच्या व्याख्या सांगा.
- क) आर्थिक विकासात शेतीचे महत्त्व सांगा.
- ड) भारतातील पर्यटनाच्या समस्या सांगा.

**प्र.3 खालील प्रश्नांची उत्तरे लिहा.**

- अ) व्यापारी भूगोलाच्या व्याख्या सांगून, व्यापारी भूगोलाची स्वरूप व व्याप्ती लिहा.
- ब) पर्यटन विकासावर परिणाम करणाऱ्या प्राकृतिक घटकांचे वर्णन करा.

**08**

**08**

**प्र.4 खालील प्रश्नांची उत्तरे लिहा.**

- अ) भारतातील रेल्वे वाहतुकीची सविस्तर माहिती लिहा.
- ब) न्यूनतम, पर्याप्त व अतिरिक्त लोकसंख्येची संकल्पना स्पष्ट करा.

**08**

**08**

**प्र.5 खालील प्रश्नांची उत्तरे लिहा.**

- अ) भारतातील कृषी पर्यटन केंद्रांचे वर्णन करा.
- ब) प्राकृतिक आणि सांस्कृतिक पर्यावरणाच्या घटकांचे वर्णन करा.

**08**

**08**

**प्र.6 खालील प्रश्नांची उत्तरे लिहा.**

- अ) अल्फ्रेड वेबर यांच्या उदयोगधंद्याच्या स्थानिकीकरणाचा सिध्दांताचे वर्णन करा.
- ब) व्यापाराच्या विकासात असणाऱ्या वाहतुकीच्या महत्वाचे वर्णन करा.

**08**

**08**

**प्र.7 खालील प्रश्नांची उत्तरे लिहा.**

- अ) मानवाच्या आर्थिक क्रियांचे वर्गीकरण स्पष्ट करा.
- ब) भारतातील कापड उदयोगाच्या समस्या सांगा.

**08**

**08**

<b>Seat No.</b>	
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## Commercial Geography

Max. Marks: 80

**Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
2) Attempt any three questions from Q. No. 3 to Q. No. 7  
3) Figure to right indicate full marks.

**Q.1 A) Fill in the blanks by choosing correct alternatives given below. 10**

- 1) \_\_\_\_\_ geography is the branch of economic geography.  
a) Social                                      b) Political  
c) Commercial                                d) Historical
- 2) Marketing geography is the new branch of \_\_\_\_\_ geography.  
a) Urban                                        b) Human  
c) Agricultural                                 d) Commercial
- 3) Commercial fishing is \_\_\_\_\_ economic activity of man.  
a) Primary                                      b) Secondary  
c) Tertiary                                       d) Quaternary
- 4) Chisholm geographer has called as father of \_\_\_\_\_ geography.  
a) Economic                                    b) Physical  
c) Medical                                       d) Transport
- 5) Primary activities produce \_\_\_\_\_ value of goods.  
a) High    b) Medium  
c) Low    d) Very high
- 6) \_\_\_\_\_ is a non renewable resources.  
a) Air    b) water  
c) Soil    d) Plant
- 7) Industrial localization theory based on least cost is that proposed \_\_\_\_\_.  
a) Alfred Wegner                                b) Alfred Weber  
c) A. Losch                                        d) Ritter
- 8) Agriculture is a \_\_\_\_\_ type of economic activity.  
a) Primary                                        b) Secondary  
c) Tertiary                                        d) Quaternary
- 9) Japan was the leading importer of \_\_\_\_\_ in world.  
a) Coal    b) Petroliaam  
c) Natural gas                                    d) Hydel power
- 10) 'OPEC' was established in the year \_\_\_\_\_.  
a) 1950    b) 1955  
c) 1960    d) 1965

**B) Fill in the blanks.****06**

- 1) \_\_\_\_\_ means the exchange of goods, services and ideas.
- 2) \_\_\_\_\_ refers to the movement of commodities and people from one place to another place.
- 3) The headquarter of ECC trade organization is in \_\_\_\_\_.
- 4) Retail and \_\_\_\_\_ trade are the two methods of trade.
- 5) \_\_\_\_\_ is known as Manchester of India.
- 6) Main natural oil field of India in \_\_\_\_\_ river basin.

**Q.2 Answer the following.****16**

- a) Write importance of commercial geography.
- b) Define physical and cultural environment.
- c) Illustrate the significance of agriculture in economic development.
- d) State the problems of Tourism in India.

**Q.3 Answer the following.**

- a) Define Commercial Geography and explain its nature and scope.
- b) Explain the physical factors affecting the tourism development.

**08****08****Q.4 Answer the following.**

- a) Give an account of Rail transport in India.
- b) Explain concept of under, optimum, and over population.

**08****08****Q.5 Answer the following.**

- a) Describe agro-tourism centers in India.
- b) Describe the elements of physical and cultural environment.

**08****08****Q.6 Answer the following.**

- a) Describe Alfred Weber's theory of localization of Industry.
- b) Describe the importance of transportation in commercial development.

**08****08****Q.7 Answer the following.**

- a) Explain classification of economic activities of man.
- b) State the problems of cotton textile industries in India.

**08****08**

Seat No.	
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Set **P**

**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**GENETICS**

**Medical Biotechnology and Bionanotechnology**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions.**

**10**

- 1) \_\_\_\_\_ stages of HIV infection exist.
 

a) 3	b) 2
c) 1	d) 10
- 2) \_\_\_\_\_ dye used in fluorescent staining method.
 

a) Crystal violet	b) Safranin
c) Acridine	d) Giemsa stain
- 3) The biological response of the biosensor is determined by \_\_\_\_\_.
 

a) Artificial membrane	b) Physio-chemical membrane
c) Chemical membrane	d) Biocatalytic membrane
- 4) In medical devices, the amplifiers that are used for the amplification purpose of the input signal must have \_\_\_\_\_.
 

a) Low frequency response
b) Average frequency response
c) High frequency response
d) Frequency response has no role to play in it
- 5) A chemical transduction system is interfaced to the optical fibre at its end. This type of sensor is called \_\_\_\_\_.
 

a) Chemical sensor	b) Thermal sensor
c) Photoelectric sensor	d) Light sensor
- 6) ELISA is \_\_\_\_\_.
 

a) Using radiolabelled second antibody
b) Usage of RBCs
c) Using complement-mediated cell lysis
d) Addition of substrate that is converted into a coloured end product
- 7) Sol-gel method is \_\_\_\_\_ approach.
 

a) Bottom up	b) Up bottom
c) Top down	d) Down top
- 8) "There is plenty of room at the bottom." This was stated by \_\_\_\_\_.
 

a) Eric Drexler	b) Richard Feynmann
c) Harold Croto	d) Richard Smalley
- 9) Nano wires are used in \_\_\_\_\_.
 

a) Transistors	b) Resistors
c) Capacitors	d) Transducers

- 10) CVD stands for \_\_\_\_\_.  
 a) Carbon vapour density      b) Chemical vapour deposition  
 c) Chemical vapour density      d) Carbon vapour deposition

**B) Fill in the blanks OR Write True or False. 06**

- 1) Tuberculosis is chronic type of infection. (True/False)
- 2) *Klebsiella spp* bacteria is a non-lactose fermenter. (True/False)
- 3) Amoebiasis causes Dysentery. (True/False)
- 4) For milling operations, \_\_\_\_\_ kind of Gas is preferred.
- 5) Multi walled CNT are \_\_\_\_\_ concentric nano tubes.
- 6) Size of nano particle is \_\_\_\_\_.

**Q.2 Answer the following. 16**

- a) Give types of Nanotube.
- b) Write about pathogenesis of HIV.
- c) Write any four Industrial applications of Biosensor.
- d) Write about natural nanostructures.

**Q.3 Answer the following.**

- a) Add a note on History of Nanotechnology. 08
- b) Describe molecular diagnosis of various diseases Nanotechnology. 08

**Q.4 Answer the following.**

- a) Describe the routes of Transmission of microorganisms in the animal body. 06
- b) Describe Chemical Vapor Deposition and Sputtering. 10

**Q.5 Answer the following.**

- a) Explain approach of Synthesis of Nanomaterial 06
- b) Laboratory diagnosis of Ameobiosis. 10

**Q.6 Answer the following.**

- a) Describe various applications of Nanotechnology 10
- b) Explain Problems of Drug resistance and drug sensitivity. 06

**Q.7 Answer the following.**

- a) Discuss Epidemiology, description and pathology of human diseases caused by *Vibrio cholera*. 08
- b) Explain characterization of nanoparticles by using Microscopic methods. 08

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Set **P**

**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**GEOINFORMATICS**

**Fundamentals of GIS And Remote Sensing**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Choose the correct alternative.**

**10**

- 1) The GPS is a satellite-based navigation system made up of a network of \_\_\_\_\_ placed into orbit by the U.S. Department of Defence.
  - a) 24 satellites
  - b) 16 satellites
  - c) 4 satellites
  - d) 14 satellites
- 2) In Remote Sensing, there are \_\_\_\_\_ types of resolution.
  - a) Two
  - b) One
  - c) Four
  - d) Five
- 3) The principles used in \_\_\_\_\_ facilitate precise measurements related to the length, breadth and height from photographs.
  - a) Aerial imagery
  - b) Photogrammetry
  - c) GPS
  - d) MSS
- 4) Among the following, which do not come under the components of GIS?
  - a) Hardware
  - b) Software
  - c) Spatial data
  - d) Toposheet
- 5) Electro-magnetic waves varies from \_\_\_\_\_ to \_\_\_\_\_.
  - a) Meters to nano-meters
  - b) Meters to micrometres
  - c) Nano to micro-meters
  - d) Centimetres to nano-meters
- 6) Aircrafts are commonly used as remote-sensing for obtaining \_\_\_\_\_.
  - a) Satellites
  - b) Total station
  - c) GPS
  - d) Aerial Photographs
- 7) The point data feature can be used to represent \_\_\_\_\_.
  - a) Location
  - b) Area
  - c) 3D area
  - d) Volume
- 8) UTM stands for \_\_\_\_\_.
  - a) Universal traditional method
  - b) United transverse Mercator
  - c) Universal Transverse Mercator
  - d) Universal Transverse
- 9) Blue, green, and red are the \_\_\_\_\_ of the visible spectrum.
  - a) Secondary frequent
  - b) Primary frequent
  - c) Secondary colours
  - d) Primary colours

- 10) An aerial photograph taken with an intentional deviation of 15° to 30° in the camera axis from the vertical axis is referred to as the \_\_\_\_\_.  
a) High oblique photograph      b) Low oblique photograph  
c) Vertical Photographs      d) Deviates oblique photograph

**B) Fill in the blanks OR Write True or False.****06**

- 1) The \_\_\_\_\_ user segment consists of the GPS receivers and the user community.
- 2) satellite images (8-bit) having \_\_\_\_\_ pixels.
- 3) \_\_\_\_\_ is a computerized database system for capture, storage, retrieval, analysis, and display of spatial data.
- 4) Platforms in satellites are not affected by the earth's atmosphere. (True/ False)
- 5) Spatial Data not having a specific location. (True/ False)
- 6) A map projection transforms the geographic coordinates on an ellipsoid into locations on a plane. (True/ False)

**Q.2 Answer the following.****16**

- a) Advantages of aerial photography
- b) Write a short note on overlay analysis.
- c) Remote sensing and GIS for mineral exploration.
- d) Write note on components of GIS

**Q.3 Answer the following.**

- a) Explain in detail types of platforms and sensors in remote sensing.
- b) Write a note on Digital Elevation Model.

**10****06****Q.4 Answer the following.**

- a) Write in brief basic elements of image interpretation.
- b) What is the difference between vector and raster models?

**10****06****Q.5 Answer the following.**

- a) Define aerial remote sensing and explain detail its types.
- b) Write a note on resolution.

**10****06****Q.6 Answer the following.**

- a) Explain in details applications of GPS.
- b) Write a note on Stereoscopic parallax.

**10****06****Q.7 Answer the following.**

- a) What is remote sensing? Discuss the history and development of remote sensing.
- b) Explain electromagnetic spectrum with a neat diagram.

**10****06**



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Set **P**

**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**GEOINFORMATICS**  
**Climatology**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. No. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Fill in the blanks by choosing correct alternatives given below. 10**

- 1) Earth atmosphere is divided into layers.
  - a) Three
  - b) Two
  - c) Five
  - d) Four
- 2) Which one of the following regions on the surface of Earth has Horse Latitudes?
  - a) Sub-tropical high pressure belt
  - b) Equatorial low pressure belt
  - c) Polar high pressure belt
  - d) Sub-polar low pressure belt
- 3) Which one of the following diagrams shows the direction and duration of wind?
  - a) Climogram
  - b) Cartogram
  - c) Star diagram
  - d) Ergograph
- 4) What is the most important element of climate?
  - a) Temperature
  - b) Rainfall
  - c) Humidity
  - d) Pressure
- 5) Air pressure is lowest in \_\_\_\_\_.
  - a) Spring season
  - b) Winter season
  - c) Summer season
  - d) Autumn season
- 6) As per Ferrel's law \_\_\_\_\_.
  - a) in the southern hemisphere, the north blowing winds are deflected eastward
  - b) in the northern hemisphere, the north blowing winds are deflected westward
  - c) in the southern hemisphere the south blowing winds are deflected eastward
  - d) in the northern hemisphere, the south blowing winds are deflected eastward
- 7) In which region does rainfall occur throughout the year?
  - a) Equatorial
  - b) Mediterranean
  - c) Temperate
  - d) Tropical
- 8) Recharging of water table depends on \_\_\_\_\_.
  - a) Relief of the area
  - b) Amount of rainfall
  - c) Amount of percolation
  - d) Vegetation of the area

- 9) Which of the following statements is/are correct?  
A) Air close to the Earth's surface is heavier  
B) Air close to the Earth's surface contains a larger quantity of water vapour and dust particles.  
Select the correct answer using the code given below:  
a) 2 only  
b) 1 only  
c) Neither 1 nor 2  
d) Both 1 and 2
- 10) Which one of the following gases is found in highest quantity in Exosphere?  
a) Helium  
b) Hydrogen  
c) Oxygen  
d) Nitrogen

**B) Fill in the blanks.**

06

- 1) The planetary winds that blow from the sub-tropical high pressure belts to the equator are known as \_\_\_\_\_.
- 2) \_\_\_\_\_ cloud is responsible for highly intense rain.
- 3) The main advantage of Rain Water Harvesting (RWH) is \_\_\_\_\_.
- 4) Land and sea-breezes occur due to \_\_\_\_\_.
- 5) The \_\_\_\_\_ scales is used to measure the damage by a hurricane.
- 6) \_\_\_\_\_ is the lowest atmospheric layer.

**Q.2 Answer the following.**

16

- Define Climatology
- Write a note on Scales of Atmospheric Motion.
- Explain Evaporation and transpiration.
- Write a note on origin of Thunderstorm.

**Q.3 Answer the following.**

- Explain nature and scope of climatology.
- Write a note on Hydrological cycle.

08

08

**Q.4 Answer the following.**

- Explain in detail the phenomenon of Tornados.
- Write a note on Historical background and economic importance of climatology.

08

08

**Q.5 Answer the following.**

- Explain in detail the Tricellular theory with diagram.
- Explain Environmental impact of severe weather.

08

08

**Q.6 Answer the following.**

- What is Eddy theory?
- Explain the profile of Hurricanes, its formation and decay in detail.

08

08

**Q.7 Answer the following.**

- Write a note on structure of Atmosphere and its composition.
- Explain in detail the occurrences and prediction of Tornados.

08

08

Seat No.	
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Set **P**

**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**MATERIAL SCIENCE**  
**Energy Harvesting Devices**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Fill in the blanks by choosing correct alternatives given below. 10**

- 1) Polymer electrolyte membrane fuel cell operate in the temperature range \_\_\_\_ °C.
  - a) 10-30
  - b) 60-80
  - c) 120-150
  - d) Above 1000
- 2) Piezoelectric crystals produce \_\_\_\_\_.
  - a) No voltage
  - b) Low voltage
  - c) High voltage
  - d) Very high voltage
- 3) Hybrid capacitor electrodes contains \_\_\_\_\_ as the electrode materials.
  - a) Metal oxide
  - b) Carbon
  - c) Combination of a) and b)
  - d) None of these
- 4) The standard emf of the hydrogen-oxygen fuel cell is \_\_\_\_\_.
  - a) 1.23 V
  - b) 2.54 V
  - c) 3.96 V
  - d) 0.58 V
- 5) Which of the following highest power density value?
  - a) Capacitor
  - b) Battery
  - c) Supercapacitor
  - d) None of these
- 6) The Fill Factor of the solar cell is  $FF =$  \_\_\_\_\_.
  - a)  $V_{mlm} \cdot V_{oc} / I_{sc}$
  - b)  $V_{mlm} / V_{oc} I_{sc}$
  - c)  $V_m V_{oc} / I_m I_{sc}$
  - d)  $V_{oc} I_{sc} / V_{mlm}$
- 7) \_\_\_\_\_ material is used as window layer in the solar cell.
  - a) CdSe
  - b) CdTe
  - c) ZnO
  - d) CuInSe<sub>2</sub>
- 8) Solid oxide fuel cells operate at high temperature as high as \_\_\_\_ °C.
  - a) 250
  - b) 500
  - c) 1000
  - d) 2000
- 9) Pseudocapacitors store the charges through \_\_\_\_\_ reactions.
  - a) Faradaic
  - b) Non-faradaic reactions
  - c) Electrostatically
  - d) None of these

10) Which of these gases or liquids are not used as source of hydrogen in fuel cells?

- |             |               |
|-------------|---------------|
| a) $C_2H_6$ | b) $C_2H_2$   |
| c) $C_6H_6$ | d) $C_2H_5OH$ |

**B) Fill in the blanks / Write True or False.**

**06**

- 1) \_\_\_\_\_ is most preferable metal oxide in Dye Sensitized Solar Cell.
- 2) The piezoelectric materials used for converting energy are called as \_\_\_\_\_.
- 3) \_\_\_\_\_ is one of the most preferable electrolytes for liquid solar cell.
- 4) CdS/Cu<sub>2</sub>S based solar cells are a fourth-generation solar cell.  
(True / False)
- 5) Shockley queasier limit is defined for Quantum Efficiency.  
(True / False)
- 6) The efficiency of QDSSC is lower than DSSC because Multiple exciton.  
(True / False)

**Q.2 Answer the following.**

**16**

- a) Hybrid supercapacitors
- b) p-n junction solar cell
- c) Piezoelectric materials
- d) SO Fuel Cell (SOFC)

**Q.3 Answer the following.**

- a) Give an account of principle, working of organic solar cells.
- b) Write a note on photoelectrochemical cell.

**10**

**06**

**Q.4 Answer the following.**

- a) Describe principle, working and materials for DSSC solar cells.
- b) Elucidate CdS / Cu<sub>2</sub>S solar cells.

**10**

**06**

**Q.5 Answer the following.**

- a) Describe charge storage mechanism involved in the electrical double layer and pseudocapacitor.
- b) Elucidate symmetric and asymmetric supercapacitor configurations.

**10**

**06**

**Q.6 Answer the following.**

- a) Give an account of magnetoelectric composites and microcantilever.
- b) Explain principle and working of piezoelectric transducers.

**10**

**06**

**Q.7 Answer the following.**

- a) Describe piezoelectric power generators with power storage circuit.
- b) Explain principle and working of proton exchange membrane in fuel cells.

**10**

**06**

Seat No.	
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Set **P**

**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**MATHEMATICS**  
**Numerical Techniques**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Fill in the blanks by choosing correct alternatives given below. 10**

- 1) In Gauss elimination method the coefficient matrix is reduced to \_\_\_\_\_.  
 a) Diagonal matrix                      b) Zero matrix  
 c) Upper triangular matrix              d) Row matrix
- 2) Every polynomial equation of the  $n^{\text{th}}$  degree has \_\_\_\_\_ roots.  
 a)  $n$     b)  $n + 1$   
 c)  $n - 1$                                         d)  $2n$
- 3) If  $\Delta f(x) = f(x + h) - f(x)$ , then for a constant  $k$ ,  $\Delta k$  equals to \_\_\_\_\_.  
 a) One    b) Zero  
 c)  $f(k) - f(0)$                                 d)  $f(x + k) - f(x)$
- 4) How much significant digits in this number 204.020050?  
 a) 6    b) 8  
 c) 11    d) 9
- 5) If  $A = \begin{bmatrix} 0 & 3 \\ 0 & 0 \end{bmatrix}$  then the eigen value of A are \_\_\_\_\_.  
 a) 0,1    b) 1,2  
 c) 0,0    d) 2,3
- 6) Newton's \_\_\_\_\_ difference interpolation formula is useful for interpolation near the beginning of tabular values.  
 a) Forward                                        b) Backward  
 c) Central                                         d) None of these
- 7) Using bisection method, the real roots of  $x^3 - 9x + 1 = 0$  between  $x = 2$  and  $x = 4$  is near to \_\_\_\_\_.  
 a) 2.75    b) 4.1  
 c) 2.2    d) 3.5
- 8) What is the value of the determinant  $\begin{bmatrix} 3 & 5 & 2 \\ 7 & 4 & 5 \\ 1 & 2 & 3 \end{bmatrix}$ ?  
 a) -56    b) -58  
 c) -54    d) -66
- 9) The positive root of the equation  $x^3 - 4x - 9 = 0$  using Regula Falsi method and correct to 4 decimal places is \_\_\_\_\_.  
 a) 2.7065                                        b) 2.7123  
 c) 2.7214                                        d) 2.0602

- 10) The equation  $x^2 + 3x + 1 = 0$  is known as \_\_\_\_\_.  
 a) Algebraic equation                      b) Cubic equation  
 c) Transcendental equation              d) Identity equation

**B) Fill in the blanks.****06**

- 1) Newton's interpolation formula is used when arguments are \_\_\_\_\_ spaced.  
 2) The degree of  $y(x)$  in Simpson's  $\frac{3}{8}$  rule is \_\_\_\_\_.  
 3) The solution of system of linear equation  $x - y = 1, x + y = 0$  is \_\_\_\_\_.  
 4) If  $y_1 = 4, y_3 = 12, y_4 = 19$  &  $y_x = 7$ , then  $x$  will be \_\_\_\_\_.  
 5) The root of the equation  $f(x) = 0$  lies in interval  $(a, b)$  if \_\_\_\_\_.  
 6) The averaging operator  $\mu y_r$  is \_\_\_\_\_.

**Q.2 Answer the following.****16**

- a) Evaluate  $\int_0^1 \frac{1}{1+x^2} dx$  using trapezoidal rule by taking  $h = \frac{1}{4}$ .  
 b) Solve the following system of equations.  
 $2x + y + z = 10, 3x + 2y + 3z = 18, x + 4y + 9z = 16$   
 by using Gauss elimination method.  
 c) Prove that  $\Delta \nabla = \Delta - \nabla$ .  
 d) Find the difference of  $\sqrt{102} - \sqrt{101}$  correct to four significant figures.

**Q.3 Answer the following.**

- a) Derive a Newton's forward interpolation formula.  
 b) Show that,

**10****06**

$$\Delta^n u_{x-n} = u_x - nu_{x-1} + \frac{n(n-1)}{2!} u_{x-2} + \frac{n(n-1)(n-2)}{3!} u_{x-3} \pm \dots - (-1)^n u_{x-n}.$$

**Q.4 Answer the following.**

- a) Find a real root of the equation  $x^3 - x - 1 = 0$  by Bisection method, correct upto three decimal places.  
 b) Reduce the matrix  $A = \begin{bmatrix} 1 & 3 & 4 \\ 3 & 2 & -1 \\ 4 & -1 & 1 \end{bmatrix}$  to the tridiagonal form.

**08****08****Q.5 Answer the following.**

- a) Derive Lagrange's Interpolation formula.  
 b) Find the missing term in the following table.

**08****08**

x	y
0	1
1	3
2	9
3	?
4	81

**Q.6 Answer the following.**

- a) Solve the following system of equations:  
 $2x + y = z = 20, x + 4y - z = 6, x - y + 5z = 7$   
 by using Gauss-Seidal method.  
 b) Explain Newton Raphson method.

**10****06**

**Q.7 Answer the following.**

- a) Find the root of the equation  $x^4 - x - 10 = 0$  by using Newton-Raphson's method. **08**
- b) Find a general formula for numerical integration using Newton's forward difference formula. **08**

<b>Seat No.</b>	
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## Environmental Microbiology and Waste Management

Max. Marks: 80

Time: 11:00 AM To 02:00 PM

**Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
2) Attempt any three questions from Q. No. 3 to Q. No. 7  
3) Figure to right indicate full marks.

**Q.1 A) Fill in the blanks by choosing correct alternatives given below. 10**

- 1) In an anaerobic treatment \_\_\_\_\_ gas is produced in large amount.  
a) CH<sub>4</sub>  
b) H<sub>2</sub>S  
c) O<sub>2</sub>  
d) H<sub>4</sub>
- 2) \_\_\_\_\_ is used as an indicator in determination of COD.  
a) Starch  
b) Ferroin  
c) Phenol red  
d) None of the above
- 3) The term ecology was proposed by German ecologist \_\_\_\_\_.  
a) A.G. Tansley  
b) Ernst Hackle  
c) Robert Warden  
d) Rachel carson
- 4) BOD stands for \_\_\_\_\_.  
a) Biological Oxygen Demand  
b) Biochemical Oxygen Demand  
c) Both a) & b)  
d) Only a)
- 5) Which of the following is abiotic component?  
a) Phytoplankton  
b) Herbivores  
c) Bacteria  
d) Light
- 6) Identify which one is metabolic stage in anaerobic digestion that leads to formation of methane and CO<sub>2</sub>?  
a) Hydrolysis  
b) Acidogenesis  
c) Denitrification  
d) Methanogenesis
- 7) The waste water generated by \_\_\_\_\_ industry is called Whey.  
a) Dairy  
b) Textile  
c) Paper and pulp  
d) Cyanide
- 8) For effective aerobic biological treatment process, the BOD:N:P ration must be maintained \_\_\_\_\_.  
a) 100:50:10  
b) 100:50:1  
c) 100:5:1  
d) 100:0:5:1
- 9) \_\_\_\_\_ the most important product of anaerobic digestion where organic matter is converted into simpler components by fermentation process.  
a) Acetic acid  
b) Biogas  
c) Carbon  
d) Calcium



- 10) Which of the following is anaerobic biological treatment process?
- a) Rotating Biological contractors
  - b) Activated sludge process
  - c) Packed column reactors
  - d) Trickling filter

**B) Write True or False.****06**

- 1) The rate of photosynthesis and that of rate of respiration is balanced in eutrophic lake. (True/False)
- 2) If you observed high BOD value for industrial effluent, then the water is highly polluted. (True/False)
- 3) The DO content of water sample is determined by the Dichromate Reflux method. (True/False)
- 4) The hydraulic retention time or HRT is the amount of time in days for wastewater to pass through a tank, such as aeration tank. (True/False)
- 5) Bioaugmentation involves the addition of bacterial formulations externally to the wastewater treatment plants. (True/False)
- 6) When a particular compound is altered chemically by microbial metabolism without that compound serving as a source of carbon or energy, that compound is said to be cometabolised. (True/False)

**Q.2 Answer the following.****16**

- a) Describe in detail about food web.
- b) Define eutrophication & classified the lakes on basis of their appearance.
- c) Define chemical oxygen demand & what is the principle of dichromate reflux method.
- d) Write a note on critical operation parameters of bioreactor with respect to Hydraulic retention time (HRT).

**Q.3 Answer the following.**

- a) Explain in detail about the physical, chemical & biological characteristics of different industrial waste water. **10**
- b) Write a note on application of bioaugmentation. **06**

**Q.4 Answer the following.**

- a) Write a note on Eutrophication. **10**
- b) Define bioaugmentation, biostimulation & bioremediation with respective of their diagram. **06**

**Q.5 Answer the following.**

- a) Write a note on biosorption. **08**
- b) Explain in detail about the different characteristics & treatment of dairy industry waste water. **06**

**Q.6 Answer the following.**

- a) Write in detail about factors which are responsible for eutrophication. **10**
- b) Define Bioremediation & what are the methods of bioremediation. **06**

**Q.7 Answer the following.**

- a) Define ETP. Explain the terms or process of sedimentation, coagulation, flocculation, neutralization which are used in primary treatment of waste water system. **10**
- b) Write a note on water tracing. **06**

Seat No.	
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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**MICROBIOLOGY**  
**Agricultural Microbiology**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Fill in the blanks by choosing correct alternatives given below. 10**

- 1) Haploid plants can be obtained from \_\_\_\_\_ culture.
  - a) Bud
  - b) Leaf
  - c) Root
  - d) Anther
- 2) Verticle section through the soil is called soil \_\_\_\_\_.
  - a) Profile
  - b) Depth
  - c) Texture
  - d) Graph
- 3) \_\_\_\_\_ is a plant hormone generally present in gaseous state.
  - a) Auxin
  - b) Ethylene
  - c) Cytokinin
  - d) Abscetic acid
- 4) \_\_\_\_\_ is found in the nitrogen fixing root nodules of leguminous plants.
  - a) Cynoglobulin
  - b) Nitroalbunin
  - c) Leghemoglobin
  - d) Cyanocobalamin
- 5) The process of using natural predator to control pathogens is called \_\_\_\_\_ control.
  - a) Biological
  - b) Chemical
  - c) Physical
  - d) Artificial
- 6) \_\_\_\_\_ serves as important biofertilizer in paddy fields.
  - a) Clostridium
  - b) Cyanobacteria
  - c) Rhizobium
  - d) Mycorrhiza
- 7) The process of converting wet waste to manure is called \_\_\_\_\_.
  - a) Conservation
  - b) Incineration
  - c) Metabolism
  - d) Composting
- 8) The transformations of Nitrates to gaseous by microorganisms are called \_\_\_\_\_.
  - a) Denitrification
  - b) Nitrification
  - c) Nitrogen fixation
  - d) Ammonification
- 9) \_\_\_\_\_ can be used to correct acidic soil.
  - a) Gypsum
  - b) Phosphorous
  - c) Lime
  - d) Potassium
- 10) \_\_\_\_\_ is commonly known as friends of farmer.
  - a) Snake
  - b) Earthworm
  - c) Rat
  - d) Honey Bee

- B) Write True or False.** **06**
- 1) Rhizobium is nonsymbiotic nitrogen fixer.
  - 2) Clay is the smallest particle of soil.
  - 3) Azolla is used as biofertilizer contains Azotobactor.
  - 4) Trichoderma is used for biocontrol against plant diseases.
  - 5) Thiobacillus thioxidans is capable of oxidizing sulfur to Sulfates.
  - 6) B.T. Cotton is not example of transgenic plant.
- Q.2 Answer the following** **16**
- a) Blue green algae as a biofertilizer
  - b) Degradation of cellulosic waste
  - c) General components of soil
  - d) Toxins produced by bacteria for pest control
- Q.3 Answer the following**
- a) Comment on Economic and future prospects of Biopesticides. **08**
  - b) Describe various methods of application and evaluation of Biofertilizers. **08**
- Q.4 Answer the following**
- a) Describe in detail Carbon cycle in soil. **08**
  - b) Write an essay on "PGPR". **08**
- Q.5 Answer the following**
- a) Write an essay on "Plant tissue culture". **08**
  - b) Write an essay on "Green Manure". **08**
- Q.6 Answer the following**
- a) Describe in detail pest control by using *B. Thuringiensis*. **08**
  - b) Describe in detail production of Rhizofertilizers. **08**
- Q.7 Answer the following**
- a) Describe various types of microorganisms in soil and their role in soil fertility. **08**
  - b) Comment on Development of Genetically modified crops plants. **08**

<b>Seat No.</b>	
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## Environment and Waste Management Technology

Max. Marks: 80

Time: 11:00 AM To 02:00 PM

**Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
2) Attempt any three questions from Q. No. 3 to Q. No. 7  
3) Figure to right indicate full marks.

**Q.1 A) Fill in the blanks by choosing correct alternatives given below. 10**

- 1) The rate of biogeochemical cycling is highest for \_\_\_\_\_.  
a) Nitrogen                                      b) Hydrogen  
c) Carbon                                         d) Oxygen
- 2) In a food web, the amount of biomass transferred from one trophic level to next higher trophic level is \_\_\_\_\_.  
a) 10-15%                                        b) 20-25%  
c) 30-40%                                        d) About 50%
- 3) Self regulating biological communities and their physical environment is called \_\_\_\_\_.  
a) Biosphere                                      b) Ecosphere  
c) Ecosystem                                      d) Ecophene
- 4) \_\_\_\_\_ is a soil borne anaerobic nitrogen fixing bacterium.  
a) Rhizobium                                      b) Azotobacter  
c) Azospirillum                                  d) Clostridium
- 5) \_\_\_\_\_ are the potential air born allergens.  
a) Bacterial cells                                  b) fungal spores  
c) Pollen grains                                   d) Lichen fragments
- 6) \_\_\_\_\_ of the following is not a diarrhoeal waterborne disease.  
a) Amoebiasis                                      b) Giardiasis  
c) Gastroenteritis                                d) Poliomyelitis
- 7) Acid rains are produced by \_\_\_\_\_.  
a) excess NO<sub>2</sub> and SO<sub>2</sub> from burning fossil fuels  
b) excess production of NH<sub>3</sub> by industry and coal gas  
c) excess release of carbon monoxide by incomplete combustion  
d) excess formation of CO<sub>2</sub> by combustion and animal respiration
- 8) Tertiary treatment of sewage is designed to remove \_\_\_\_\_.  
a) BOD    b) Bacteria  
c) Nitrates and phosphate                      d) Protozoa
- 9) \_\_\_\_\_ step remove the greatest amount of biochemical oxygen demand (BOD) in sewage.  
a) Activated sludge                                b) Flocculation  
c) Primary treatment                              d) Sludge digestion

- 10) Air spora refers to \_\_\_\_\_.  
 a) Spora of microorganism in air  
 b) Spores and vegetative cells in air  
 c) All biological particles in air  
 d) All particulate matter in air

**B) Write True or False.**

**06**

- 1) The biotic environment interacts with its abiotic environment to form an ecosystem.
- 2) One of the main problems associated with mining is water pollution.
- 3) The EMB agar is used for completed test.
- 4) El nino takes place in coast land of Peru & Ecuador.
- 5) Pseudomonas putida is super bug used to degrade oil spills in water bodies.
- 6) Bacillus thuringiensis is used in genetically modified crop of soyabean.

**Q.2 Answer the following.**

**16**

- a) Write a short note on ecological pyramid.
- b) Write short note on acid rain.
- c) Write in details on dairy waste.
- d) El Nino

**Q.3 Answer the following.**

- a) Write in detail waste water disposal control and regulations.
- b) Describe waste management and treatment of textile waste.

**08**

**08**

**Q.4 Answer the following**

- a) Describe Environmental Impact assessment.
- b) Write in details on genetically engineered microorganisms in pollution control.

**08**

**08**

**Q.5 Answer the following**

- a) Explain biotic and abiotic environment.
- b) Write in details on bioaugmentation.

**08**

**08**

**Q.6 Answer the following**

- a) Write characteristics and types of reactors.
- b) Write in detail critical operation parameters

**08**

**08**

**Q.7 Answer the following**

- a) Write composition and structure of environment.
- b) Describe food webs and trophic structure.

**08**

**08**

Set P

10) Which of these gases or liquids are not used as source of hydrogen in fuel cells?

- |             |               |
|-------------|---------------|
| a) $C_2H_6$ | b) $C_2H_2$   |
| c) $C_6H_6$ | d) $C_2H_5OH$ |

**B) Fill in the blanks / Write True or False.**

**06**

- 1) \_\_\_\_\_ is most preferable metal oxide in Dye Sensitized Solar Cell.
- 2) The piezoelectric materials used for converting energy are called as \_\_\_\_\_.
- 3) \_\_\_\_\_ is one of the most preferable electrolytes for liquid solar cell.
- 4) CdS/Cu<sub>2</sub>S based solar cells are a fourth-generation solar cell.  
(True / False)
- 5) Shockley queasier limit is defined for Quantum Efficiency.  
(True / False)
- 6) The efficiency of QDSSC is lower than DSSC because Multiple exciton.  
(True / False)

**Q.2 Answer the following.**

**16**

- a) Hybrid supercapacitors
- b) p-n junction solar cell
- c) Piezoelectric materials
- d) SO Fuel Cell (SOFC)

**Q.3 Answer the following.**

- a) Give an account of principle, working of organic solar cells.
- b) Write a note on photoelectrochemical cell.

**10**

**06**

**Q.4 Answer the following.**

- a) Describe principle, working and materials for DSSC solar cells.
- b) Elucidate CdS / Cu<sub>2</sub>S solar cells.

**10**

**06**

**Q.5 Answer the following.**

- a) Describe charge storage mechanism involved in the electrical double layer and pseudocapacitor.
- b) Elucidate symmetric and asymmetric supercapacitor configurations.

**10**

**06**

**Q.6 Answer the following.**

- a) Give an account of magnetoelectric composites and microcantilever.
- b) Explain principle and working of piezoelectric transducers.

**10**

**06**

**Q.7 Answer the following.**

- a) Describe piezoelectric power generators with power storage circuit.
- b) Explain principle and working of proton exchange membrane in fuel cells.

**10**

**06**

**Seat  
No.**

Max. Marks: 80

**Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
2) Attempt any three questions from Q. No. 3 to Q. No. 7  
3) Figure to right indicate full marks.

1) The working electrode, sensitizer (dye), redox mediator and a counter electrode are key parameters of \_\_\_\_\_.

- a) Silicon solar cell                      b) DSSC  
c) CdS solar cell                         d) CuInSe<sub>2</sub> solar cell

- 2) The correct relation between power density ( $P_g$ ) and energy density ( $E_g$ ) of supercapacitor \_\_\_\_\_, where  $\Delta t$  is discharging time.

- a)  $P_g = \frac{E_g}{\Delta t}$       b)  $P_g = \frac{\Delta t}{E_g}$   
 c)  $P_g = \frac{E_g}{\Delta t} \times C_p$       d)  $P_g = \frac{\Delta t}{E_g} \times C_p$

- 3) The tip mass, material for beam and dimensions of beam determine the \_\_\_\_\_ of the single crystal piezoelectric system.

- Operating temperature range
- Operating frequency range
- External force and lifetime
- All of the above

- 4) In fuel cells, the catalytic converters \_\_\_\_\_.

- Convert elements into gases
- Convert atoms into ions
- Split hydrogen atoms into hydrogen ions and electrons
- Convert molecules into atoms

- 5) The ratio between the power extracted at the maximum power point of the solar cell and the power of the sunlight at which the solar cell is illuminated is \_\_\_\_\_.

- a) Fill factor  
b) Open circuit voltage  
c) Efficiency  
d) Short circuit current

- 6) Vibration of a rigid body can be caused by

- a) Unbalanced mass in a system
- b) Tear of materials
- c) Wear of materials
- d) All of the above



- 7) In MIS solar cells, the carriers flow through the insulating layer by \_\_\_\_\_.
  - a) Quantum mechanical tunnelling effect
  - b) Diffusion effect
  - c) Metal insulator throttling effect
  - d) Electron affinity effect
- 8) In Galvanostatic Charge Discharge (GCD), the supercapacitor is charged at a constant \_\_\_\_\_.
  - a) Current
  - b) Time
  - c) Voltage
  - d) Resistance
- 9) Increasing the number of cells in the fuel cell stack connected in series increases the \_\_\_\_\_.
  - a) Voltage
  - b) Current
  - c) Resistance
  - d) Capacitance
- 10) The selection of piezoelectric ceramic composition for a particular application depend on \_\_\_\_\_.
  - a) Operating temperature range
  - b) Operating frequency range
  - c) External force and lifetime
  - d) All of the above

**B) Write True or False.**

**06**

- 1) The energy density of battery is higher than supercapacitor.
- 2) Cantilever structure with tip mass is the most widely used configuration for piezoelectric energy harvesting device.
- 3) Compare to heat engine fuel cell has more energy transformations.
- 4) In terms of Ohm's law, the photovoltage is very high at very low  $R_L$ , and the photocurrent is very low at very high  $R_L$ .
- 5) Solid oxide fuel cells use an electrolyte that conducts oxide ( $O^{2-}$ ) ions from the anode to the cathode.
- 6) Graphene is a structural arrangement of  $sp^2$  bonded carbon atoms in a honeycombed single layer.

**Q.2 Answer the following.**

**16**

- a) Write a note on dye sensitized solar cell (DSSC).
- b) Write a note on the basics of piezoelectric energy harvesting.
- c) Give comparison between battery and supercapacitor.
- d) Discuss the photovoltaic effect

**Q.3 Answer the following.**

- a) Explain the concepts photoelectrochemical and photo electrolysis cells.
- b) Write a note on solar cell characteristics.

**10**

**06**

**Q.4 Answer the following.**

- a) Explain energy storage mechanism in supercapacitors.
- b) Write a note on Cyclic Voltammetry (CV) characterization of supercapacitors.

**10**

**06**

**Q.5 Answer the following.**

- a) Discuss proton exchange membrane fuel cell in details.
- b) Write a note on characteristics and features of fuel cells.

**10**

**06**

**Q.6 Answer the following.**

- a) Discuss the Mechanical energy harvester using laser micromachining and piezoelectric fibers. **10**
- b) Give detailed account of piezoelectric materials. **06**

**Q.7 Answer the following.**

- a) Write a note on galvanic cell. **08**
- b) Write a note on Electrochemical impedance spectroscopy characterization of supercapacitors. **08**

Seat No.	
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Set P
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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**STATISTICS**  
**Applied Statistics**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions.**

**10**

- 1) Sampling frame is a term used for \_\_\_\_\_.  
 a) A list of random numbers  
 b) A list of voters  
 c) A list of sampling units of a population  
 d) Census survey
- 2) The number of possible samples of size  $n$  from a population of size  $N$  units with replacement is \_\_\_\_\_.  
 a)  $\binom{N}{n}$   
 b)  $N^n$   
 c)  $\infty$   
 d)  $N!$
- 3) The component of a time series attached to long-term variation is termed as \_\_\_\_\_.  
 a) cyclic variation  
 b) secular variation  
 c) irregular variation  
 d) constancy
- 4) Most preferred type of the average for index numbers is \_\_\_\_\_.  
 a) Arithmetic mean  
 b) Geometric mean  
 c) Harmonic mean  
 d) None of the above
- 5) Which of the following satisfies both factor reversal and time reversal test?  
 a) Laspeyre's index number  
 b) Paasche's index number  
 c) Fisher's index number  
 d) All of these
- 6) Probability of drawing a unit at each selection remain same in \_\_\_\_\_.  
 a) Simple random sampling with replacement (SRSWR)  
 b) Simple random sampling without replacement (SRSWOR)  
 c) Both SRSWR and SRSWOR  
 d) Neither in SRSWR nor in SRSWOR
- 7) In simple random sampling with replacement, the same sampling unit may be included in the sample \_\_\_\_\_.  
 a) Only once  
 b) Only twice  
 c) More than once  
 d) Hundred times
- 8) The faults due to assignable causes \_\_\_\_\_.  
 a) Can be removed  
 b) Cannot removed  
 c) Can sometimes be removed  
 d) Impossible to remove

- 9) The geometric mean of Laspeyre's and Paasche's price indices is also known as \_\_\_\_\_.  
a) Cost of living index  
b) Fisher's price index  
c) Either cost of living index or Fisher's index  
d) Neither cost of living index nor Fisher's index
- 10) The value of Net Reproduction Rate (NRR)>1 is indicative of \_\_\_\_\_.  
a) Increase in population      b) Reduction in population  
c) Constancy in population      d) All of the above

**B) Write True / False.****06**

- 1) The increase in sales of a departmental store on Dusshera and Diwali are associated with the seasonal component of time series.
- 2) The sample should always be 5% of the total population.
- 3) The variation due to manmade reasons is called as assignable cause variation.
- 4) Increase in prices of Air Conditioners in Summer is an example of cyclical variation of time series.
- 5) Base year for Index numbers should be an year in which flood or earthquake has occurred.
- 6) Chance causes can be completely removed from the process.

**Q.2 Answer the following****16**

- a) Explain time reversal test for index numbers.
- b) Explain non-sampling errors.
- c) Write a note on life tables.
- d) Explain factor reversal test for index numbers.

**Q.3 Answer the following.****16**

- a) What is cost of living index number? Explain its uses. Describe the procedure followed in its construction.
- b) Explain the advantages of sampling. Also explain simple random sampling with replacement as well as simple random sampling without replacement.

**Q.4 Answer the following.****16**

- a) What is time series? Describe in brief its components. Give example of each component.
- b) Explain, in detail, stratified random sampling. Discuss the allocation problem for this method.

**Q.5 Answer the following.****16**

- a) Discuss the below methods for measurement of trend.
  - 1) Moving average method
  - 2) Progressive Average method
- b) Explain the construction of mean and range control charts, giving formulae for upper and lower limits in both cases when sample means and sample ranges are given.

**Q.6 Answer the following.****16**

- a) Explain the terms:
  - 1) Crude Death Rate
  - 2) Specific Death Rate
  - 3) Standardized Death Rate
  - 4) Total Fertility Rate
  - 5) Crude Birth Rate
- b) Explain the need of base shifting for index numbers. Also explain how base shifting is carried out.

**Q.7 Answer the following.****16**

- a) Discuss the c chart for number of defects per unit.
- b) Define the following index numbers:
  - 1) Laspeyre's index number
  - 2) Paasche's index number
  - 3) Fisher's index number

Set No.	
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**M.Sc. (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**ZOOLOGY**

**Wild Life and Conservation Biology**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7  
 3) Figure to right indicate full marks.

**Q.1 A) Choose correct alternative. (MCQ) 10**

- 1) Which one is the 2nd large magnitude earthquake occurred during past 100 yrs?
  - a) 2001, Bhuj earthquake
  - b) 2004, Sumatra earthquake
  - c) 2015, Nepal earthquake
  - d) 2005, Kashmir earthquake
- 2) The interconnected network of feeding relationship within an ecosystem is known as \_\_\_\_\_.
  - a) Foodchain
  - b) Food mass
  - c) Food box
  - d) Food web
- 3) Floods can be prevented by \_\_\_\_\_.
  - a) afforestation
  - b) cutting the forests
  - c) tilling the land
  - d) removing the top soil
- 4) Which of the following is a renewable resource?
  - a) Soil
  - b) Water
  - c) Flora and fauna
  - d) All the above
- 5) Which of the following vertebrates have the highest number of endangered species?
  - a) Fishes
  - b) Birds
  - c) Reptiles
  - d) Mammals
- 6) In Ecological pyramid study each level of the pyramid is called \_\_\_\_\_.
  - a) Eco level
  - b) Bio level
  - c) Mass level
  - d) Tropical level
- 7) A point on the surface of the earth vertically above the focus is known as \_\_\_\_\_.
  - a) Epicenter
  - b) Hypocenter
  - c) Special focus
  - d) None of the above
- 8) \_\_\_\_\_ is the hotspot of biodiversity in India.
  - a) Eastern Ghats
  - b) Western Ghats
  - c) Sundarbans
  - d) Gangetic plains
- 9) How an organism is suited to live in a particular place is called \_\_\_\_\_.
  - a) Competition
  - b) Adaptation
  - c) Addition
  - d) Participation

- 10) All the Sanctuaries are established to \_\_\_\_\_.  
 a) rear animals for milk                      b) entrap animals  
 c) protect animals                              d) none of the above

**B) Fill in the blanks OR Write True / False.**

**06**

- 1) Wildlife Protection Act was implemented in India \_\_\_\_\_.  
 a) 1970 b) 1971 c) 1928 d) 1972
- 2) Bacteria and Earthworms are called \_\_\_\_\_.  
 a) Producers b) Decomposers c) Consumers a) None of these
- 3) WWF-India established year is \_\_\_\_\_.  
 a) 1956 b) 1960 c) 1976 d) 1969
- 4) \_\_\_\_\_ is the major raw material for biogas.  
 a) Plant leaves b) Cow dung c) Mud d) Grass
- 5) \_\_\_\_\_ of stratosphere provides protection to our life.  
 a) Nitrogen b) Hydrogen c) Ozone d) Argon
- 6) Which is the non-renewable resources?  
 a) Wind b) Water c) Vegetation d) Coal and minerals

**Q.2 Answer the following.**

**16**

- a) Give an account on Indices of diversity.
- b) Write a note on Ecotone.
- c) Write a note on Red Data Book.
- d) Give an Account on Renewable resources.

**Q.3 Answer the following.**

**16**

- a) What is Tsunami? Give an account on effect of Tsunami on ecosystem.
- b) What is Ecological succession? Add a note on Suitable example.

**Q.4 Answer the following.**

**16**

- a) Describe in detail Classification of communities.
- b) Give an account on Captive breeding of endangered species. Add a note on Great Indian Bustard Conservation by captive breeding methods.

**Q.5 Answer the following.**

**16**

- a) Write a Note on Food chain with Suitable examples.
- b) Give an account on factors affecting ecosystem and community structure.

**Q.6 Answer the following.**

**16**

- a) Explain the Anthropogenic factors affecting to the ecosystem.
- b) Give an account effect of Earthquakes on ecosystem.

**Q.7 Answer the following.**

**16**

- a) Give an account on Conservation of nature and natural resources.
- b) Give an account on Indian wild life act, 1972.

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Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

**Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.  
2) Attempt any three questions from Q. No. 3 to Q. No. 7  
3) Figure to right indicate full marks.

- The interrelationship of among organisms and between organisms and their environment is called \_\_\_\_\_.  
a) Biodiversity                      b) Ecology  
c) Ethology                          d) Economy
- The group of individuals belonging to same species live in area is called \_\_\_\_\_.  
a) Community                        b) Ecosystem  
c) Population                         d) Biosphere
- The original source of energy in almost of all the ecosystem is \_\_\_\_\_.  
a) Sunlight                            b) Water  
c) Producers                         d) Soil
- The energy flow in an ecosystem is \_\_\_\_\_.  
a) Bidirectional                      b) Multidirectional  
c) Non moveable                      d) Unidirectional
- A particular place inhabited by an organism or community is known as \_\_\_\_\_.  
a) Niche                                b) Biome  
c) Habitat                               d) Habit
- An association between both the individuals or populations get benefited is called \_\_\_\_\_.  
a) Competition                        b) Mutualism  
c) Protocoperation                    d) Commensalism
- The total amount of living tissue within ecosystem is called \_\_\_\_\_.  
a) Biomass                             b) Abiotic component  
c) Energy flow                         d) Organic mass
- In a community the model of energy flow from producer to consumer in a complex network is called as \_\_\_\_\_.  
a) Food chain                         b) Food web  
c) Energy Flow                        d) Energy Pyramid
- The branch of biology which deals with animal behavior is called \_\_\_\_\_.  
a) Zoology                              b) Ecology  
c) Ethology                             d) Evolution





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Set **P**

**M.A. (Rural Development) (Semester - III) (New) (CBCS) Examination:  
Oct/Nov-2022  
Human Development**

Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternatives from the options. 16**

- 1) Who secured the lowest rank in The Human Development Report 2018?
  - a) Afghanistan
  - b) Congo
  - c) Niger
  - d) Kenya
- 2) What is the rank of India in the Human Development Index 2018?
  - a) 142<sup>nd</sup>
  - b) 136<sup>th</sup>
  - c) 140<sup>th</sup>
  - d) 130<sup>th</sup>
- 3) When was the Gender Inequality Index (GII) introduced?
  - a) 2010
  - b) 2011
  - c) 1999
  - d) 2005
- 4) Which of the following index is not released by the UNDP?
  - a) Human Development Index
  - b) Multidimensional Poverty Index
  - c) Gender Inequality Index
  - d) Environmental Quality Index
- 5) Which of the following is not one of the factors related to Human Development Index?
  - a) Longevity
  - b) Literacy
  - c) Decent standard of living
  - d) Increase in Govt. Jobs
- 6) Who was the originator of the Human Development Report?
  - a) Amartya Sen
  - b) Jan Tinberger
  - c) Mahboob-ul-Haq
  - d) Dr. Manmohan Singh
- 7) The state having the highest literacy rate in India \_\_\_\_\_.
  - a) Kerala
  - b) Tamil Nadu
  - c) Bihar
  - d) Rajasthan
- 8) Which scheme was started in 1993 to create self-employment opportunities for educated unemployed youth in rural areas and small towns?
  - a) Prime Minister Rozgar Yojana
  - b) National Rural Employment Guarantee Act.
  - c) Rural Employment Generation Programme
  - d) Swarnajayanti Gram Swarozgar Yojana
- 9) For how many days NREGA provides employment?
  - a) 70
  - b) 80
  - c) 90
  - d) 100

- 10) Who is considered as poor?
  - a) Landlords
  - b) Landless labourer
  - c) A rich farmer
  - d) Businessman
- 11) Women and children under the age of five are food insecure population due to: \_\_\_\_\_.
  - a) Malnutrition
  - b) Healthy diet at
  - c) Fats
  - d) None of the above
- 12) By which year governments are aiming to meet the Millennium Development Goals including having the rate of global poverty?
  - a) 2011
  - b) 2015
  - c) 2045
  - d) 2035
- 13) Which of the following is an indicator of poverty in India?
  - a) Income level
  - b) Illiteracy level
  - c) Employment level
  - d) All of these
- 14) Which one of the following Economic groups is vulnerable to poverty?
  - a) Scheduled Caste
  - b) Scheduled Tribes
  - c) Rural Agricultural Household
  - d) All the above
- 15) In which year was N R E G A enacted?
  - a) 2005
  - b) 2000
  - c) 1999
  - d) 1993
- 16) HDI means \_\_\_\_\_.
  - a) Human Development Industry
  - b) Human Development Index
  - c) Human Development Investigation
  - d) None of these

**Q.2 Answer the following questions. (Any Four)****16**

- a) What is the meaning of Human capital?
- b) What is the significance of human resource?
- c) What is the meaning of economic security?
- d) What is the meaning of human development?
- e) What is the meaning of human poverty index?
- f) What are the criteria for selecting capabilities?

**Q.3 Answer the following questions. (Any Two)****16**

- a) What are the reasons for decline food grains?
- b) Explains the physical quality of life index
- c) What are the components of quality of life?
- d) What is the social determinants of Human capital?

**Q.4 Answer the following questions. (Any One)****16**

Explain the Gender Empowerment Measure.

**OR**

Elaborate Marshall Utility of a Commodity approach.

**Q.5 Discuss the social determinants of human development in detail.****16**

<b>Seat No.</b>	
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# Archaeology

Max. Marks: 80

**सूचना :** 1) सर्व प्रश्न अनिवार्य आहेत.  
2) उजवीकडील अंक पुर्ण गुण दर्शवितात.

16

- 1) ——— यांनी "त्रियुग प्रणाली" चा सिध्दांत मांडला.  
 अ) सी. जे. थॉमसेन                      ब) चार्ल्स डार्विन  
 क) विलम जोन्स                          ड) पिट रिवेर्स
  - 2) अशोकाला त्याच्या शिलालेखात सामान्यात: ——— या नावाने संबोधले आहे.  
 अ) चक्रवर्ती                                  ब) देवराजा  
 क) धर्मकीर्ती                                ड) प्रियदर्शी
  - 3) कोणत्या सातवाहन राजाने सर्व प्रथम आईच्या नावासोबत आपले नाव जोडले?  
 अ) गौतमीपुत्र सातकर्णी              ब) सातकर्णी  
 क) वशिष्ठपुत्र पुलुमावी              ड) हे सर्व
  - 4) विक्रमसंवत् युगाची सुरुवात ——— काळात झाली.  
 अ) इ.सन. 78                                ब) इ.सन पूर्व 78  
 क) इ.सन 58                                 ड) इ.सन.पूर्व 68
  - 5) पुरातत्व हा शब्द ——— भाषेतून आला आहे.  
 अ) लॅटिन                                      ब) ग्रीक  
 क) फ्रेंच                                        ड) इंग्रजी
  - 6) सरस्वतीच्या हातात खालीलपैकी कोणती वस्तू ठळकपणे दिसते?  
 अ) वीणा                                        ब) चक्र  
 क) शंख                                        ड) डमरू
  - 7) स्तूप उत्खननासाठी ——— पद्धत योग्य आहे.  
 अ) पायरी                                      ब) चतुर्थांश  
 क) आडवे                                        ड) उभे
  - 8) विद्वानांच्या मते 'निष्क' हे सोन्याचा ——— आणि ——— आहे.  
 अ) दागिने आणि नाणे                  ब) तुकडा आणि नाणे  
 क) हार आणि मुकुट                      ड) हार आणि दागिने

- 9) गुप्तकाळात खालीलपैकी कोणत्या धातूमध्ये सर्वाधिक नाणी जारी करण्यात आली?  
 अ) सोने ब) चांदी  
 क) तांबे ड) पितळ
- 10) अलेक्झांडरने भारतावर केव्हा आक्रमण केले?  
 अ) इ.स.पूर्व 110 ब) इ.स.पूर्व 327  
 क) इ.स.पूर्व 150 ड) इ.स.पूर्व 240
- 11) ——— राजघराण्याने पोटीन नाणे जारी केले.  
 अ) क्षत्रप ब) सातवाहन  
 क) वाकाटक ड) चोल
- 12) भैरव हे शिवाचे ——— रुप आहे.  
 अ) सौम्य ब) रौद्र  
 क) नृत्य ड) यापैकी नाही
- 13) ——— हा पक्षी कार्तिकेयाचे वाहन आहे.  
 अ) कोंबडा ब) मोर  
 क) चिमणी ड) पोपट
- 14) ——— यांनी भारतात प्रथम पुरातत्व शास्त्राच्या वैज्ञानिक पद्धती सुरु केल्या.  
 अ) मॉर्टिमर व्हीलर ब) जॉर्न मार्शल  
 क) ह. धी. सांकलिया ड) के. एन. दीक्षित
- 15) ——— हे एशियाटिक सोसायटी ऑफ बंगालचे संस्थापक आहेत.  
 अ) विल्यम जोन्स ब) अलेक्झांडर कनिंगहॅम  
 क) लॉर्ड कर्झन ड) लॉर्ड बेंटिक
- 16) भारतातील शैलचित्रे साधारपणे ——— च्या जीवन पद्धतींची पुनर्रचना करण्यास मदत करतात.  
 अ) पुरापाषाण ब) मध्यपाषाण  
 क) नवपाषाण ड) ताम्रपाषाण

**प्र.2 खालीलपैकी प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही चार)**

**16**

- अ) विक्रम संवत  
 ब) सागरी पुरातत्व  
 क) सोपान पायरी उत्खनन पद्धत  
 ड) हात कुऱ्हाड  
 इ) पुरातत्वाची व्याप्ती  
 ई) पुरातत्वशास्त्राच्या व्याख्या

**प्र.3 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही दोन)**

**16**

- अ) पुरातत्व स्थळांवर तपशीलवार नोंद लिहा.  
 ब) शेषशायी विष्णूच्या मूर्तीशास्त्राचे वर्णन करा.  
 क) प्रागैतिहासाची व्याख्या आणि व्याप्ती स्पष्ट करा.  
 ड) गिरनारच्या आज्ञेवर आधारित अशोकाच्या धार्मिक धोरणावर टीकात्मक टीप लिहा.

- प्र.4** खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही एक) **16**  
मानव भूतकाळाच्या पूनर्बाधणीसाठी 'पुरातत्व स्रोतांचे' टीकात्मक परीक्षण करा.  
किंवा  
उत्खननाच्या विविध पद्धतींची तपशीलवार चर्चा करा.
- प्र.5** पुरातत्व हा बहुविद्याशाखीय विषय कसा योग्य आहे ते तपशीलवार उदाहरणासह स्पष्ट करा. **16**

Seat No.	
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Set **P**

**M.A. (A.I.H.C & A) (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**

**Archaeology**

Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 AM

Max. Marks: 70

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternatives from the options. 16**

- 1) \_\_\_\_\_ put forth the theory of three age system.
  - a) C.J. Thomson
  - b) Charles Darwin
  - c) William Jones
  - d) Pit Rivers
- 2) The name by which Ashoka is generally referred in his inscription \_\_\_\_\_.
  - a) Chakravarti
  - b) Devraja
  - c) Dharmakirti
  - d) Priyadarsi
- 3) Which Satavahana kings name along with the name of his mother for the first time \_\_\_\_\_.
  - a) Goutamiputra Satakarni
  - b) Satakarni
  - c) Vashistputra pulumavi
  - d) All of these
- 4) Vikramsavant Ear was started in \_\_\_\_\_ period.
  - a) 78 A.D.
  - b) 78 B.C.
  - c) 58 A.D.
  - d) 68 B.C.
- 5) The word Archaeology came from \_\_\_\_\_ language.
  - a) Latin
  - b) Greek
  - c) French
  - d) English
- 6) Which of the following is seen prominently in hands of Saraswati?
  - a) Veena
  - b) Chakra
  - c) Conch
  - d) Damaru
- 7) \_\_\_\_\_ method is suitable for excavation of stupa.
  - a) Step Trench
  - b) Quadrant
  - c) Horizontal
  - d) Vertical
- 8) According to Scholar 'Nishka is a gold \_\_\_\_\_ and \_\_\_\_\_.
  - a) Jewellery and coin
  - b) Piece and coin
  - c) Necklace and crown
  - d) Garland
- 9) In which among the following metals, largest number of coins were issued in Gupta Era?
  - a) Gold
  - b) Silver
  - c) Copper
  - d) Brass
- 10) When was India invaded by Alexander?
  - a) 110 BC
  - b) 327 BC
  - c) 150 BC
  - d) 240 BC

- 11) Potin coin was issued by \_\_\_\_\_ dynasty.  
a) Kshtrapa                                      b) Satvahana  
c) Vakataka                                     d) Chola
- 12) Bhairav is \_\_\_\_\_ form of Shiva.  
a) Soumya                                        b) Roudra  
c) Nrutya                                         d) None of these
- 13) \_\_\_\_\_ is the mount of Kartikeya.  
a) Cock    b) Peacock  
c) Sparrow                                       d) Parrot
- 14) The scientific methods of archaeology introduced first in India by \_\_\_\_\_.  
a) Mortimer Wheeler                          b) John Marshal  
c) H.D. Sankalia                                d) K.N. Dixit
- 15) \_\_\_\_\_ is the founder of Asiatic society of Bengal.  
a) William Jones                                b) Alexander Cunningham  
c) Lord Curzon                                  d) Lord Bentik
- 16) Rock paintings in India generally help to reconstruct life ways of \_\_\_\_\_.  
a) Palaeolithic                                    b) Mesolithic  
c) Neolithic                                        d) Chalcolithic

**Q.2 Answer the following questions. (Any Four)**

16

- Vikram Era
- Marine Archaeology
- Step trend Excavation method
- Hand axe
- Scope of Archaeology
- Definitions of Archaeology

**Q.3 Answer the following questions. (Any Two)**

16

- Write a note on archaeological sites in details.
- Describe the Iconography of Sheshasasayi Vishnu.
- Explain the definition and scope of prehistory.
- Write a critical note on Ashokas religious policy based on Girnar edicts.

**Q.4 Answer the following questions. (Any One)**

16

Critically examine the 'Archaeological Sources' for reconstruction of human past.

**OR**

Discuss various methods of excavation in detail.

**Q.5** Write in detail how Archaeology is a multidisciplinary subject with suitable example.

16



Page 1 of 3

- 9) 'प्रवचनसार' हा ज्ञान व ज्ञेय यांची मीमांसा करणारा ——— शैलीमध्ये लिहलेला अद्वितीय ग्रंथ आहे.  
 अ) दार्शनिक ब) वैदर्भी  
 क) पांचाली ड) स्थापत्य

10) मोह-राग-द्वेषाला नाश करण्याचा उपाय ——— या महाअधिकारात सांगितला आहे.  
 अ) सम्यकदर्शन ब) चरणानुयोगसूचकचूलिका  
 क) ज्ञेय तत्व प्रज्ञापन ड) ज्ञानतत्वप्रज्ञापन

11) 'प्रवचनसार' यावर आचार्य अमृतचंद्राचार्यांची ——— नावाची संस्कृत टीका रचली.  
 अ) 'प्रवचनसरोजभास्कर' ब) 'तत्त्वप्रदीपिका'  
 क) तात्पर्यवृत्ती ड) तत्त्वार्थसार

12) ——— मुक्तीला कारण आहे.  
 अ) शुभोपयोग ब) शुद्धोपयोग  
 क) धनोपयोग ड) जीवनोपयोग

13) दिगंबर परंपरेत द्रव्यानुयोग साहित्याचे मूल ——— यांना मानले जाते.  
 अ) कुंदकुंद ब) अकलंक  
 क) देवसेन ड) उमास्वाती

14) आचार्य कुंदकुंद यांनी ——— या रचनेत भद्रबाहु यांचा गुरु म्हणून उल्लेख केला आहे.  
 अ) भावपाहुड ब) दर्शनपाहुड  
 क) शीलपाहुड ड) बोधपाहुड

15) शुद्ध, शुभ आणि अशुभ हे ——— तीन उपयोग आहेत.  
 अ) जीवाचे ब) अजीवाचे  
 क) धर्माचे ड) अधर्माचे

16) आ.कुंदकुंद यांचा काल विद्वानांनी ——— शतक मानला आहे.  
 अ) इसवी सन पूर्व सहावे ब) इसवी सन सहावे शतक  
 क) इसवी सन पूर्व पहिले शतक ड) इसवी सन तिसरे शतक

**प्र.2 खालीलपैकी प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही चार)**

16

- अ) कुंदकुंदविरचित 'नियमसार' ग्रंथाची थोडक्यात माहिती लिहा.  
ब) 'समयसार' ग्रंथाचे स्वरूप यासंबंधी लिहा.  
क) वट्टेकरविरचित 'मुलाचार' ग्रंथासंबंधी वर्णन करा.  
ड) केवलज्ञानाची महिमा-ज्ञान अधिकाराच्या आधारे लिहा.  
इ) शुद्धोपयोग-शुभोपयोग व अशुभोपयोग याच्या फलासंबंधी वर्णन करा.  
ई) विविध अभ्यासकांच्या मते आचार्य कुंदकुंद यांच्या कालनिर्णयासंबंधी मत सांगा.

- प्र.3 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही दोन) 16**
- अ) 'मंगलाचरण' म्हणजे काय ते सांगून 'प्रवचनसार' या ग्रंथामध्ये आलेल्या मंगलाचरणासंबंधी गाथांचा अर्थ सांगा.
- ब) इंद्रिय ज्ञान व अतिंद्रिय ज्ञान यातील फरक 'प्रवचनसार' या ग्रंथाच्या आधारे उदाहरण देऊन सांगा.
- क) 'प्रवचनसार' ग्रंथाची विषय वस्तु थोडक्यात सांगा.
- ड) 'प्रवचनसार' मधील दुसरा महाअधिकाराचे संक्षिप्त वर्णन करा.
- प्र.4 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणताही एक) 16**
- कुंदकुंदाचार्य यांच्या ग्रंथत्रयाची चर्चा करा.
- किंवा**
- 'पाहुड' याचा अर्थ सांगून उपलब्ध पाहुडांची चर्चा थोडक्यात करा.
- प्र.5 आचार्य कुंदकुंद यांचा जीवनपरिचय सांगून त्यांच्या साहित्याबद्दल माहिती द्या. 16**

<b>Seat No.</b>	
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Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

**सूचना :** 1) सर्व प्रश्न अनिवार्य आहेत.  
2) उजवीकडील अंक पूर्ण गुण दर्शवितात.

16

- 1) गृहस्थींसाठी किती शील सांगितले आहेत?  
 अ) पाच                                      ब) सहा  
 क) सात                                        ड) आठ
  - 2) प्रतियु समुत्पादाचा सिध्दांत किती कड्यांनी सांगितला गेला आहे?  
 अ) 10    ब) 11  
 क) 12    ड) 13
  - 3) बुद्ध या शब्दाचे पालि भाषेतील एकवचन रुप कसे आहे?  
 अ) बुद्धं                                        ब) बुद्धो  
 क) बुद्धा                                        ड) बुद्धस्स
  - 4) पारमिता किता सांगितले आहेत?  
 अ) सात                                        ब) आठ  
 क) नऊ                                         ड) दहा
  - 5) नामरूप पच्चया ---- ।  
 अ) सळायतन                              ब) फस्स  
 क) आयतन                                  ड) पंचस्कंद
  - 6) आर्य आष्टांगिक मार्ग हा कशाचा मार्ग आहे?  
 अ) धर्माचा                                    ब) संघाचा  
 क) दुःख मुक्तीचा                            ड) सुखाचा
  - 7) कतमे ततियं अरियसच्चं?  
 अ) दुक्खं                                      ब) दुक्खसमुदयं  
 क) दुक्ख विरोध                            ड) दुक्खनिरोध गामिनी परिपदा
  - 8) उपोसथासाठी किती शिलाचे पालन करणे आवश्यक आहे?  
 अ) पाच                                        ब) सहा  
 क) सात                                        ड) आठ

- 9) जाति पि ---- ।  
 अ) दुक्खा  
 क) जय

ब) भव  
 ड) मरणं

10) सर्व संस्कार हे कसे आहेत?  
 अ) सुंदर  
 क) अनित्य

ब) योग्य  
 ड) मिथ्या

11) यो धम्मं पस्सति सो किं पस्सति?  
 अ) दिट्ठी  
 क) बुद्धं

ब) संधं  
 ड) सच्चं

12) कुशल चित्ताच्या एकाग्रतेला काय म्हणतात?  
 अ) ध्यान  
 क) विपस्सना

ब) समाधि  
 ड) प्रज्ञा

13) 'अनत्त' म्हणजे काय?  
 अ) अंत  
 क) अनात्म

ब) नित्य  
 ड) अनित्य

14) संखार पच्वया किं भवति?  
 अ) विज्जाण  
 क) धम्मं

ब) नामरूप  
 ड) अनिच्छं

15) नाम म्हणजे काय?  
 अ) नाव  
 क) शरीर

ब) अव्यय  
 ड) मन

16) दुक्ख निरोध गामिनी परिपदा किती अंगांनी युक्त आहे?  
 अ) सात  
 क) नऊ

ब) आठ  
 ड) दहा

**प्र.2 खालीलपैकी प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही चार)**

16

- अ) तत्त्वज्ञानाचे प्रमुख कार्य कोणते?  
 ब) 'सुखो बुध्दानं उप्पादो' या वाक्याचा अर्थ स्पष्ट करा.  
 क) बुध्द संकल्पना स्पष्ट करा.  
 ड) दुक्खं या आर्यसत्याचे स्पष्टीकरण लिहा.  
 इ) 'सम्मा दिट्ठी' म्हणजे काय?  
 ई) अरहं चा अर्थ काय होतो?

- प्र.3 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही दोन) 16**
- अ) 'बुद्ध' आणि 'धम्म' यांतील सहसंबंध स्पष्ट करा.  
ब) चार आर्यसत्यांचे स्पष्टीकरण लिहा.  
क) बुद्धानुसतीचे स्पष्टीकरण लिहा.  
ड) कार्यकारण सिद्धांताचे स्पष्टीकरण लिहा.
- प्र.4 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणताही एक) 16**
- बुद्धत्व प्राप्तीचा मार्ग स्पष्ट करा. सिद्धार्थ गौतमाला बुद्धत्वाची प्राप्ती कशी व केव्हा झाली यावर चर्चा करा.
- किंवा**
- आर्य अष्टांगिक मार्गाचे सविस्तर वर्णन करा.
- प्र.5 'दुःख मुक्तिचा मार्ग' या अर्थाने बुद्ध तत्त्वज्ञान विषयी सविस्तर चर्चा करा. 16**

Page 1 of 3

- 9) 'रामेण फलं खाद्यते' हे ——— प्रयोगाचे वाक्य आहे.  
अ) शब्दसमूह                      ब) कर्तरी  
क) कर्मणि                          ड) सर्व
  - 10) 'रामः पुस्तकं पठति' या वाक्यात ——— प्रयोग आहे.  
अ) कर्तरी                          ब) वाक्य  
क) भावे                          ड) कोणतेही नाही
  - 11) 'गणेशाय मोदकं रोचते' यांत ——— हे कारक आहे.  
अ) सम्प्रदान                      ब) करण  
क) अपादान                      ड) सर्व
  - 12) 'रामः पठति' या वाक्यात 'राम' हा ——— आहे.  
अ) कर्ता                          ब) कर्म  
क) करण                          ड) क्रियापद
  - 13) 'साधनासाठी' ——— हे कारक वापरतात.  
अ) कर्ता                          ब) करण  
क) संप्रदान                      ड) संबंध
  - 14) पूर्वपद आणि उत्तरपद गौण ——— या समासामध्ये असतात.  
अ) तत्पुरुष                      ब) बहुव्रीही समास  
क) अव्ययीभाव समास        ड) केवल
  - 15) धातूंचे एकूण ——— गण आहेत.  
अ) 5                                  ब) 20  
क) 10                                ड) 22
  - 16) स्वतः विषयी बोलतांना वाक्यामध्ये क्रियापदी धातूचे ——— पुरुष उपयोजिले जाते.  
अ) उत्तम                          ब) प्रथम  
क) द्वितीय                      ड) चतुर्थ

प्र.2 टिप्पणीं लिखत। केवलं 4

16

टिपा लिहा. फक्त 4

- 1) संस्कृतभाषा
- 2) कर्ता कारक
- 3) कर्म कारक
- 4) करण कारक
- 5) संप्रदान कारक
- 6) पूर्वपद

प्र.3 विस्तरेण स्पष्टीकुरुत । केवलं 2

16

विस्ताराने स्पष्टीकरण करा. फक्त 2

- 1) अव्ययीभाव समास
- 2) बहुव्रीही समास
- 3) स्वपरिचयः
- 4) एका लघुकथा



**प्र.4** कस्यचिद् एकस्य समाधानं देयम्।

**16**

1. कारकव्यवस्था
2. समासव्यवस्था

**प्र.5** संस्कृतभाषायाः मानवजीवने महत्त्वं लिखत।

**16**

Seat  
No.

Set P

**M.A. (Urdu) (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**Hindustan Mein Cinema**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
 2) Figures to the right indicate full marks.

16

سوال نمبر 1. صحیح متبادل کا انتخاب کر کے جوابی پرچے میں لکھیے۔

(1) کون جرمنی سے فلم تکنیک سیکھ کر آئے تھے؟

- (A) بابور اوپینٹر  
 (B) دادا صاحب پھالکے  
 (C) ایل۔وی۔پرشاد  
 (D) نوشاد

(2) مووی کیمرے بنانے میں کون کامیاب ہوئے؟

- (A) واڈیکر  
 (B) ایل۔وی۔پرشاد  
 (C) وی شانتارام  
 (D) بابور اوپینٹر

(3) ہندوستان کی پہلی متکلم فلم کون سی تھی۔

- (A) جہاں آرا  
 (B) عالم آرا  
 (C) آوارہ  
 (D) انارکلی

(4) بی۔ایچ۔واڈیا کی فلم "نوجوان" کب ریلیز ہوئی؟

- (A) 1938ء  
 (B) 1937ء  
 (C) 1948ء  
 (D) 1930ء

(5) دلیپ کمار اور نادرہ کی فلم "آن" شیکسپیئر کے کس مشور ڈرامے پر مبنی تھی۔

- (A) ہیملیٹ  
 (B) میک بیتھ  
 (C) ٹیمنگ آف داشرو  
 (D) رو میو اینڈ جولیٹ

(6) مشہور اداکارہ مدھوبالا کا اصل نام کیا تھا؟

- (A) ثریا  
 (B) ممتاز جہاں بیگم  
 (C) جہاں آراء  
 (D) نور جہاں

(7) ہندوستان کی پہلی نگین فلم کون سی تھی؟

- (A) جھانسی کی رانی  
(B) انارکلی  
(C) آوارہ  
(D) امراکبر انتھونی

(8) انگریزی زبان میں بننے والی پہلی فلم کون سی تھی؟

- (A) نور جہاں  
(B) عالم آراء  
(C) شیریں فرہاد  
(D) راجا ہریش چندر

(9) کس اداکار کو چودہ بار فلم فیئر ایوارڈ سے نوازا گیا؟

- (A) دلیپ کمار  
(B) ایتابھ بچن  
(C) عامیر خان  
(D) مکمل ہاسن

(10) پہلی خاموش فلم "راجہ ہریش چندر" کب بنی؟

- (A) 1915ء  
(B) 1913ء  
(C) 1914ء  
(D) 1920ء

(11) مشہور فلم اداکارہ "زینت امان" کو کونسا خطاب ملا تھا؟

- (A) مس یونیورس  
(B) میس انڈیا  
(C) مس ورلڈ  
(D) ان میں سے کوئی نہیں

(12) کس فلم کا گیت "پیار کا تو ڈرنا کیا" شکیل بدایونی نے ایک سومرتبہ لکھا؟

- (A) انارکلی  
(B) راجا ہریش چندر  
(C) ہم آپ کے ہیں کون  
(D) زنجیر

(13) بھگوتی چرن ورمانے کس کو فلمی نام "دلیپ کمار" دیا تھا؟

- (A) یوسف خان  
(B) ابراہیم خان  
(C) سلیم خان  
(D) سلمان خان

(14) کس فلم کے بعد ایتابھ بچن کو "انگری ینگ مین" کا خطاب ملا؟

- (A) ہم  
(B) شعلے  
(C) زنجیر  
(D) امراکبر انتھونی

15) ساحر لدھیانوی کا اصل نام کیا تھا؟

- (A) عبد المجید  
(B) عبد الواحد  
(C) عبد الحئی  
(D) عبد السمہ

16) "تو ہندو بنے گانہ مسلمان بنے گا۔ انسان کی اولاد ہے انسان بنے گا۔ یہ کس کا گیت ہے؟

- (A) مجروح سلطانی پوری  
(B) گلزار  
(C) جاوید اختر  
(D) ساحر لدھیانوی

16

سوال نمبر 2. مندرجہ ذیل سوالات کے مختصر جوابات لکھیے: (کوئی چار)

1) اردو ادب سے ہندی فلموں کا رشتہ کیا رہا بیان کیجئے۔

2) ساحر لدھیانوی کے فلمی نغمے پر نوٹ تحریر کیجئے۔

3) کیفی اعظمی اور ان کا فلمی و سیاسی سفر پر اظہار خیال کیجئے۔

4) شکیل بدایونی کے نغموں میں سماجی سروکار کس طرح رہا ہے بیان کیجئے۔

5) دادا صاحب پھالکے کے فلمی سفر پر مختصر نوٹ لکھیے۔

6) فلموں میں مسلم سماج کی عکاسی کس طرح کی گئی تحریر کیجئے۔

16

سوال نمبر 3. مندرجہ ذیل سوالات کے جوابات تحریر کیجئے۔ (کوئی دو)

1) شکیل بدایونی کا فلمی سفر کیسا رہا وضاحت کیجئے۔

2) سنیما کے ابتدائی مراحل کون سے ہیں تحریر کیجئے۔

3) گلزار صاحب کا فلمی اور نغمہ نگاری کی حیثیت سے سفر تحریر کیجئے۔

4) متکلم فلموں کا آغاز کس طرح ہوا۔ مختصر نوٹ لکھیے۔

16

سوال نمبر 4. مفصل جواب لکھیے:۔ (کوئی ایک)

1) ہندوستان میں سنیما کا آغاز و ارتقاء تفصیل سے بیان کیجئے۔

2) جاں نثار اختر کے حالات زندگی پر روشنی ڈالیے۔

16

سوال نمبر 5. اردو زبان و ادب اور سنیما کے متعلق اپنے خیالات کا اظہار کیجئے۔



(7) "آثار الصنادید" سرسید کے ----- دور کے تصنیف ہے۔

- (A) پہلے  
(B) دوسرے  
(C) تیسرے  
(D) چوتھے

(8) شبلی نعمانی کی سیرت النبی ----- نے مکمل کی۔

- (A) سرسید  
(B) ابوالاعلیٰ ندوی  
(C) سید سلیمان ندوی  
(D) شبلی خود

(9) ----- سرسید کے رفقاءے کار میں شامل ہیں۔

- (A) غالب  
(B) ظفر علی خان  
(C) مومن  
(D) چراغ علی

(10) شبلی کی "الکلام" کا موضوع کیا ہے؟

- (A) ریاضی  
(B) اردو ادب  
(C) مذہب  
(D) فارسی ادب

(11) شبلی نے ----- کے لیے درالمصنفین اعظم گڑھ کا قیام کیا۔

- (A) شاعروں  
(B) صحافیوں  
(C) سائنس دانوں  
(D) نوجوان ادیبوں

(12) "مسدس حالی" کس نے لکھی۔

- (A) مولانا حالی  
(B) محمد حسین آزاد  
(C) اقبال  
(D) مجاز

(13) ----- محسن قوم سرسید احمد خان کی سوانح ہے۔

- (A) حیات سرسید  
(B) حیات جاوید  
(C) یادگار سرسید  
(D) حیات سعدی

(14) خطبات احمدیہ کو سرسید نے ----- میں چھاپ کر اس کی اشاعت کی۔

- (A) لندن  
(B) فرانس  
(C) ہندوستان  
(D) پاکستان

15)----- کا تعلق عیسائیوں کی مذہبی کتاب "بائبل" سے ہے؟

- (A) تبیین الکلام  
(B) آثار الصناد  
(C) تاریخ سرکشی بجنور  
(D) حیات سعدی

16) اردو میں----- کی ابتداء علی گڑھ سے ہوئی۔

- (A) افسانہ نگاری  
(B) ڈراما نگاری  
(C) ناول نگاری  
(D) مرثیہ نگاری

16

سوال نمبر 2. مختصر جواب لکھیے: (کوئی چار)

- 1) مولانا حالی نے شاعری کے متعلق کون سی شرطیں بتائی ہیں؟
- 2) مولانا شبلی نعمانی نے جن معتبر اشخاص کی سوانح لکھی ہیں ان کے بتائیے۔
- 3) سر سید احمد خان کے چند انشائیوں کے نام لکھیے۔
- 4) سیر سید کے دور میں ناول نگاری کے آغاز پر مختصر روشنی ڈالیے
- 5) مولانا حالی کی سوانح نگاری کا مختصر جائزہ لیجئے۔
- 6) مقدمہ شعر و شاعری ہر مختصر نوٹ لکھیے۔

16

سوال نمبر 3. درج ذیل سوالات کے جوابات لکھیے۔ (کوئی دو)

- 1) شبلی نعمانی کی شاعری کا اجمالی جائزہ لیجئے۔
- 2) مولانا حالی کی تنقیدی رجحانات کا اجمالی جائزہ لیجئے۔
- 3) سر سید کے تیسرے دور کے تصنیفی رجحانات کا محاکمہ کیجئے۔
- 4) سر سید کے رفقاء کار کا اجمالی جائزہ لیجئے۔

16

سوال نمبر 4. مفصل جواب لکھیے:- (کوئی ایک)

- 1) علی گڑھ تحریک کا پس منظر بیان کیجئے۔
- 2) علی گڑھ تحریک کے حوالے سے سر سید کی ادبی خدمات کا مفصل جائزہ لیجئے۔

16

سوال نمبر 5. علی گڑھ تحریک کا آغاز و ارتقاء پر مفصل نوٹ لکھیے۔

Seat No.	
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**M.A. (Kannada) (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**Kannada Language**

Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

- ಪ್ರ.1 ಈ ಕೆಳಗಿನ ಪ್ರಶ್ನೆಗಳಿಗೆ ಆಯ್ದ ಉತ್ತರ ಬರೆಯಿರಿ 16
- 1) 'ಭಾಷೆಯೆಂಬ ಬೆಳಕು ಜೀವನದಲ್ಲಿ ಬೆಳಗದಿದ್ದರೆ ಲೋಕವೆಲ್ಲ ಕತ್ತಲಿನಿಂದ ತುಂಬಿ ಹೋಗುತ್ತಿತ್ತು' ಎಂದವರು
    - 1) ಬಾಮಹ
    - 2) ಭರತ
    - 3) ದಂಡಿ
    - 4) ವಿಶ್ವನಾಥ
  - 2) 'ಕನ್ನಡ ಭಾಷಾ ಸ್ವರೂಪ' ಕೃತಿಯ ಕರ್ತೃ
    - 1) ರಾಜೇಶ್ವರಿ ಮಹೇಶ್ವರಯ್ಯ
    - 2) ಜಿ.ಎಸ್.ಕುಳ್ಳಿ
    - 3) ಎಸ್. ಸವದತ್ತಿಮಠ
    - 4) ಜಿ.ಎಸ್.ಎಸ್.
  - 3) ಭಾಷೆ ಮಾನವನಿಗೆ ದೊರೆತ
    - 1) ಆಯುಧ
    - 2) ವರದಾನ
    - 3) ವಸ್ತು
    - 4) ವಿಷಯ
  - 4) 'ಕನ್ನಡ ಭಾಷಾ ಚರಿತ್ರೆ' ಕೃತಿಯ ಕರ್ತೃ
    - 1) ಎಂ. ಚಿದಾನಂದಮೂರ್ತಿ
    - 2) ಕೆ. ಕುಶಾಲಪ್ಪಗೌಡ
    - 3) ಸಿ.ಪಿ.ಕೆ.
    - 4) ಸಂಗಮೇಶ ಸವದತ್ತಿಮಠ
  - 5) ಸಿ.ಎಫ್. ಹಾಕೆಟ್ ಇವರು ಒಬ್ಬ
    - 1) ಭಾಷಾ ವಿಜ್ಞಾನಿ
    - 2) ಸಂಶೋಧಕ
    - 3) ಲೇಖಕ
    - 4) ಕವಿ
  - 6) 'ಮಾನವ ಭಾಷೆ ಸಂಕೇತಗಳ ವ್ಯವಸ್ಥೆ' ಎಂದವರು
    - 1) ಸ್ಟುರ್ಟಿವಾಂಟ್
    - 2) ಸಿ.ಎಲ್.ಬಾರ್ಬರ್
    - 3) ಟ್ರೇಗರ್
    - 4) ಹೊಮರ್
  - 7) ಮಾತೃಭಾಷೆ ಪ್ರತಿ ವ್ಯಕ್ತಿಯ
    - 1) ಸಹಜ ಭಾಷೆ
    - 2) ಪರಭಾಷೆ
    - 3) ವಿದೇಶಿಭಾಷೆ
    - 4) ರಾಷ್ಟ್ರಭಾಷೆ
  - 8) ಆಲೋಚನೆಯ ಅಭಿವ್ಯಕ್ತಿಯೇ
    - 1) ಸಮಾಜ
    - 2) ವಿಜ್ಞಾನ
    - 3) ಸಂಸ್ಕೃತಿ
    - 4) ಭಾಷೆ
  - 9) ಭಾಷೆಯಲ್ಲಿ \_\_\_\_\_ ಇರುತ್ತದೆ.
    - 1) ಧ್ವನಿ
    - 2) ಅಕ್ಷರ
    - 3) ಪದಗಳು
    - 4) ವಿಚಾರಗಳು



- 10) ಇಸಿಲ ಇದು ಪ್ರಾಚೀನ \_\_\_\_\_ ಪದ.  
 1) ಲ್ಯಾಟಿನ್ 2) ಹಿಂದಿ  
 3) ಕನ್ನಡ 4) ಪಾಲಿ
- 11) 'ಭಾಷೆ' ಈ ಪದ ಈ ಭಾಷೆಯಿಂದ ಬಂದದ್ದು  
 1) ಸಂಸ್ಕೃತ 2) ಕನ್ನಡ  
 3) ಜರ್ಮನ್ 4) ಪ್ರೇಂಚ್
- 12) ಭಾಷೆಯಲ್ಲಿ ಸಂಕೇತಗಳು ಒಂದರ \_\_\_\_\_ ಮತ್ತೊಂದು ಬರುತ್ತವೆ.  
 1) ವಿರುದ್ಧ 2) ಬೇರೆಬೇರೆ  
 3) ಪಕ್ಕದಲ್ಲಿ 4) ಯಾವುದೂ ಅಲ್ಲ
- 13) 'ಕನ್ನಡ ಕೈಪಿಡಿ' ಇದು ಒಂದು  
 1) ಭಾಷಾ ಕೈಪಿಡಿ 2) ವಿಮರ್ಶಾಕೃತಿ  
 3) ಅನುಭಾವಕೃತಿ 4) ಅಭಿವ್ಯಕ್ತಿ
- 14 ಕನ್ನಡಿಗರು 'ಕಣ್ ನಿರ್' ಜನಾಂಗದವರು ಎಂದವರು  
 1) ಬ್ಲಾಕ್ & ಟ್ರೇಗರ್ 2) ಸ್ಪರ್ಟಿವಾಂಟ್  
 3) ಡಾ.ಹೆರಾಸ್ 4) ಹಾಕೆಟ್
- 15 ಕನ್ನಡ ಈ ಭಾಷಾವರ್ಗಕ್ಕೆ ಸೇರಿದೆ.  
 1) ದೇವನಾಗರಿ 2) ಆರ್ಯ  
 3) ಯಾವುದೂಅಲ್ಲ 4) ದ್ರಾವಿಡ
- 16 ಭಾಷೆ ನಿತ್ಯ \_\_\_\_\_ ಆಗಿದೆ.  
 1) ಪರಿವರ್ತನಶೀಲ 2) ತಟಸ್ಥ  
 3) ಬದಲಾವಣೆ 4) ಯಾವುದೂ ಅಲ್ಲ

ಪ್ರ.2 ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ (ಬೇಕಾದ 4ಕ್ಕೆ)

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- 1) ಸಿ.ಎಫ್. ಹಾಕೆಟ್
- 2) ಭಾಷಾಸ್ವರೂಪ
- 3) ಉತ್ಪಾದಕತೆ
- 4) ಭಾಷಾವಿಜ್ಞಾನಿಗಳು
- 5) ಭಾಷಾವ್ಯವಸ್ಥೆ
- 6) ಡಾ.ಸಂಗಮೇಶ ಸವದತ್ತಿಮಠ

ಪ್ರ.3 ಈ ಕೆಳಗಿನ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿರಿ (ಬೇಕಾದ 2ಕ್ಕೆ)

16

- 1) 'ಭಾಷೆ' ಎಂದರೇನು? ಅದರ ಸ್ವರೂಪವನ್ನು ಕುರಿತು ಬರೆಯಿರಿ.
- 2) ಭಾಷೆ ಒಂದು ವ್ಯವಸ್ಥೆ ಸ್ಪಷ್ಟಪಡಿಸಿರಿ.
- 3) ಭಾಷೆಯ ವೈಶಿಷ್ಟ್ಯಗಳಾವವು? ಅವುಗಳನ್ನು ಕುರಿತು ಬರೆಯಿರಿ.
- 4) ಭಾಷಾ ವಿಜ್ಞಾನಿಗಳು ಯಾರು ಯಾರು? ಅವರನ್ನು ಕುರಿತು ಬರೆಯಿರಿ.

ಪ್ರ.4 ಈ ಕೆಳಗಿನ ಪ್ರಶ್ನೆಗಳಿಗೆ ಸವಿಸ್ತಾರ ಉತ್ತರ ಬರೆಯಿರಿ. (ಬೇಕಾದ 1ಕ್ಕೆ)

16

- 1) ಭಾಷೆಯನ್ನು ಕುರಿತು ವಿವಿಧ ಭಾಷಾವಿಜ್ಞಾನಸರ ವ್ಯಾಖ್ಯೆಗಳನ್ನು ಹೇಳಿರಿ.
- 2) ಕನ್ನಡ ಭಾಷೆಯ ಪ್ರಬೇಧಗಳನ್ನು ಕುರಿತು ವಿಸ್ತಾರವಾಗಿ ಬರೆಯಿರಿ.

ಪ್ರ.5 ಈ ಕೆಳಗಿನ ಪ್ರಶ್ನೆಗಳಿಗೆ ಸೋದಾಹರಣದಿಂದ ಉತ್ತರಿಸಿರಿ.

16

ಮಾನವ ಭಾಷೆಯ ವೈಶಿಷ್ಟ್ಯಗಳನ್ನು ಕುರಿತು ಸವಿಸ್ತಾರವಾಗಿ ಬರೆಯಿರಿ.

Seat No.	
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**M.A. (Economics) (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022  
(CAMPUS)**

**Human Development**

Day & Date: Friday, 17-02-2023

Max. Marks: 70

Time: 11:00 AM To 02:00 PM

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternatives from the options.**

**16**

- 1) Who secured the lowest rank in The Human Development Report 2018?
  - a) Afghanistan
  - b) Congo
  - c) Niger
  - d) Kenya
- 2) What is the rank of India in the Human Development Index 2018?
  - a) 142<sup>nd</sup>
  - b) 136<sup>th</sup>
  - c) 140<sup>th</sup>
  - d) 130<sup>th</sup>
- 3) When was the Gender Inequality Index (GII) introduced?
  - a) 2010
  - b) 2011
  - c) 1999
  - d) 2005
- 4) Which of the following index is not released by the UNDP?
  - a) Human Development Index
  - b) Multidimensional Poverty Index
  - c) Gender Inequality Index
  - d) Environmental Quality Index
- 5) Which of the following is not one of the factors related to Human Development Index?
  - a) Longevity
  - b) Literacy
  - c) Decent standard of living
  - d) Increase in Govt. Jobs
- 6) Who was the originator of the Human Development Report?
  - a) Amartya Sen
  - b) Jan Tinberger
  - c) Mahboob-ul-Haq
  - d) Dr. Manmohan Singh
- 7) The state having the highest literacy rate in India \_\_\_\_\_.
  - a) Kerala
  - b) Tamil Nadu
  - c) Bihar
  - d) Rajasthan
- 8) Which scheme was started in 1993 to create self-employment opportunities for educated unemployed youth in rural areas and small towns?
  - a) Prime Minister Rozgar Yojana
  - b) National Rural Employment Guarantee Act.
  - c) Rural Employment Generation Programme
  - d) Swarnajayanti Gram Swarozgar Yojana
- 9) For how many days NREGA provides employment?
  - a) 70
  - b) 80
  - c) 90
  - d) 100

- 10) Who is considered as poor?
  - a) Landlords
  - b) Landless labourer
  - c) A rich farmer
  - d) Businessman
- 11) Women and children under the age of five are food insecure population due to: \_\_\_\_\_.
  - a) Malnutrition
  - b) Healthy diet at
  - c) Fats
  - d) None of the above
- 12) By which year governments are aiming to meet the Millennium Development Goals including having the rate of global poverty?
  - a) 2011
  - b) 2015
  - c) 2045
  - d) 2035
- 13) Which of the following is an indicator of poverty in India?
  - a) Income level
  - b) Illiteracy level
  - c) Employment level
  - d) All of these
- 14) Which one of the following Economic groups is vulnerable to poverty?
  - a) Scheduled Caste
  - b) Scheduled Tribes
  - c) Rural Agricultural Household
  - d) All the above
- 15) In which year was N R E G A enacted?
  - a) 2005
  - b) 2000
  - c) 1999
  - d) 1993
- 16) HDI means \_\_\_\_\_.
  - a) Human Development Industry
  - b) Human Development Index
  - c) Human Development Investigation
  - d) None of these

**Q.2 Answer the following questions. (Any Four)****16**

- a) What is the meaning of Human capital?
- b) What is the significance of human resource?
- c) What is the meaning of economic security?
- d) What is the meaning of human development?
- e) What is the meaning of human poverty index?
- f) What are the criteria for selecting capabilities?

**Q.3 Answer the following questions. (Any Two)****16**

- a) What are the reasons for decline food grains?
- b) Explains the physical quality of life index
- c) What are the components of quality of life?
- d) What is the social determinants of Human capital?

**Q.4 Answer the following questions. (Any One)****16**

Explain the Gender Empowerment Measure.

**OR**

Elaborate Marshall Utility of a Commodity approach.

**Q.5 Discuss the social determinants of human development in detail.****16**

<b>Seat No.</b>	
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- 8) रेकार्डोंचा तुलनात्मक लाभाचा नियम ——— यावर आधारित आहे.  
 अ) मूल्याचा श्रम सिद्धांत                      ब) संधीची किंमत  
 क) घटत्या परताव्याचा कायदा              ड) वरील सर्व
- 9) भारतात अवलंबलेली विनिमय दर प्रणाली ——— आहे.  
 अ) निश्चित विनिमय दर प्रणाली      ब) लवचिक विनिमय दर प्रणाली  
 क) व्यवस्थापित स्थिर प्रणाली          ड) वरीलपैकी नाही
- 10) परकीय उत्पन्नात होणारी वाढ साधारणपणे पुढील गोष्टींना कारणीभूत ठरते:  
 अ) निर्यात वाढली, देशांतर्गत उत्पादन वाढले.  
 ब) निर्यात घटली, देशांतर्गत उत्पादन वाढले.  
 क) निर्यात घटली, देशांतर्गत उत्पादन घटले.  
 ड) निर्यात वाढली, देशांतर्गत उत्पादन घटले.
- 11) चलनाचे अवमूल्यन तेव्हा होते जेव्हा :  
 अ) चलनाचे मूल्य घसरते                      ब) चलनाचे मूल्य वाढते  
 क) महागाई कमी होते                      ड) पेमेंट शिल्लक सुधारते
- 12) जर मध्यवर्ती बँकेने मालमत्ता खरेदी केली तर त्याचा परिणाम ——— होईल.  
 अ) पैशाच्या पुरवठ्यात वाढ  
 ब) मध्यवर्ती बँकेच्या निव्वळ संपत्तीत वाढ  
 क) पैशाच्या पुरवठ्यात घट  
 ड) मध्यवर्ती बँकेच्या निव्वळ संपत्तीत घट
- 13) खालीलपैकी कोणते “युरोकरन्सी” व्यापाराचे उदाहरण आहे?  
 अ) युरोपमधील युरोचा व्यापार              ब) कुठेही युरोसाठी डॉलरचा व्यापार  
 क) युरोपमधील डॉलरचा व्यापार              ड) ESCB द्वारे युरो मार्केटमध्ये हस्तक्षेप
- 14) सुवर्ण मानक म्हणजे ———.  
 अ) देशाचे चलन सोन्याचे आहे  
 ब) कागदी चलन वापरले जात नाही  
 क) देशाचे चलन मुक्तपणे सोन्यात बदलता येते  
 ड) अ) आणि क) वरील
- 15) आंतरराष्ट्रीय अवपुंजनात समावेश असू शकतो.  
 अ) देशांतर्गत ग्राहकांकडून आकारल्या जाणाऱ्या किंमतीपेक्षा कमी किमतीत परदेशी लोकांना वस्तु विकणे  
 ब) उत्पादन खर्चापेक्षा कमी किमतीत परदेशी लोकांना वस्तु विकणे  
 क) आयात केलेल्या, टाकलेल्या मालावर अँटीडंपिंग शुल्क आकारले जात आहे  
 ड) वरील सर्व
- 16) दोन देशांमधील व्यापाराला ——— मुळे प्रोत्साहन मिळेल.  
 अ) भिन्न कर प्रणाली                              ब) फ्रंटियर चेक  
 क) राष्ट्रीय चलने                                  ड) कमी केलेले दर

प्र.2 खालीलपैकी प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही चार)

- अ) देयक शिल्लक स्पष्ट करा.
- ब) व्यापारातून लाभाचे कोणतेही चार निर्धारक घटक द्या.
- क) व्यापाराच्या अटी परिभाषित करा.
- ड) आंतर-उद्योग व्यापार म्हणजे काय?
- इ) जागतिकीकरणाची व्याख्या करा.
- ई) संधीची किंमत स्पष्ट करा.

प्र.3 टिपा लिहा. (कोणत्याही दोन)

16

- अ) व्यापार वाढीचा परिणाम
- ब) आंतरराष्ट्रीय व्यापाराचा परिपूर्ण फायदा सिध्दांत
- क) आंतरराष्ट्रीय व्यापारातून नफा
- ड) व्यापाराने अपूर्णपणे स्पर्धात्मक बाजारपेठ बनवली आहे

प्र.4 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही एक)

16

व्यापाराचे विविध लाभ निर्धारित करणारे विविध घटक स्पष्ट करा.

किंवा

“व्यापार हे आर्थिक विकासाचे इंजिन म्हणून” स्पष्ट करा.

प्र.5 आंतरराष्ट्रीय व्यापाराच्या सनातनवादी सिध्दांतावरील टीका स्पष्ट करा.

16

Seat No.	
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Set **P**

**M.A. (Economics) (Semester - III) (New) (CBCS) Examination:  
Oct/Nov-2022  
International Trade and Finance**

Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternatives from the options. 16**

- 1) According to \_\_\_\_\_ there is no difference between the domestic trade and international trade.
  - a) Adam Smith
  - b) Ohlin
  - c) Ricardo
  - d) None of the above
- 2) The ability to serve or produce better than competitors using the same amount of resources is called \_\_\_\_\_.
  - a) A comparative advantage
  - b) An absolute advantage
  - c) Relative factor endowment
  - d) Greater opportunity cost
- 3) Absolute advantage theory assumes \_\_\_\_\_.
  - a) No technological change
  - b) No transportation cost
  - c) Labour theory of value
  - d) All the above
- 4) The Heckscher-Ohlin model assumes that \_\_\_\_\_ are identical in all trading countries.
  - a) Gross domestic product
  - b) Technologies
  - c) Factor endowments
  - d) Both a) and b)
- 5) The ability of a firm or individual to produce goods and services at a lower opportunity cost than other firms or individuals.
  - a) Absolute advantage
  - b) Opportunity cost
  - c) Comparative advantage
  - d) None of the above
- 6) Under a fixed exchange rate system, a devaluation is an official change in the value of a country's currency relative to other currencies.
  - a) Devaluation
  - b) Depreciation and appreciation
  - c) Revaluation
  - d) Both a) and c)
- 7) A key effect of devaluation is that it \_\_\_\_\_.
  - a) makes the domestic currency cheaper relative to other currencies.
  - b) makes the domestic currency dearer relative to other currencies.
  - c) makes the foreign currency cheaper relative to other currencies.
  - d) leaves the relative value unchanged.
- 8) Ricardo's Law of Comparative advantage is based on \_\_\_\_\_.
  - a) Labour theory of value
  - b) Opportunity cost
  - c) Law of diminishing returns
  - d) All the above
- 9) The exchange rate system that is followed in India is \_\_\_\_\_.
  - a) Fixed exchange rate system
  - b) Flexible exchange rate system
  - c) Managed float system
  - d) None of the above

- 10) An increase in foreign income generally leads to: \_\_\_\_\_.
  - a) Increased exports, increased domestic output
  - b) Decreased exports, increased domestic output
  - c) Decreased exports, decreased domestic output
  - d) Increased exports, decreased domestic output
- 11) A depreciation of a currency occurs when:
  - a) The value of the currency falls
  - b) The value of the currency increases
  - c) Inflation falls
  - d) The balance of payments improves
- 12) If the central bank purchases assets, it will result in \_\_\_\_\_.
  - a) An increase in the money supply.
  - b) An increase in the central bank's net worth.
  - c) A decline in the money supply.
  - d) A decline in the central bank's net worth
- 13) Which of the following is an example of "Eurocurrency" trade?
  - a) Trade of euros in Europe
  - b) Trade of dollars for euros anywhere
  - c) Trade of dollars in Europe
  - d) Intervention by the ESCB in the euro market
- 14) Gold standard means \_\_\_\_\_.
  - a) Currency of the country is made of gold
  - b) Paper currency is not used
  - c) Currency of the country is freely convertible into gold
  - d) (a) & (c) of above
- 15) International dumping may involve \_\_\_\_\_.
  - a) selling goods to foreigners at a price below that charged domestic consumers
  - b) selling goods to foreigners at a price below the cost of production
  - c) antidumping duties being levied on the imported, dumped goods
  - d) all of the above
- 16) Trade between the two countries will be boosted by \_\_\_\_\_.
  - a) Different tax system
  - b) Frontier checks
  - c) National currencies
  - d) Reduced tariffs

**Q.2 Answer in brief. (Any Four)****16**

- a) Explain the balance of payment.
- b) Give any four determining factors of gain from trade.
- c) Define terms of trade.
- d) What is intra-industry trade?
- e) Define globalization.
- f) Explain the opportunity cost.

**Q.3 Write short notes. (Any Two)****16**

- a) Effects of growth on trade.
- b) Absolute Advantage theory of international trade.
- c) Gains from international trade.
- d) Trade made imperfectly competitive market.



- Q.4 Answer the following questions. (Any One)** **16**  
Explain the various factors determining the gains of trade.  
**OR**  
Explain "Trade as an engine of economic development".
- Q.5 Explain with criticism the classical theory of international trade.** **16**

**Seat  
No.**

**M.A. (Economics) (Sem - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**Advanced Banking**

Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- सूचना : 1) सर्व प्रश्न अनिवार्य आहेत.  
2) उजवीकडील अंक पूर्ण गुण दर्शवितात.

प्र.1 योग्य पर्याय निवडा.

16

- 1) ग्राहकांना त्यांच्या मागणीनुसार रक्कम देणे व त्यांची रक्कम जमा करून घेणे ही प्रक्रिया करणारे स्वयंचलित यंत्र म्हणजे ——— होय.  
अ) पासबुक                                      ब) क्रेडिट  
क) डेबिट                                        ड) ATM
- 2) K.Y.C म्हणजे ——— होय.  
अ) तुमच्या ग्राहकाला जाणून घ्या      ब) तुमचे चारित्र्य जाणून घ्या  
क) वरील दोन्ही                              ड) वरीलपैकी काहीही नाही
- 3) व्यक्तिगत संगणकामार्फत निरनिराळे बँकिंग व्यवहार सुलभतेने घडवून आणणारी प्रणाली म्हणजे ——— बँकिंग क्षेत्र होय.  
अ) कोअर                                      ब) हरित  
क) इंटरनेट                                  ड) केवायसी
- 4) विशिष्ट तारखेस बँकेची आर्थिक स्थिती दर्शविणारी मालमत्ता आणि दायित्व यांच्या संदर्भातील पत्रक म्हणजे ——— होय.  
अ) अहवाल                                  ब) ताळेबंद  
क) वचनचिठ्ठी                              ड) खाते पुस्तक
- 5) पर्यावरण पूरक उद्योगांना किंवा प्रकल्पांना बँकाकडून होणारा वित्तपुरवठा म्हणजे ——— होय.  
अ) व्यापारी बँक                              ब) रिझर्व बँक  
क) हरित बँक                                  ड) स्टेट बँक
- 6) बँकेच्या सर्व शाखा मध्यवर्ती माहिती केंद्राशी निगडित असल्याने त्याला ——— असे म्हटले जाते.  
अ) गाभा बँकिंग                              ब) शाश्वत बँकिंग  
क) हरित बँकिंग                              ड) इंटरनेट बँकिंग
- 7) डिपॉझिटर्रीज कायदा ——— या वर्षी करण्यात आला.  
अ) 1980                                      ब) 1996  
क) 2000                                      ड) 2005
- 8) मानवी अधिकार आणि सन्मानाचे जीवन यांची हमी ——— या बँकिंगमध्ये अभिप्रेत असते.  
अ) ग्रीन                                      ब) शाश्वत  
क) इंटरनेट                                  ड) कोअर

- 9) राष्ट्रीय इलेक्ट्रॉनिक निधी हस्तांतरण ही प्रणाली भारतात नोव्हेंबर ——— मध्ये सुरु झाली.  
 अ) 2003 ब) 2004  
 क) 2005 ड) 2006
- 10) हुंडी म्हणजे ——— दस्तऐवज होय.  
 अ) चलन ब) लेखी  
 क) तोंडी ड) वस्तू
- 11) बँकांना गुंतवणूक व अर्ज व्यवहारातून नफा मिळविण्याची क्षमता म्हणजे ——— होय.  
 अ) रोखता ब) लाभता  
 क) सुरक्षितता ड) असुरक्षितता
- 12) ——— मध्ये किसान क्रेडिट कार्ड योजना सुरु झाली.  
 अ) 1 एप्रिल 1999 ब) 1 एप्रिल 2000  
 क) 1 एप्रिल 2001 ड) 1 एप्रिल 2002
- 13) एन.आर.आय.म्हणजे ——— होय.  
 अ) ग्रामीण नसलेल्या व्यक्ती ब) अनिवासी भारतीय  
 क) गैर ग्रामीण स्थलांतरित ड) यापैकी नाही
- 14) शैक्षणिक कर्ज म्हणजे ——— शी संबंधित असते.  
 अ) ट्युशन फी आणि शैक्षणिक खर्च  
 ब) पूर्वी घेतलेल्या शैक्षणिक कर्ज परत फेडण्यासाठी  
 क) भारतात आणि परदेशात अभ्यासासाठी मंजुरी  
 ड) वरील सर्व
- 15) एटीएम ——— साठी वापरता येते.  
 अ) रोख पैसे काढणे ब) खाते चौकशी  
 क) खात्यांचे विवरण ड) वरील सर्व
- 16) मुदत ठेवीतून जे व्याज रूपी उत्पन्न प्राप्त होते त्यावर जी कर आकारणी केली जाते त्यास ——— म्हणतात.  
 अ) सामान्य कर ब) विशेष कर  
 क) मूळ स्रोत कर कपात (TDS) ड) वरीलपैकी काहीही नाही

## प्र.2 थोडक्यात उत्तरे लिहा (6 पैकी 4)

16

- अ) बँकेचे ताळेबंद पत्रक स्पष्ट करा.  
 ब) वित्तीय व्यवस्थेची कार्ये स्पष्ट करा.  
 क) एटीएम कार्डाचे गुणदोष सांगा.  
 ड) शून्य शिल्लक खात्यांची वैशिष्ट्ये स्पष्ट करा.  
 इ) तारणाच्या पद्धती स्पष्ट करा.  
 ई) आर आय जी एस ची वैशिष्ट्ये स्पष्ट करा.

- प्र.3 खालील प्रश्नांची उत्तरे द्या. (4 पैकी 2) 16
- अ) बँकेचे गुंतवणूक धोरण स्पष्ट करा.
  - ब) K.Y.C चे फायदे तोटे स्पष्ट करा
  - क) योग्य कर्जाची तत्वे स्पष्ट करा.
  - ड) हरित बँकेचे महत्व स्पष्ट करा.
- प्र.4 खालील प्रश्नांची सविस्तर उत्तरे द्या. (2 पैकी 1) 16
- अ) बँक व ग्राहक यांच्यातील विशेष परस्पर संबंध स्पष्ट करा.
  - ब) ठेवीचे विविध प्रकार स्पष्ट करा.
- प्र.5 खालील प्रश्नाचे सविस्तर उत्तर द्या. 16
- गाभा बँकेची संकल्पना गुणदोषासह स्पष्ट करा.

Seat No.	
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Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

## 16

- 1) Automated process of paying customers according to their demand and collecting their amount is \_\_\_\_\_.  
a) Passbook                      b) Credit  
c) Debit                          d) ATM
- 2) K.Y.C. Means \_\_\_\_\_.  
a) Know Your Customers        b) Know Your Character  
c) Both of the above            d) None of the above
- 3) Banking system as a system that facilitates various banking transactions through personal computer is \_\_\_\_\_.  
a) Core                          b) Green  
c) Internet                        d) KYC
- 4) The statement regarding assets and liabilities showing the financial condition of the bank on particular date is \_\_\_\_\_.  
a) Report                         b) Balance sheet  
c) Promise note                 d) Account Book
- 5) Bank financing for environmental friendly industries or projects Is \_\_\_\_\_.  
a) Merchant Bank                b) Reserve Bank  
c) Green Bank                    d) State Bank
- 6) Since all the branches of the bank are affiliated to the central information center, it is called \_\_\_\_\_.  
a) Core Banking                b) Sustainable Banking  
c) Green Banking                d) Internet Banking
- 7) The Depositories Act was passed in the year \_\_\_\_\_.  
a) 1980                          b) 1996  
c) 2000                          d) 2005
- 8) Guarantee of human rights and a life of dignity are intended in \_\_\_\_\_ Banking.  
a) Green                         b) Eternal  
c) Internet                        d) Core
- 9) National Electronic Funds Transfer was started in India in November \_\_\_\_\_.  
a) 2003                          b) 2004  
c) 2005                          d) 2006
- 10) Bill of exchange is a \_\_\_\_\_ Document.  
a) Currency                      b) Written  
c) Oral                            d) Objects

- 11) The ability of Banks to make a profit from investments and loan transactions.
  - a) Prevent
  - b) Profitability
  - c) Safety
  - d) Insecurity
- 12) Kisan Credit Card started in \_\_\_\_\_.
  - a) 1 April 1999
  - b) 1 April 2000
  - c) 1 April 2001
  - d) 1 April 2002
- 13) N.R.I .Means \_\_\_\_\_.
  - a) Non-Rural Persons
  - b) Non-Resident Indians
  - c) Non-Rural Migrants
  - d) None of these
- 14) Educational loan is related to \_\_\_\_\_.
  - a) Tuition fees and educational fees
  - b) The repayment of education loan taken earlier
  - c) Approval for study in India and abroad
  - d) All of the above
- 15) ATM can be used for \_\_\_\_\_.
  - a) Cash withdrawal
  - b) Account inquiries
  - c) Account details
  - d) All of the above
- 16) The tax that is levied on the interest earned from term deposit is called \_\_\_\_\_.
  - a) General tax
  - b) Special tax
  - c) Tax Deduction at source
  - d) None of the above

**Q.2 Answer in short. (Any four out of six).** **16**

- Explain the balance sheet of a bank.
- Explain the functions of financial system.
- Mention the advantages and disadvantages of ATM card.
- Explain the features of zero balance accounts.
- Explain the methods of salvation.
- Explain the characteristics of RIGS.

**Q.3 Answer the following question (Any 2 out of 4).** **16**

- Explain the investment policy of the bank.
- Explain the advantages and disadvantages of KYC.
- Explain the principles of lending.
- Explain the importance of Green Bank.

**Q.4 Answer the following question in detail (Any 1 out of 2).** **16**

- Explain the special mutual relationship between the bank and the customer.
- Explain the different types of deposits.

**Q.5 Answer the following question in detail.** **16**

Explain the concept of core bank with merit.

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- 9) किसी स्थान को फिल्म में चित्रित करना हो तो उसके शूटींग की अनुमति लेने का दायित्व ---- का होता है।  
अ) सिनेमेटोग्राफर                      ब) म्युझिक डायरेक्टर  
क) फिल्म निर्देशक                      ड) प्रोडक्शन मैनेजर
- 10) 'ओ माय गॉड' यह फिल्म ---- भाषा के नाटक पर आधारित है।  
अ) मराठी                      ब) हिंदी  
क) गुजराती                      ड) कन्नड़
- 11) 'ओ माय गॉड' फिल्म में वकील हानिफ कुरेशी की भूमिका ---- ने की है।  
अ) परेश रावल                      ब) महेश मांजरेकर  
क) अनुपम खेर                      ड) ओम पुरी
- 12) 'दंगल' फिल्म ---- को प्रदर्शित हुई है।  
अ) 23 जनवरी 2016                      ब) 23 दिसंबर 2017  
क) 24 दिसंबर 2016                      ड) 23 जनवरी 2017
- 13) पटियाला में प्रशिक्षण हेतु चयन होने के बाद गीता फोगाट के चरित्र में ---- परिवर्तन आता है।  
अ) टीवी देखना                      ब) रस्ते पर मिलनेवाला खाना खाना  
क) लंबे बाल रखना                      ड) सभी
- 14) 'म्हारी छोरियाँ छोरों से कम हैं के?' यह संवाद ---- फिल्म का है।  
अ) ओ माय गॉड                      ब) तारे ज़मीन पर  
क) दंगल                      ड) मैरी कॉम
- 15) ---- फिल्म को दिल्ली सरकार द्वारा करमुक्त घोषित किया गया था।  
अ) तारे ज़मीन पर                      ब) दंगल  
क) ओ माय गॉड                      ड) दबंग
- 16) 'तारे ज़मीन पर' फिल्म को 'सर्वश्रेष्ठ फिल्म पुरस्कार' ---- को प्राप्त हुआ है।  
अ) 2007                      ब) 2009  
क) 2012                      ड) 2008

प्र.2 निम्नलिखित में से किन्हीं चार प्रश्नों के उत्तर संक्षेप में लिखिए।

16

- अ) 'तारे जमीन पर' फिल्म के मुख्य पात्रों के नाम लिखकर उनकी भूमिका संक्षेप में समझाइए।
- ब) 'दंगल' फिल्म में चित्रित गीता और बबीता फोगाट इन दो बहनों का चरित्र चित्रण कीजिए।
- क) पहले सवाक् सिनेमा की संक्षेप में जानकारी दीजिए।
- ड) 'दंगल' फिल्म के आधार पर अमीर खान द्वारा अभिनीत पिता की भूमिका पर चर्चा कीजिए।
- इ) फिल्म निर्देशक एवं कला निर्देशक का कार्य संक्षेप में बताइए।
- फ) प्रोडक्शन मैनेजर का कार्य स्पष्ट कीजिए।



- प्र.3 निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर संक्षेप में लिखिए।** **16**
- अ) समकालीन सिनेमा पर प्रकाश डालिए।
  - ब) 'ओ माय गॉड' फिल्म में अक्षय कुमार द्वारा अभिनीत 'श्रीकृष्ण' की भूमिका की विशेषता लिखिए।
  - क) 'दंगल' फिल्म की निर्देशन की दृष्टी से समीक्षा कीजिए।
  - ड) 'ओ माय गॉड' फिल्म में चित्रित पाखंड पर प्रकाश डालिए।
- प्र.4 निम्नलिखित प्रश्नों में से किसी एक प्रश्न का उत्तर लिखिए।** **16**
- 'तारे जमीन पर' फिल्म की कथावस्तु लिखिए।
- अथवा**
- सिनेमा का कला पक्ष विस्तार से स्पष्ट कीजिए।
- प्र.5 'दंगल' फिल्म का कथानक विस्तार से लिखिए।** **16**

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Set **P**

**M.A. (English) (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**21<sup>st</sup> Century Skills**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
 2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternative from the following options. 16**

- 1) \_\_\_\_\_ of the following is not a critical thinking skill.
  - a) Determining irrelevance
  - b) Observation
  - c) Analysis
  - d) Problem solving
- 2) \_\_\_\_\_ is the analysis of available facts evidence observation and argument to form a judgment.
  - a) Critical thinking
  - b) Creativity
  - c) Leadership
  - d) Productivity
- 3) Critical thinking is not \_\_\_\_\_.
  - a) disciplined thinking
  - b) clear
  - c) open minded
  - d) irrational
- 4) Cultural awareness is similar with \_\_\_\_\_.
  - a) cultural polyvalency
  - b) adaptability
  - c) creativity
  - d) cultural understanding
- 5) Communication process does not involve the component \_\_\_\_\_.
  - a) sender
  - b) message
  - c) the class of the sender
  - d) receiver
- 6) \_\_\_\_\_ is a phenomenon where by something new and valuable is termed.
  - a) Collaboration
  - b) Productivity
  - c) Creativity
  - d) Curiosity
- 7) \_\_\_\_\_ of the following is not the part of a communication process.
  - a) Self-awareness
  - b) Sender
  - c) Receiver
  - d) Feedback
- 8) Without \_\_\_\_\_ of the following communication on process is not complete.
  - a) creativity
  - b) feedback
  - c) channel
  - d) productivity
- 9) \_\_\_\_\_ of the following is not included in the leadership qualities.
  - a) Self awareness and priority to personal development
  - b) Ethical and civic mindedness
  - c) Reserved mindedness
  - d) Focus on developing others
- 10) \_\_\_\_\_ is the expression not someone's ability to adapt to changing circumstances.
  - a) Productivity
  - b) Creativity
  - c) Collaboration
  - d) Flexibility

- 11) \_\_\_\_\_ of the following means committing literary theft.  
a) Plagiarism                                      b) Self-awareness  
c) Productivity                                    d) Citizenship
- 12) \_\_\_\_\_ of the following is not a life skill.  
a) Technological literacy                        b) Flexibility  
c) Social skill                                      d) Leadership
- 13) \_\_\_\_\_ of the following is not associated with digital literacy.  
a) Knowledge of technology                     b) Knowledge of fiction  
c) Knowledge of internet                        d) Knowledge of computer
- 14) \_\_\_\_\_ of the following is not associated with research.  
a) Plagiarism  
b) Hypothesis  
c) Building and maintaining relationships  
d) Research design
- 15) \_\_\_\_\_ of the following is not a characteristic of media literacy.  
a) Critical thinking skill  
b) Linder standing the process of mass communication  
c) No through understanding of media messages  
d) Awareness of media effects on individuals and society
- 16) \_\_\_\_\_ of the following cannot be grouped under digital literacy.  
a) Communication                                  b) Practical skills  
c) Incomprehension                                d) ICT knowledge

**Q.2 Answer of the following questions. (Any Four)**

16

- What is communication?
- What is creativity?
- Write a note on the skill of adaptability.
- What is critical thinking?
- Write a note on the term cultural understanding.
- Discuss various excellent communication skills.

**Q.3 Answer of the following questions. (Any Two)**

16

- Explain in detail the various significant 21<sup>st</sup> century skills.
- Discuss the skills: leadership, civic responsibilities and social skills.
- What is research fluency? Explain it with some aspects.
- Write a note on citizenship and civic responsibilities.

**Q.4 Answer of the following questions. (Any One)**

16

- a) Explain the concept of digital literacy in detail with its aspects.

**OR**

- b) What is digital literacy? Discuss it with the various aspects.

**Q.5** What is media literacy? Discuss.

16

Seat No.	
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Set **P**

**M.A. (English) (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**Introduction to Film Studies**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
 2) Figures to the right indicate full marks.

**Q.1 Rewrite the following sentence by choosing the correct alternative given below. 16**

- 1) \_\_\_\_\_ were the first to present projected moving pictures to a paying audience in December 1895 Paris.
  - a) William Brothers
  - b) Lumiere Brothers
  - c) Chaplin Brothers
  - d) Sergeie Brothers
- 2) \_\_\_\_\_ of the following is an essential element of the film language.
  - a) Sound
  - b) Round
  - c) Compound
  - d) All of these
- 3) \_\_\_\_\_ film technology has constantly transformed and enhanced the fundamental aesthetic elements in the traditional aesthetic categories of film.
  - a) Regressional
  - b) Momentum
  - c) Digital
  - d) Collage
- 4) \_\_\_\_\_ of the film is similarly the theory film-as-a-system-of-signs.
  - a) The deposit
  - b) The statistics
  - c) The effects
  - d) The semiotics
- 5) \_\_\_\_\_ introduced the first motion picture in India in the late 1910s.
  - a) Dhundiraj Govind Phalke
  - b) Amitabh Bachhan
  - c) Annasaheb Kirloskar
  - d) None of these
- 6) The Father of Indian Cinema is \_\_\_\_\_.
  - a) Mahesh Bhatt
  - b) Dada Saheb Phalke
  - c) Vikram Ghokale
  - c) Ashok kumar
- 7) \_\_\_\_\_ is considered the first superstar in Indian Cinema.
  - a) Deva Anand
  - b) Amrish Agashe
  - c) Sohel Khan
  - d) Rajesh Khanna
- 8) Amitabh Bachhan is popularly known as \_\_\_\_\_ of Indian Cinema.
  - a) Angry young man
  - b) The last man
  - c) The first man
  - d) All of these
- 9) \_\_\_\_\_ films traditionally contain dangerous situation and high-risks and many require the use of physical stunts fight.
  - a) Romantic
  - b) Action
  - c) Crime
  - d) Love story
- 10) \_\_\_\_\_ films are intended to make the audience laugh through their use of exaggeration of language.
  - a) Horror
  - b) Action
  - c) Comedy
  - d) Drama

- 11) \_\_\_\_\_ film is defined as a genre where the plot revolves around the love between two protagonists.
  - a) Action
  - b) Horror
  - c) Melodrama
  - d) Love story
- 12) \_\_\_\_\_ films are designed to frighten and to invoke our hidden worst fears, often in a terrifying shocking finale.
  - a) Horror
  - b) Musical
  - c) Dramas
  - d) Comedies
- 13) \_\_\_\_\_ is the first step in film production.
  - a) Production schedule
  - b) Concept and ideas generation
  - c) Screen writing
  - d) None of these
- 14) To spend money on your film carefully, you make a \_\_\_\_\_.
  - a) Screening
  - b) Distribution
  - c) Budget
  - d) All of these
- 15) \_\_\_\_\_ is mostly about dialogue and how the various characters speak.
  - a) Budget
  - b) Distribution
  - c) Script writing
  - d) Casting
- 16) \_\_\_\_\_ ensures every audio element within a film's soundtrack is correctly balanced.
  - a) Sound mixing
  - b) Promotion
  - c) Color grading
  - d) Visual effects.

**Q.2 Write short answers. (Any 4 out of 6)**

16

- What is a film?
- Write in brief on the origin of Cinema.
- Write in short on the cinema at global level.
- Describe in short, the concept of the language of Cinema.
- What is a digital aesthetics?
- Write in brief on the semiotics of film.

**Q.3** Answers the following questions. (Any 2 out of 4)

16

- Write in detail on the origin and development of the Indian Cinema.
- Write a critical note on the emergence of talkies with special reference to Indian Cinema.
- What is an angry young man concept? Describe with special reference to Indian Cinema.
- Write a detailed note on the rise of multiplexes in Indian Cinema.

**Q.4 Answer the following questions in detail. (Any 1 out of 2)**

16

- a) Write a detailed critical note on the major genres of film.

**OR**

- b) Define the concept of film genre and write an essay on the types of films.

**Q.5 Answer the following questions in detail.**

16

What is a film production? Write a detailed note on the basics of film production.

**M.A. (Marathi) (Semester - III) (New) (CBCS) Examination: Oct/Nov -2022**  
मराठी भाषा आणि स्पर्धा परीक्षा

Max. Marks: 80

**सूचना :** 1) सर्व प्रश्न अनिवार्य आहेत.  
2) उजवीकडील अंक पूर्ण गुण दर्शवितात.

16

- 1) फोकलोर ही संज्ञा प्रथम कोणी वापरली?  
 अ) जॉन ड्युई  
 ब) विल्यम जॉन थॉम्स  
 क) सर जोसेफ  
 ड) जॉर्ज ऑरवेल
  - 2) लोकसाहित्य ही संज्ञा मराठीत प्रथम कोणी वापरली?  
 अ) प्रभाकर मांडे  
 ब) विश्वनाथ शिंदे  
 क) रा. चिं. ढेरे  
 ड) दुर्गा भागवत
  - 3) कोकण परिसरात कोणते लोकनाटय सादर होते?  
 अ) सोंगी भजन  
 ब) खडीगंमत  
 क) दशावतार  
 ड) डहाक
  - 4) दान पावलं, दान पावलं असे गीत खालीलपैकी कोणत्या उपासकांच्या तोंडी असते?  
 अ) पिंगळा  
 ब) वासुदेव  
 क) पोतराज  
 ड) गुरव
  - 5) सोस्यूरने भाषेचे किती स्तर कल्पिले आहेत?  
 अ) चार  
 ब) तीन  
 क) दोन  
 ड) पाच
  - 6) भाषा नित्य ——— वस्तु आहे.  
 अ) परिवर्तनशील  
 ब) सांस्कृतिक  
 क) धार्मिक  
 ड) यापैकी नाही
  - 7) 'आधुनिक भाषा विज्ञान: सिध्दांत आणि उपयोजन' ग्रंथाचे लेखक कोण आहेत?  
 अ) स. ग. मालशे  
 ब) वि. ग. मालशे  
 क) अशोक मालशे  
 ड) मिलिंद मालशे
  - 8) डांग हा प्रदेश सध्या कोणत्या राज्यात आहे?  
 अ) महाराष्ट्र  
 ब) गुजरात  
 क) मध्यप्रदेश  
 ड) आंध्रप्रदेश

- 9) अहिराणी बोलीचे प्रदेशवाचक नाव काय आहे?  
अ) डांगी ब) नागपुरी  
क) माणदेशी ड) खानदेशी
- 10) भारतीय बोलींचा अभ्यास कोणी केला आहे?  
अ) सर जॉर्ज ग्रिअर्सन ब) एलफिन्सटन  
क) मॅकबेथ ड) ना. गो. कालेलकर
- 11) भाषा ही अर्जित असते. म्हणजेच ती आपल्याला ——.  
अ) परंपरेने मिळते ब) अनुवंशिकतेने मिळते  
क) शिकावी लागते ड) यापैकी नाही
- 12) तमाशा सादरीकरणात वगाचे स्थान कधी असते?  
अ) शेवटी ब) प्रारंभी  
क) भैरवीनंतर ड) यापैकी नाही
- 13) भौतिक संस्कृतीमध्ये खालीलपैकी कोणत्या घटकांचा समावेश होतो?  
अ) लोकनृत्य ब) वैद्यकशास्त्र  
क) धार्मिक विधी ड) लोककथा
- 14) प्रमाणभाषा —— प्रदेशात वापरली जाते.  
अ) मर्यादित ब) विस्तृत  
क) बोली ड) यापैकी नाही
- 15) बोली म्हणजे अशुद्ध भाषा हा भाषेविषयीचा ——.  
अ) गावंढळपणा आहे ब) बरोबर आहे  
क) योग्य दृष्टीकोण आहे ड) गैरसमज आहे
- 16) भाषेच्या बाबतीत बोलणे महत्त्वाचे तर लेखन ही —— प्रक्रिया आहे.  
अ) प्राथमिक ब) कनिष्ठ  
क) द्ययम ड) यापैकी नाही

**प्र.2 खालीलपैकी प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही चार)**

16

- अ) भाषेची कार्य थोडक्यात लिहा.  
ब) मराठीतील लोकनाटयाचे वेगळेपण लिहा.  
क) अहिराणी या बोली भाषेची ओळख करुन द्या.  
ड) डांगी बोलीचे भौगोलिकतेनुसार असणारे वेगळेपण स्पष्ट करा.  
इ) लोकसाहित्याच्या कोणत्याही दोन व्याख्या लिहा.  
ई) प्रमाणभाषा म्हणजे काय ते थोडक्यात लिहा.

प्र.3 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही दोन)

16

- अ) लोकसाहित्य संकल्पनेतील 'लोक' या संज्ञेबद्दल विवेचन करा.  
 ब) सामाजिक स्तरानुसार भाषावैविध्य कसे असते हे सोदाहरण लिहा.  
 क) लोककथा म्हणजे काय ते सांगून लोककथांचे प्रकार लिहा.  
 ड) लांग व परोल या भाषिक संकल्पना स्पष्ट करा.

प्र.4 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही एक)  
लोकसाहित्याचे स्वरूप स्पष्ट करून व्याप्ती लिहा.  
किंवा  
प्रमाणभाषा व बोली भाषा सहसंबंध सविस्तर लिहा.

प्र.5 लोकसाहित्याचे प्रकार नोंदवून लोकगीतांविषयी सविस्तर लिहा.



**M.A. (Marathi) (Semester - III) (New) (CBCS) Examination: Oct/Nov -2022**  
प्रसारमाध्यमे आणि भाषाव्यवहार

Max. Marks: 80

**सूचना :** 1) सर्व प्रश्न अनिवार्य आहेत.  
2) उजवीकडील अंक पूर्ण गुण दर्शवितात.

16

- 1) बहुजन हिताय.... बहुजन सुखाय.... हे कोणत्या माध्यमाचे ब्रीद वाक्य आहे?  
अ) आकाशवाणी  
ब) दूरचित्रवाणी  
क) फेसबूक  
ड) व्हाट्सअप
- 2) दूरचित्रवाणीचा शोध ---- यांनी लावला.  
अ) जॉन लोगी बेअर्ड  
ब) विल्यम रोबर्ट  
क) ग्राहम बेल  
ड) मादाम क्युरी
- 3) वस्तू आणि सेवेसाठी मागणी निर्माण करण्याच्या कलेला ---- म्हणतात?  
अ) विक्री  
ब) जाहिरात  
क) खरेदी  
ड) माहिती
- 4) आकाशवाणीवरील जाहिरातीतील छोट्याशा गीताला काय म्हणतात?  
अ) जिंगल  
ब) कविता  
क) गझल  
ड) चारोळी
- 5) पोतराज हा कोणत्या देवाचा उपासक असतो.  
अ) तुळजाभवानी  
ब) महालक्ष्मी  
क) रेणुका  
ड) मरीआई
- 6) लोकरंगभूमी हा ग्रंथ कोणाचा?  
अ) प्रभाकर मांडे  
ब) रा. चिं. ढेरे  
क) तारा भवाळकर  
ड) विश्वनाथ शिंदे
- 7) Twitter चे मुख्यालय कोठे आहे.  
अ) सॅन फ्रान्सिस्को  
ब) दुबई  
क) अमेरिका  
ड) ब्रिटन
- 8) ---- हे कोकण परिसरातील एक प्रसिद्ध लोकनाट्य आहे.  
अ) कीर्तन  
ब) भारूड  
क) गोंधळ  
ड) दशावतार

- 9) आकाशवाणीवरील ——— हे नभोनाट्याचे लघुरूप आहे.  
अ) पथनाट्य                                      ब) श्रुतिका  
क) एकांकिका                                  ड) रूपक
  - 10) चित्रपटातील दृश्यात्मक लेखन करणाऱ्या व्यक्तीस ——— म्हणतात.  
अ) कथाकार                                      ब) गीतकार  
क) संवादकार                                  ड) पटकथाकार
  - 11) मधमाशी यांचा आपआपसातील सांकेतिक संवाद ——— तून होती.  
अ) गायन    ब) वादन  
क) नृत्य    ड) संभाषण
  - 12) श्रोत्यांच्या जिह्वाळ्याच्या प्रश्नांवर केलेला संवाद म्हणजे ———.  
अ) लघुनाट्य                                      ब) नभोनाट्य  
क) श्रुतिका                                        ड) नाटिका
  - 13) आकाशवाणीवरील सर्व कार्यक्रमात खालीलपैकी कशाला अधिक महत्व असते?  
अ) जाहिरात                                      ब) उद्घोषणा  
क) बातमी                                         ड) गीत
  - 14) वाघ्या – मुरळीच्या गीतात ——— देवतांचे वर्णन येते.  
अ) तुळजाभवानी                              ब) श्रीकृष्ण  
क) म्हसोबा                                        ड) खंडोबा
  - 15) यूट्यूब ची सुरुवात कधी झाली?  
अ) 1994    ब) 2008  
क) 2005    ड) 1992
  - 16) सहज, सोपी, परिणामकारक भाषा, नाट्यात्म संवाद व कर्ण मधुर शब्दांची योजना इत्यादी घटकांचा वापर ——— या माध्यमासाठी करावा लागतो.  
अ) दूरचित्रवाणी                                  ब) चित्रपटक  
क) आकाशवाणी                                  ड) यापैकी नाही

**प्र.2 खालीलपैकी प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही चार)**

16

- अ) प्राण्यांच्या भाषेचे स्वरूप स्पष्ट करा.
- ब) लोकनृत्याचे स्वरूप लिहा.
- क) आकाशवाणीवरील श्रुतिकाचे स्वरूप लिहा.
- ड) ओशवाणीवरील उदघोषणेचे स्वरूप व महत्त्व लिहा.
- इ) Twitter या समाजमाध्यमाचे स्वरूप स्पष्ट करा.
- ई) मुद्रित माध्यमातील भाषेचे विशेष लिहा.

प्र.3 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही दोन)

16

- अ) दूरचित्रवाणीचे स्वरूप व महत्त्व स्पष्ट करा.  
 ब) प्रसारमाध्यमाची संकल्पना व स्वरूप स्पष्ट करा.  
 क) आकाशवाणीतील मुलाखतचे स्वरूप व महत्त्व स्पष्ट करा.  
 ड) नियतकालिकांचे स्वरूप आणि वाडमयीन महत्त्व स्पष्ट करा.

- प्र.4** खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणताही एक) **16**  
लोकगीत म्हणजे काय? ते सांगून स्त्रीविषयक लोकगीतांची उदाहरणे स्पष्ट करा.  
किंवा  
आकाशवाणीतील कार्यक्रमांचे स्वरूप व महत्त्व स्पष्ट करा.
- प्र.5** भाषेचे स्वरूप स्पष्ट करून मराठी भाषेचे उपयोजित क्षेत्रे कोणती ते सविस्तर लिहा. **16**

Seat No.	
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Set P
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**M.A. (Political Science) (Semester - III) (New) (CBCS) Examination:  
Oct/Nov-2022**

**International Organizations**

Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- सूचना :** 1) सर्व प्रश्न अनिवार्य आहेत.  
2) उजवीकडील अंक पूर्ण गुण दर्शवितात.

**प्र.1 योग्य पर्याय निवडा**

16

- 1) खालीलपैकी संयुक्त राष्ट्राचे मुख्य अंग आहे.  
अ) सुरक्षा समिती                      ब) नाटो  
क) सिटो                                      ड) सेंटो
- 2) सार्क संघटनेची स्थापना केव्हा झाली?  
अ) 1987                                      ब) 1985  
क) 1980                                      ड) 1975
- 3) संयुक्त राष्ट्र संघटनेची स्थापना केव्हा झाली?  
अ) 1950                                      ब) 1948  
क) 1945                                      ड) 1952
- 4) सुरक्षा समितीत कायदा सदस्य किती आहेत?  
अ) 7    ब) 15  
क) 10    ड) 5
- 5) खालीलपैकी कोणत्या देशाला अलिकडेच 'सार्क' संघटनेत प्रवेश देण्यात आला आहे.  
अ) चीन    ब) अफगाणिस्तान  
क) म्यानमार                                      ड) थायलँड
- 6) आंतरराष्ट्रीय न्यायालय कोठे आहे?  
अ) पॅरिस    ब) न्यूयॉर्क  
क) हेग    ड) बर्लिन
- 7) नाटोला प्रतिउत्तर म्हणून कोणता करार झाला?  
अ) सिटो    ब) सेंटो  
क) अरबलीग                                      ड) वॉर्सा
- 8) ——— ही प्रादेशिक संघटना नाही.  
अ) सिटो    ब) सेंटो  
क) वॉर्सा    ड) डब्लू-टी-ओ
- 9) यापैकी देश एशियनचा सदस्य नाही.  
अ) इंडोनेशिया                                      ब) मलेशिया  
क) भारत    ड) फिलिपाईन्स

- 10) सुरक्षा परिषदेचे कायमचे सदस्य देश कोणते?  
 अ) अमेरिका-इंग्लंड-भारत-फ्रान्स-चीन  
 ब) अमेरिका-इंग्लंड-फ्रान्स-रशिया-चीन  
 क) अमेरिका-इंग्लंड-फ्रान्स-स्वित्झर्लंड-चीन  
 ड) अमेरिका-इंग्लंड-फ्रान्स-रशिया-जपान
- 11) एशियन ची स्थापना केव्हा झाली?  
 अ) 1964  
 ब) 1967  
 क) 1968  
 ड) 1969
- 12) सध्या संयुक्त राष्ट्राचे अध्यक्ष कोण आहेत.  
 अ) बान की मून  
 ब) शशी थरूर  
 क) नेल्सन मंडेला  
 ड) यापैकी नाही
- 13) सार्क संघटनेत किती सदस्य देश आहेत.  
 अ) 7  
 ब) 9  
 क) 11  
 ड) 8
- 14) नाटोची स्थापना केव्हा झाली.  
 अ) 1948  
 ब) 1950  
 क) 1949  
 ड) 1951
- 15) आंतरराष्ट्रीय सुरक्षितता व शांतता राखणे कोणाचे उद्दिष्ट आहे.  
 अ) सार्क  
 ब) यूनो  
 क) नाटो  
 ड) नाम
- 16) संयुक्त राष्ट्र संघटनेत किती सदस्य देश आहेत?  
 अ) 193  
 ब) 189  
 क) 150  
 ड) 145

प्र.2 थोडक्यात उत्तरे लिहा (6 पैकी 4)

16

- अ) आंतरराष्ट्रीय संघटनेचे वर्गीकरण करा.  
ब) वॉर्सा करार.  
क) एशियन संघटनेच्या सदस्यांची (राष्ट्र) नावे सांगा?  
ड) प्रादेशिक संघटना म्हणजे काय?  
इ) सुरक्षा परिषदेच्या नकाराधिकार म्हणजे काय?  
ई) आंतरराष्ट्रीय संघटनेचे उद्दिष्टे काय आहेत.

**प्र.3 लघुत्तरी प्रश्न (4 पैकी 2)**

16

- अ) युरोपियन युनियनचे उद्दिष्टे काय आहेत.  
ब) यूनोमार्फत सोडविलेल्या प्रश्नांची चर्चा करा.  
क) राष्ट्रसंघाचे यशापयश.  
ड) सुरक्षा समितीची कार्ये सांगा?

**प्र.4 दिर्घोत्तरी प्रश्न (2 पैकी 1)****16**

- अ) संयुक्त राष्ट्राच्या यशापयशाचे मूल्यमापन करा.  
ब) सार्कचे ध्येय आणि उद्देश सांगा.

**प्र.5 दिर्घोत्तरी प्रश्न****16**

संयुक्त राष्ट्राच्या महासभेची रचना, अधिकार व कार्ये स्पष्ट करा.

Seat No.	
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Set **P**

**M.A. (Political Science) (Semester - III) (New) (CBCS) Examination:  
Oct/Nov-2022  
International Organizations**

Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternatives from the options.****16**

- 1) Following which is the UNO main organs \_\_\_\_\_.  
 a) Security Council                      b) NATO  
 c) SEATO                                      d) CENTO
- 2) SAARC organization established in \_\_\_\_\_.  
 a) 1987    b) 1985  
 c) 1980    d) 1975
- 3) United Nations organization established in \_\_\_\_\_.  
 a) 1950    b) 1948  
 c) 1945    d) 1952
- 4) How many permanent members in the security council?  
 a) 7    b) 15  
 c) 10    d) 5
- 5) Which one of the following countries is recently admitted to SAARC?  
 a) China    b) Afghanistan  
 c) Myanmar                                      d) Thailand
- 6) Where is the International court?  
 a) Paris    b) New York  
 c) Hague    d) Berlin
- 7) Which treaty is the NATO treaty of Anti-Reaction?  
 a) SEATO    b) CENTO  
 c) Arab League                                  d) Warsaw
- 8) Which among the following is not a regional defense organization?  
 a) SEATO    b) CENTO  
 c) WARSAW                                      d) WTO
- 9) Which Nation is not the member of ASEAN?  
 a) Indonesia                                      b) Malaysia  
 c) India    d) Philippines
- 10) Which are the permanent members of security council?  
 a) US, UK, India, France, China  
 b) US, UK, France, USSR, China  
 c) US, UK, France, Switzerland, China  
 d) US, UK, France, USSR, Japan
- 11) 'ASEAN' organization established in \_\_\_\_\_.  
 a) 1964    b) 1967  
 c) 1968    d) 1969

- 12)** Now who is the president of General Assembly UNO?  
a) Ban Ki Moon  
b) Shashi Tharur  
c) Nelson Mandela  
d) None of these
- 13)** How many member country are there in SAARC organization?  
a) 7  
b) 9  
c) 11  
d) 8
- 14)** When was NATO established?  
a) 1948  
b) 1950  
c) 1949  
d) 1951
- 15)** What are the objectives of International Security and peace?  
a) SAARC  
b) UNO  
c) NATO  
d) NAM
- 16)** How many countries are members of United Nations?  
a) 193  
b) 189  
c) 150  
d) 145

### Q.2 Write Short Answers (Any Four)

16

- 1) Write the classification of International organization.
- 2) WARSAW Agreement.
- 3) Name of the countries who are member of ASEAN.
- 4) Define Regional Organization.
- 5) What is meant by the Veto-Power of Security Council?
- 6) What is the purpose of International Organization?

**Q.3 Write Answers in brief. (Any Two)**

16

- 1) Who is the purpose of European Union?
- 2) Discuss the problems settled by the UNO.
- 3) Achievements and failure League of Nation.
- 4) Functions of Security Council.

**Q.4 Answer the following questions. (Any One)**

16

- 1) Explain the success and failure of United Nations.
- 2) Aims and objectives of SAARC.

**Q.5** State the composition, powers and functions of General Assembly of UNO.

16



Seat No.	
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Set P
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**M.A. (History) (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**History of India (1858A. D.-1964A. D.)**

Day & Date: Friday, 17-02-2023

Max. Marks: 80

Time: 11:00 AM To 02:00 PM

- सूचना : 1) सर्व प्रश्न अनिवार्य आहेत.  
 2) उजवीकडील अंक पूर्ण गुण दर्शवितात.

प्र.1 खालील दिलेले योग्य पर्याय निवडून गाळलेल्या जागा भरा.

16

- 1) — यांनी बंगालमध्ये दुहेरी राजवट सुरु केली.  
 अ) लॉर्ड क्लार्क ब) लॉर्ड वेलस्ली  
 क) लॉर्ड कार्नवालिस ड) लॉर्ड हेस्टिंग्स
- 2) 1448 साली वास्को —द—गामा भारताच्या — या बंदरात पोहोचला.  
 अ) मंगलोर ब) सूरत  
 क) कालिकत ड) गोवा
- 3) रयतवारी पद्धतीचा जनक — यास म्हटले जाते.  
 अ) लॉर्ड कार्नवालिस ब) लॉर्ड लिटन  
 क) लॉर्ड रिपन ड) थॉमस मन्नो
- 4) ब्राह्मणाचे कसब या ग्रंथाचे लेखक कोण?  
 अ) विठ्ठल रामजी शिंदे ब) गौतम बुद्ध  
 क) महात्मा फुले ड) डॉ. बाबासाहेब आंबेडकर
- 5) ईस्ट इंडिया कंपनीची भारतातील सत्ता — मध्ये संपुष्टात आली.  
 अ) 1857 ब) 1600  
 क) 1858 ड) 1947
- 6) भारतीय राष्ट्रीय काँग्रेसची स्थापना — या दिवशी झाली.  
 अ) 1 डिसेंबर 1885 ब) 28 डिसेंबर 1885  
 क) 28 जून 1885 ड) 1 एप्रिल 1885
- 7) — यांनी कायमधाराही जमीन महसूल पद्धत सुरु केली.  
 अ) लॉर्ड हेस्टिंग्स ब) लॉर्ड कार्नवालिस  
 क) लॉर्ड रिपन ड) लॉर्ड क्लार्क
- 8) — या चार्टर अॅक्टमध्ये भारतीयांच्या शिक्षणासाठी दरवर्षी 1 लाख रुपये मंजूर करण्यात आले.  
 अ) 1818 ब) 1861  
 क) 1813 ड) 1833

- 9) कायमधारा पद्धत ——— यांना त्रासदायक ठरली.  
अ) जमीनदार                      ब) शेतकरी  
क) इस्ट इंडिया कंपनी          ड) वरील सर्व
  - 10) भारतीय राष्ट्रीय काँग्रेसची स्थापना ——— यांच्या प्रेरणेने झाली.  
अ) डॉ. अ‍ॅनी बेझंट                ब) दादाभाई नौरोजी  
क) सर अ‍ॅलनह्यूम                  ड) लोकमान्य टिळक
  - 11) 28 सप्टेंबर 1873 रोजी ——— येथे सत्यशोधक समाजाची स्थापना करण्यात आली.  
अ) पुणे                                  ब) मुंबई  
क) दिल्ली                              ड) लखनऊ
  - 12) द पावर्टी ऑण्डअन्—ब्रिटीश रूल इन इंडिया हा ग्रंथ कोणी लिहिला.  
अ) दादाभाई नौरोजी              ब) अरविंद घोष  
क) लोकहितवादी                  ड) लोकमान्य टिळक
  - 13) मोर्ले—मिटो सुधारणा कायदा ——— यावर्षी पास झाला.  
अ) 1861                                  ब) 1814  
क) 1909                                  ड) 1919
  - 14) भारतीय राष्ट्रीय काँग्रेसचे पहिले अधिवेशन ——— या ठिकाणी भरविण्यात आले.  
अ) पुणे                                  ब) मुंबई  
क) दिल्ली                              ड) सुरत
  - 15) ——— यांनी ब्राम्हो समाजाची स्थापना केली.  
अ) राजा राममोहन रॉय          ब) न्यायमुर्ती रानडे  
क) स्वामी दयानंद सरस्वती      ड) महात्मा ज्योतिबा फुले
  - 16) बंगालची फाळणी ——— या गव्हर्नर जनरलने केली.  
अ) लॉर्ड क्लाइव्ह                  ब) लॉर्ड रिपन  
क) लॉर्ड कर्झन                      ड) लॉर्ड कॉनिंग

प्र.2 खालीलपैकी प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही चार)

16

- अ) ब्रिटीशकालीन जिल्हा प्रशासन
- ब) महालवारी पद्धत
- क) ब्रिटीशकालीन व्यापार
- ड) जातीय चळवळी
- इ) ब्रिटीशकालीन भारतीय स्त्रियांचे स्थान
- ई) जहालमतवादी

प्र.3 कोणत्याही दोन टिपा लिहा.

16

- अ) कायमधारा पद्धती  
ब) भारत व आफगणिस्तान संबंध  
क) लॉर्ड मेकालेचे शिक्षणविषयक धोरण  
ड) लोकमान्य टिळक

- प्र.4** खालीलपैकी कोणत्याही एका प्रश्नाचे उत्तर लिहा. **16**  
लॉर्ड विल्यम बेंटिंगच्या सामाजिक सुधारणांची चर्चा करा.  
किंवा  
भारतीय शेतीच्या व्यापारीकरणाची कारणे व परिणामाची चर्चा करा.
- प्र.5** 1885 ते 1905 पर्यंतचे राष्ट्रीय सभेचे कार्य सांगा. **16**

**M.A. (History) (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**History of India (1858A. D.-1964A. D.)**

Max. Marks: 80

16

- 12) Who write a book Poverty and un-British rule in India  
a) Dadabhai Nouroji                      b) Arvind Ghosh  
c) Lokhitwadi                              d) Lokmanya Tilak
- 13) The Morley-Minto Reform Act passed in \_\_\_\_\_.  
a) 1861                                      b) 1814  
c) 1909                                      d) 1919
- 14) Indian National Congress First Conference was held at \_\_\_\_\_.  
a) Pune                                      b) Mumbai  
c) Delhi                                      d) Surat
- 15) Bramho Samaj Established by \_\_\_\_\_.  
a) Raja Rammohan Roy                      b) Justice Ranade  
c) Swami Dayanand Saraswati              d) Mahatma Jyotiba Phule
- 16) Governor General \_\_\_\_\_ carried out Bengal Partition.  
a) Lord Clive                                  b) Lord Ripan  
c) Lord Curzon                                d) Lord Canning

**Q.2 Write short answer. (Any four out of six).**

**16**

- a) British District Administration
- b) Mahalwari system
- c) Trade of British period
- d) Caste Movement
- e) Position of Indian Women during the British Era
- f) Extremist

**Q.3 Answer the following question (Any 2 out of 4).**

**16**

- a) Permanent settlement
- b) Relation of India and Afghanistan
- c) Lord Macaulay's Education policy
- d) Lokmanya Tilak

**Q.4 Discuss Social reforms of Lord William Bentick.**

**16**

**OR**

Discuss the cause and impact of commercialization of Indian Agriculture.

**Q.5 Explain the work of the Indian National Congress from 1885 to 1905.**

**16**

<b>Seat No.</b>	
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**M.A. (History) (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**History of U.S.S.R.**

Day & Date: Friday, 17-02-2022  
Time: 11:00 AM To 02:00 AM

Max. Marks: 80

- सूचना :** 1) सर्व प्रश्न अनिवार्य आहेत.  
2) उजवीकडील अंक पूर्ण गुण दर्शवितात.

**प्र.1 खालील दिलेले योग्य पर्याय निवडून गाळलेल्या जागा भरा.**

16

- 1) रशियन राज्यक्रांतीच्या वेळीं ——— हा रशियाचा सम्राट होता.  
अ) अलेक्झांडर-। ब) निकोलस-।  
क) निकोलस-॥ ड) अलेक्झांडर-॥
- 2) सोव्हियत रशियाचे विघटन ——— साली झाले.  
अ) 1991 ब) 1992  
क) 1993 ड) 1994
- 3) रशियन विधिमंडळ सभागृहाला ——— या नावाने ओळखतात.  
अ) स्टेट्स जनरल ब) संसद  
क) ड्युमा ड) राईशटॅंग
- 4) रशियामध्ये ——— या काळात गृहयुद्ध झाले.  
अ) 1918-1921 ब) 1917-1920  
क) 1919-1924 ड) 1920-1921
- 5) लेनिनने ——— धोरणाचा अवलंब केला.  
अ) पंचवार्षिक योजना ब) नवे आर्थिक धोरण  
क) विकेंद्रीकरणाचे धोरण ड) यापैकी नाही
- 6) रशियाची राजधानी ——— ही आहे.  
अ) सेंट पीटर्सबर्ग ब) लेनिनग्राड  
क) स्टॅलिनग्राड ड) मॉस्को
- 7) रशियामध्ये 'सामुदायिक शेतीचा प्रयोग' ——— ने राबवला.  
अ) लेनिन ब) प्लेखानोव्ह  
क) ट्रॉट्स्की ड) स्टॅलिन
- 8) दुसऱ्या पंचवार्षिक योजनेचा कालावधी ——— हा होय.  
अ) 1928-1933 ब) 1932-1937  
क) 1938-1943 ड) 1935-1940

- 9) याल्टा परिषद ——— साली झाली.  
अ) 1937 ब) 1943  
क) 1945 ड) 1946
- 10) रशियामध्ये लालसेनेची स्थापना ——— यांनी केली.  
अ) लेनिन ब) स्टॅलिन  
क) ट्रॉट्स्की ड) प्लेखानोव्ह
- 11) UNO ची स्थापना ——— या दिवशी झाली.  
अ) 25 ऑक्टोबर 1945 ब) 26 ऑक्टोबर 1945  
क) 23 ऑक्टोबर 1945 ड) 24 ऑक्टोबर 1945
- 12) पंचवार्षिक योजना ——— यांनी सुरु केली.  
अ) लेनिन ब) स्टॅलिन  
क) ट्रॉट्स्की ड) केरेन्स्की
- 13) आधुनिक रशियाचा निर्माता म्हणून ——— ला ओळखले जाते.  
अ) पीटर द ग्रेट ब) स्टॅलिन  
क) ट्रॉट्स्की ड) केरेन्स्की
- 14) कार्लमार्क्सच्या तत्वज्ञानानुसार ——— या देशात क्रांती घडून आली.  
अ) जर्मनी ब) चीन  
क) रशिया ड) यापैकी नाही
- 15) 'सोशॅलीझम इन वन कंट्री' हे धोरण ——— ने स्वीकारले.  
अ) लेनिन ब) केरेन्स्की  
क) ट्रॉट्स्की ड) स्टॅलिन
- 16) अतिरिक्त मूल्याचा सिध्दांत ——— यांनी मांडला.  
अ) ट्रॉट्स्की ब) स्टॅलिन  
क) कार्लमार्क्स ड) केरेन्स्की

**प्र.2 खालीलपैकी प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही चार)**

16

- अ) इ.स. 1936 च्या रशियन राज्यघटनेसंबंधी माहिती लिहा.
- ब) रशियातील हंगामी सरकारच्या समस्या सांगा.
- क) रशियाच्या नवीन आर्थिक धोरणाबद्दल माहिती लिहा.
- ड) रशियाच्या इतिहासातील बोल्शेविक क्रांतीचे महत्त्व सांगा.
- इ) रशियातील पंचवार्षिक योजनांची माहिती द्या.
- ई) रशियाच्या इतिहासातील लेनिनचे कार्य सांगा.

प्र.3 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही दोन)

16

- अ) रशियन राज्यक्रांतीची कारणे स्पष्ट करा.  
 ब) रशियाच्या विकासातील पंचवार्षिक योजनांचे महत्त्व स्पष्ट करा.  
 क) रशियातील गृहयुद्धाचा आढावा घ्या.  
 ड) रशियन महसत्तेच्या उदयाची कारणे स्पष्ट करा.

- प्र.4** खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही एक) **16**  
रशियातील नवीन संविधानावर चर्चा करा.  
किंवा  
स्टॅलिनच्या काळातील रशियाच्या प्रगतीचा आढावा घ्या.
- प्र.5** रशियन राज्यक्रांतीच्या परिणामावर चर्चा करा. **16**



<b>Seat No.</b>	
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**M.A. (History) (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**History of U.S.S.R.**

Day & Date: Friday, 17-02-2022  
Time: 11:00 AM To 02:00 AM

Max. Marks: 70

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternatives from the options.**

16

- 1) \_\_\_\_\_ was the king of Russia at the time of Russian revolutions.  
a) Alexander-I                                      b) Alexander-II  
c) Nicholas-I                                        d) Nicholas-II
- 2) The dissolution of Soviet Russia took place in \_\_\_\_\_.  
a) 1991    b) 1992  
c) 1993    d) 1994
- 3) Russian constitution assembly was known as \_\_\_\_\_.  
a) States General                                    b) Parliament  
c) Duma    d) Raishstang
- 4) Civil war in U.S.S.R took place between \_\_\_\_\_.  
a) 1918-1921                                         b) 1917-1920  
c) 1919-1924                                         d) 1920-1921
- 5) Lenin adopted the \_\_\_\_\_.  
a) Five Years Plan                                   b) New Economic Policy  
c) Policy of decentralization                    d) None of these
- 6) The capital of is \_\_\_\_\_.  
a) Sent Petersburg                                 b) Leningrad  
c) Trotsky    d) Stalin
- 7) \_\_\_\_\_ was experiments of community farming in Russia.  
a) Lenin    b) Plekhanow  
c) Trotsky    d) Stalin
- 8) The duration of Second Five Year Plan is \_\_\_\_\_.  
a) 1928-1933                                         b) 1932-1937  
c) 1938-1943                                         d) 1935-1940
- 9) \_\_\_\_\_ held the Yalta conference.  
a) 1937    b) 1943  
c) 1945    d) 1946
- 10) \_\_\_\_\_ was established Red Army in Russia.  
a) Lenin    b) Stalin  
c) Trotsky    d) Plekhanov
- 11) The establishment of UNO was \_\_\_\_\_ day.  
a) 25 Oct. 1945                                        b) 26 Oct. 1945  
c) 23 Oct. 1945                                        d) 24 Oct. 1945

- 12) The five year plan was started by \_\_\_\_\_.  
a) Lenin                                      b) Stalin  
c) Trotsky                                    d) Kerensky
- 13) Known as the creator of modern Russia was \_\_\_\_\_.  
a) Peter de Great                            b) Stalin  
c) Trotsky                                     d) Kerensky
- 14) According to the philosophy of Karl Marks, a revolution place in the \_\_\_\_\_ country.  
a) Germany                                    b) China  
c) Russia                                        d) None of these
- 15) The policy of ‘Socialism in one country’ was adopted by \_\_\_\_\_.  
a) Lenin    b) Kerensky  
c) Trotsky                                        d) Stalin
- 16) The theory of additional values was proposed by \_\_\_\_\_.  
a) Trotsky                                        b) Stalin  
c) Karl Marks                                   d) Kerensky

**Q.2 Answer the following questions. (Any Four)**

16

- Give the information about 1936 constitution of Russia.
- What are the problems of Provisional Government of Russia?
- Give the information about New Economic Policy of Russia.
- State the importance of Bolshevik Revolution in Russian History.
- Give the information about Five year plan in Russia.
- State the work of Lenin in Russian History.

**Q.3 Answer the following questions. (Any Two)**

16

- Explain the causes of Russian revolution.
- Explain the importance of five year plan in Russian development.
- Review at the civil war in Russia.
- Explain the causes for rise of the Russian superpower.

**Q.4 Answer the following questions. (Any One)**

16

Discuss the new constitution in Russia.

**OR**

## Review of Russia's Progress under Stalin Period.

**Q.5** Discuss the effects of Russian Revolution in 1917.

16

<b>Seat No.</b>	
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- 9) प्राचीन काळातील राजांची स्तुती करण्यासाठी वापरला जाणारा लोकसंगीतातील गीतप्रकार म्हणजे ---- होय.  
 अ) लावणी ब) पोवडा  
 क) भजन ड) किर्तन
- 10) लावणी या प्रकारासाठी वापरले जाणारे वादय ---- आहेत.  
 अ) तबला ब) पखवाज  
 क) ढोलकी ड) नगाडा
- 11) निसर्ग गीतांमध्ये ---- चे वर्णन केलेले असतात.  
 अ) पावसाचे ब) जंगलात घडणाऱ्या हालचाली  
 क) पक्षाचे आवाज ड) पाण्याचे
- 12) स्त्रीगीते या मध्ये ---- हा प्रकार अतिशय मुक्तपणे वापरला जातो.  
 अ) श्रमगीते ब) संस्कार गीते  
 क) अंगाई गीते ड) ओवी गीते
- 13) मुलाला निजवण्यासाठी आई ---- या गीतांचा वापर करत.  
 अ) श्रमगीते ब) अंगाई गीते  
 क) ओवी गीते ड) संस्कार गीते
- 14) जुन्या रितीभातीचे वर्णन ज्या गीतांमध्ये केले जाते त्यास ---- असे म्हणतात.  
 अ) बालगीते ब) श्रमगीते  
 क) संस्कार गीते ड) ओवीगीते
- 15) कोणतेही काम करताना अनुकूल वाटावे यांसाठी ---- या गीतांचा वापर केला जातो.  
 अ) श्रमगीते ब) बालगीते  
 क) ओवगीते ड) स्त्रीगीते
- 16) "काळ्या मातीत मातीत टिफण चालते" हे प्रसिद्ध गीत ---- म्हणून प्रचलित आहे.  
 अ) श्रमगीत ब) शेतकरी गीत  
 क) संस्कारगीत ड) ओवीगीत

**प्र.2 खालीलपैकी प्रश्नांची थोडक्यात उत्तरे लिहा. (कोणतेही चार)**

**16**

- अ) ओवगीत कशासाठी गातात हे स्पष्ट करा.  
 ब) भारुड या गीतप्रकारा विषयी थोडक्यात माहिती सांगा.  
 क) लोकसंगीत म्हणजे काय थोडक्यात सांगा.  
 ड) लावणी या गीतप्रकाराचे वर्णन मोकळ्या शब्दांत करा.  
 इ) पोवडा या प्रकाराचे वर्णन तुमच्या शब्दांत करा.  
 ई) श्रमगीता विषयी थोडक्यात माहिती सांगा.

- प्र.3 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणतेही दोन) 16**
- अ) गोंधळ या गीतप्रकाराविषयी सविस्तर चर्चा करा.  
ब) जागरण गोंधळातील दिवट्या नावाचं पात्र आहे त्याची कामगिरी स्पष्ट करा.  
क) निसर्गगीतं आणि स्त्रीगीते या गीतांबद्दल माहिती लिहा.  
ड) धार्मिक गीते म्हणजे काय ते सांगून त्यावर चर्चात्मक टिप्पणी करा.
- प्र.4 खालीलपैकी प्रश्नांची उत्तरे लिहा. (कोणताही एक) 16**
- लोकसंगीताचे भविष्य यावर तुमचे मत स्पष्ट करा.  
किंवा  
लोकसंगीताचे वैशिष्ट्ये लिहा.
- प्र.5 'शास्त्रीय संगीताचा पाया लोकसंगीतावर उभारलेला आहे'. हे वाक्य सविस्तर पणे स्पष्ट करा आणि यावर तुमचे विचार मांडा. 16**

<b>Seat No.</b>	
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Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

सूचना : 1) सर्व प्रश्न अनिवार्य आहेत.  
2) उजवीकडील अंक पुर्ण गुण दर्शवितात.

## 16

- Page 1 of 3

- 10) भारतरत्न लता मंगेशकर यांचा जन्म ——— रोजी झाला.  
 अ) 28 जुन 1929                      ब) 28 जुलै 1929  
 क) 28 ऑगस्ट 1928                      ड) 28 सप्टेंबर 1929
- 11) पं. किशन महाराज ——— या घराण्याचे तबला वादक होते.  
 अ) दिल्ली                      ब) लखनऊ  
 क) अजराडा                      ड) बनारस
- 12) रूपक तालाचा काल कितव्या मात्रेवर आहे?  
 अ) 1                      ब) 2  
 क) 3                      ड) 4
- 13) तबला वादनाचा 'आद्य' घराणा म्हणुन कोणता घराणा ओळखला जातो?  
 अ) दिल्ली                      ब) पंजाब  
 क) लखनऊ                      ड) अजराडा
- 14) खालीलपैकी 6 मात्रेचे ताल कोणते?  
 अ) तीनताल —रूपक                      ब) रूपक—केरवा  
 क) दादरा—खेमटा                      ड) यांपैकी नाही
- 15) तीनतालाचे एकूण खंड किती?  
 अ) 2                      ब) 3  
 क) 4                      ड) 6
- 16) 'धागे नती नक धीन' हे ——— या तालाचे बोल आहेत.  
 अ) रूपक                      ब) तीन ताल  
 क) दादरा                      ड) केरवा

**प्र.2 टिपा लिहा (6 पैकी 4)**

16

- अ) ताल दादरा व ताल खेमटा या दोन तालांमधील साम्य व फरक स्पष्ट करा.  
 ब) बनारस घराण्याचा प्रचार व प्रसार  
 क) पं. जसराज यांची गायन शैली  
 ड) पंजाब घराण्याची वादनशैली  
 इ) ताल केरवा व तीनतालाचा बोलयुक्त  
 ई) पं. भीमसेन जोशी यांची गायकी

**प्र.3 दिर्घोत्तरी प्रश्न (4 पैकी 2)**

16

- अ) भारतरत्न लता मंगेशकर यांचा जीवनकार्य परिचय (जन्म, बालपण, शिक्षण, योगदान, पुरस्कार इ.)  
 ब) दिल्ली घराण्याची वादनशैली बाबत थोडक्यात माहिती द्या.  
 क) खालील मात्रांचे मात्रा, खंड, विभाग, टाळी, काल या अनुसार स्पष्टीकरण द्या.  
 ताल—तीनताल  
 ताल—केरवा  
 ताल—खेमटा  
 ड) भारतरत्न पं. रविशंकर यांची वादनशैली या विषयी माहिती लिहा.

**प्र.4 दिर्घोत्तरी प्रश्न (2 पैकी 1)****16**

अ) तबला वादनातील कोणत्याही दोन घराण्याचे तुलनात्मक अध्ययन करा.  
किंवा

ब) पं. जसराज यांचे जीवनकार्य लिहा.

**प्र.5 दिर्घोत्तरी प्रश्न****16**

उ. बिस्मिल्ला खाँ यांचे जीवनकार्य लिहा.

किंवा

तबला वादनातील बनारस घराण्याविषयी सविस्तर माहिती लिहा.





ड) योग्य की अयोग्य ओळखा.

- 1) अंगिक—मुद्रा
- 2) सात्त्विक—गायन
- 3) वाचिक—संतुलित अवस्था
- 4) आहार्य—रचना

प्र.2 टिपा लिहा

16

- 1) मालविकाग्नीमित्र
- 2) अभिज्ञान शाकुंतलम
- 3) उत्तररामचरित
- 4) दूतघटोत्कच
- 5) स्वप्नवासवदत्ता
- 6) मृच्छकटीकम

प्र.3 खालीलपैकी कोणत्याही दोन प्रश्नांची उत्तरे लिहा.

16

- 1) भरत प्रणीत नाट्यगृहांची रचना मांडा
- 2) वृत्ती म्हणजे काय हे सांगून त्यांचे प्रकार कोणते ते लिहा.
- 3) कालीदासांची नाट्यसृष्टी यावर सविस्तर लिहा.
- 4) भवभूती बद्दल माहिती लिहा.

प्र.4 खालीलपैकी कोणत्याही एका प्रश्नाचे दीर्घ उत्तर लिहा.

16

- 1) संस्कृत रंगभूमीच्या सुवर्णकाळाचे वर्णन करा.
- 2) भारतीय पारंपारिक रंगभूमीच्या ऱ्हासाची कारणे सांगा.

प्र.5 संस्कृत नाट्य परंपरेचा सविस्तर आढावा घ्या.

16

**Seat  
No.**

Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

**सूचना :** 1) सर्व प्रश्न अनिवार्य आहेत.  
2) उजवीकडील अंक पूर्ण गुण दर्शवितात.

16

- 1) डॉ.बाबसाहेब आंबेडकर यांच्या जीवनावरती आधारित चित्रपटामध्ये ——— यांनी भूमिका केली आहे.  
अ) माम्मूट्टी  
ब) रजनीकांत  
क) वेंकटेश  
ड) यापैकी नाही
- 2) चिल्ड्रन्स फिल्म सोसायटी, इंडिया (CFSI) ——— येथे स्थित आहे.  
अ) पुणे  
ब) मुंबई  
क) हैद्राबाद  
ड) दिल्ली
- 3) भारतीय राष्ट्रीय चित्रपट विकास महामंडळ ची स्थापना ——— रोजी झाली.  
अ) 1975  
ब) 1966  
क) 1955  
ड) यापैकी नाही
- 4) अपर्णा सेन यांनी ——— या चित्रपटाद्वारे पदार्पण केले.  
अ) ट्रॉफी  
ब) तीन कन्या  
क) आरंभ  
ड) यापैकी नाही
- 5) विशाल भारद्वाज हे ——— नाहीत.  
अ) दिग्दर्शक  
ब) पटकथा लेखक  
क) संगीतकार  
ड) यापैकी नाही
- 6) ——— हा चित्रपट उमेश कुलकर्णी यांचा पहिला प्रदर्शित झालेला चित्रपट आहे.  
अ) मुंबई-पुणे  
ब) वळू  
क) विहीर  
ड) यापैकी नाही
- 7) ——— हे संगीत दिग्दर्शक सुवर्ण काळाचा भाग नव्हते.  
अ) एस.डी.बर्मन  
ब) नौशाद  
क) शंकर जयकिशन  
ड) यापैकी नाही
- 8) ——— ही अभिनेत्री सुवर्ण काळाचा भाग नव्हती.  
अ) नर्गिस  
ब) नूतन  
क) मधुबाला  
ड) यापैकी नाही

- 9) संहितमध्ये व्हीएफएक्स म्हणजे ---- होय.  
 अ) एक्सवट्रीम क्लोज शॉट                      ब) स्टँडर्ड शॉट  
 क) स्पेशियल इफेक्ट                              ड) कट
- 10) ---- ही अभिनेता चित्रपटातील भूमिकेसाठी योग्य आहे की नाही ते तपासण्यासाठी चित्रित केलेली चाचणी आहे.  
 अ) स्क्रिप्ट टेस्ट                                      ब) स्क्रीन टेस्ट  
 क) व्हिज्युअल टेस्ट                                ड) यापैकी नाही
- 11) कट, कॉपी आणि पेस्ट ही मूलभूत साधने ---- ची आहेत.  
 अ) ध्वनी संकलन                                      ब) ध्वनी रेकॉर्डिंग  
 क) ध्वनी चित्रीकरण                                ड) ध्वनी डबिंग
- 12) शॉट ही संज्ञा ---- मध्ये वापरतात.  
 अ) व्हॉइस रेकॉर्डिंग                              ब) व्हॉइस एडिटिंग  
 क) चित्रीकरण                                        ड) डबिंग
- 13) अनु मलिक हे ---- आहेत.  
 अ) नृत्य दिग्दर्शक                                      ब) संगीत दिग्दर्शक  
 क) कला दिग्दर्शक                                      ड) यापैकी नाही
- 14) ---- प्रसिद्ध कला दिग्दर्शक आहेत.  
 अ) सुहास कामत                                      ब) नितीन देसाई  
 क) विनोद शर्मा                                        ड) यापैकी नाही
- 15) ---- हयाचा वेशभूषेमध्ये समावेश होत नाही.  
 अ) पात्र    ब) प्रसंग  
 क) कथा    ड) यापैकी नाही
- 16) संवादांचे पुन्हा रेकॉर्डिंग ---- म्हणून ओळखले जाते.  
 अ) डबिंग    ब) व्हॉइस ओव्हर  
 क) री-डायलॉग                                        ड) यापैकी नाही

**प्र.2 खालीलपैकी चार प्रश्नांची थोडक्यात उत्तरे लिहा.**

**16**

- अ) अमोल पालेकर यांच्यावरती संक्षिप्त टिपा लिहा.  
 ब) बॉलिवूड विषयी लिहा.  
 क) 'व्ही.शांताराम यांचे भारतीय चित्रपटसृष्टीतील योगदान' या विषयावर लिहा.  
 ड) तरुणावरती पडणाऱ्या चित्रपटांच्या प्रभावाची चर्चा करा.  
 इ) चित्रपटाची भाषा यावरती संक्षिप्त टीप लिहा.  
 ई) 'फिल्म अँड टेलिव्हिजन इन्स्टिट्यूट' या विषयावरती लिहा.

**प्र.3 खालील प्रश्नांची उत्तरे लिहा. (कोणतेही दोन)**

**16**

- अ) चित्रपटांमध्ये गाण्यांचे महत्त्व लिहा.  
 ब) चित्रपट म्हणजे काय?  
 क) अपर्णा सेन यांचे सविस्तर जीवनचरित्र लिहा.  
 ड) बिमल रॉय यांच्या चित्रपटांची वैशिष्ट्ये कोणती आहेत?

- प्र.4 खालील प्रश्नांची उत्तरे लिहा. (कोणताही एक) 16  
‘मराठी चित्रपटांचा इतिहास’ या विषयावर लेख लिहा.  
किंवा  
‘गुरु दत्त’ यांचे जीवन आणि कारकीर्द याविषयी चर्चा करा.
- प्र.5 चित्रपट समीक्षा म्हणजे काय? त्याचे विविध घटक स्पष्ट करा. 16

Seat No.	
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Set **P**

**M.A. (Mass Communication) (Semester - III) (New) (CBCS) Examination:  
Oct/Nov-2022  
Film Studies**

Day & Date: Friday, 17-02-2023  
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternatives from the options.****16**

- 1) \_\_\_\_\_ has acted in a film based on the life of Dr. Babasaheb Ambedkar.
  - a) Mammooty
  - b) Rajanikant
  - c) Venkatesh
  - d) None of these
- 2) Children's Film Society, India (CFSI) based in \_\_\_\_\_.
  - a) Pune
  - b) Mumbai
  - c) Hyderabad
  - d) Delhi
- 3) The National Film Development Corporation of India (NFDC) was founded in \_\_\_\_\_ year.
  - a) 1975
  - b) 1966
  - c) 1955
  - d) None of these
- 4) Aparna Sen made her debut with the film \_\_\_\_\_.
  - a) Trophy
  - b) Teen Kanya
  - c) Arambh
  - d) None of these
- 5) Vishal Bhardwaj is not \_\_\_\_\_.
  - a) Director
  - b) Screen Writer
  - c) Music Composer
  - d) None of these
- 6) \_\_\_\_\_ is the first released movie of Umesh Kulkarni.
  - a) Mumbai-Pune
  - b) Valu
  - c) Vihir
  - d) None of these
- 7) \_\_\_\_\_ music director was not part of the golden era.
  - a) S.D.Burman
  - b) Naushad
  - c) Shankar-Jaikishan
  - d) None of these
- 8) \_\_\_\_\_ actress was not part of golden era.
  - a) Nargis
  - b) Nutan
  - c) Madhubhala
  - d) None of these
- 9) In a script, VFX stands for \_\_\_\_\_.
  - a) Extreme close shot
  - b) Standard shot
  - c) Special effects
  - d) Cut
- 10) \_\_\_\_\_ is a filmed test to ascertain whether an actor is suitable for a film role.
  - a) Script Test
  - b) Screen Test
  - c) Visual Test
  - d) None of these

- 11) Cut, Copy & paste these are basic tools of \_\_\_\_\_.  
a) Sound Editing                      b) Sound Recording  
c) Sound Shooting                  d) Sound Dubbing
- 12) Shot term used in \_\_\_\_\_.  
a) Voice Recording                  b) Voice Editing  
c) Shooting                          d) Dubbing
- 13) Anu Malik is \_\_\_\_\_.  
a) Dance Director                  b) Music Director  
c) Art Director                      d) None of these
- 14) \_\_\_\_\_ is a famous art director.  
a) Suhas Kamat                      b) Nitin Desai  
c) Vinod Sharma                  d) None of these
- 15) \_\_\_\_\_ not includes in the movie drapery.  
a) Character                          b) Situation  
c) Story                                d) None of these
- 16) Re-recording of dialogues is known as \_\_\_\_\_.  
a) Daubing                          b) Voice Over  
c) Re-dialogues                      d) None of these

**Q.2 Answer the following questions. (Any Four)**

16

- Write short note on 'Amol Palekar'.
- Write about Bollywood.
- Write on topic 'V. Shantaram's Contribution to Indian Cinema'.
- Discuss the impact of cinema on youth.
- Write short note on 'Language of cinema'.
- Write on the topic 'Film and Television Institute'.

**Q.3 Answer the following questions. (Any Two)**

16

- Write down importance songs in cinema.
- What is the Cinema?
- Write a detailed biography of Aparna Sen.
- What are the characteristics of Bimal Roy's cinema?

**Q.4 Answer the following questions. (Any One)**

16

'Write an article on the 'History of Marathi Films'.

**OR**

Discuss the life and career of 'Guru Dutta'.

**Q.5** What is film review? Explain its elements and give one example.

16

Seat No.	
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Set **P**

**M.Com (Sem - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**Entrepreneurship Development**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
 2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternatives from the options.****16**

- 1) DIC stands for \_\_\_\_\_.  
 a) Disassembled Industries Centers  
 b) District Industries Collaboration  
 c) District Industrial Centers  
 d) Developing Industries Centers
- 2) Innovation can best be defined as \_\_\_\_\_.  
 a) The generation of new ideas  
 b) The evolution of new ideas  
 c) The opposite of creativity  
 d) The successful exploitation of new ideas
- 3) Why the majority of women are unaware of technological developments?  
 a) Low-risk bearing ability                      b) Low mobility  
 c) need for achievement                      d) Lack of Education
- 4) To provide financial assistance to entrepreneurs the government has set up a number of \_\_\_\_\_.  
 a) financial advisors                      b) financial intermediaries  
 c) industrial estates                      d) Financial institutions
- 5) NSIC (National small industries corporation) \_\_\_\_\_.  
 a) 1953                      b) 1955  
 c) 1957                      d) 1959
- 6) Creativity is \_\_\_\_\_process.  
 a) Imaginative                      b) Productive  
 c) Romanticism                      d) Knowledge
- 7) Social attitude is one of the important problems of a \_\_\_\_\_ Entrepreneur.  
 a) Drone                      b) Adoptive  
 c) Fabian                      d) Women
- 8) A \_\_\_\_\_ is a professional money manager who makes risk investment from a pool of equity capital to obtain a high rate of return on investments.  
 a) Venture capitalist                      b) Entrepreneur  
 c) Businessman                      d) Buyer
- 9) \_\_\_\_\_ Entrepreneurs neither introduce new changes nor adopt new methods innovated by buyers.  
 a) Technical                      b) Fabian  
 c) Induced                      d) Business
- 10) Which of the following factors would not be included in?  
 a) Affiliation Need                      b) Power Need  
 c) Achievement Need                      d) Need for independence



- 11) The third phase of the Project Life Cycle is \_\_\_\_\_.  
a) Development the business plan  
b) Determining the resource required  
c) Identification of a need, problem, or opportunity  
d) Managing the enterprise
- 12) The \_\_\_\_\_ theory of entrepreneurship is based on the degree of inefficiency of use of resources and considers Market Imperfections as opportunities for entrepreneurial activities.  
a) Innovation  
b) High Achievement  
c) X-Efficiency  
d) Profit
- 13) According to Everette Hagen, 'withdrawal of status respect' leads to following behavioural patterns except one \_\_\_\_\_.  
a) Retreatist  
b) Ritualist  
c) Reformist  
d) Rationalization
- 14) Which of these is not a category of external forces that affects a business?  
a) Political force  
b) Technological forces  
c) Economic forces  
d) Socio-economic forces
- 15) Which of these is also known as corporate venturing?  
a) Entrepreneurship  
b) Mergers  
c) Acquisition  
d) None of these
- 16) The process of Entrepreneurship is divided into two parts & they are \_\_\_\_\_.  
a) Idea Generation and Feasibility study  
b) Innovation generation and Distribution Channel  
c) Creativity and Development  
d) Profit and Economic Development

**Q.2 Answer the following. 16**

- a) Elements of business plan  
b) Innovation Theory by Schumpeter

**Q.3 Answer the following. 16**

- a) Concept of Women entrepreneurship and challenges faced by them.  
b) Difference between creativity, invention and innovation.

**Q.4 Answer the following questions. (Any One) 16**

- a) Explain the influence of external factors on entrepreneurship development.  
OR  
b) Explain the concept of entrepreneur and mention the skills and types of entrepreneur.

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Apara's line of business in 1992, was delivering UNIX services to semi-conductor firm, idea was relatively new to the Indian market and very few companies were delivering such services. After a couple of years of struggle in selling UNIX services, Apara had attained a market leadership position in delivering UNIX services to semiconductor firms by 1995. Even as Apara reached its market leadership position, initially, while the semiconductor industry was receptive to Apara, because of the quality of services delivered earlier. There Mr. Sidhu wanted to enter in core IT infrastructure, this was the basis for Apara's foray into the networking and security business in the year 1998. Being a pure IT infrastructure solutions provider, in 2006 we forayed into delivering professional services globally and delivering remote management services in 2007.

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- a) Analyze the case.
- b) Discuss problems faced by Mr. Sidhu while starting Apara.
- c) Which were the entrepreneurial qualities you find in Mr. Sidhu?

**05**  
**05**  
**06**

Seat No.	
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Set **P**

**MCA (Semester - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**Fundamental of Web Designing**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.  
 2) Attempt any three questions from Q. No. 3 to Q. No. 7.  
 3) Figure to right indicate full marks.

**Q.1 A) Multiple choice questions.****10**

- 1) The document's title, document scripts are all contained in the \_\_\_\_\_ section.
  - a) <headi>
  - b) <start head>
  - c) <head>
  - d) <ihead>
- 2) When saving a \_\_\_\_\_ file you should always give it .htm extension.
  - a) Document
  - b) PowerPoint
  - c) HTML
  - d) Word
- 3) \_\_\_\_\_ were both invented by Tim Berners-Lee, who was then working as a computer and networking specialist at a Swiss research institute.
  - a) JavaScript
  - b) HTML and HTTP
  - c) HTML and FTP
  - d) TCP/IP
- 4) The paragraph tag (<p>) is used to delimit entire \_\_\_\_\_ of text.
  - a) Paragraphs
  - b) Lines
  - c) Content
  - d) Body
- 5) Although there are \_\_\_\_\_ predefined levels of headings, you probably will only find yourself using three or four levels in your documents.
  - a) Seven
  - b) Six
  - c) Four
  - d) Five
- 6) The preformatted tag \_\_\_\_\_ causes the HTML client to treat white space literally and not to condense it as it usually would.
  - a) <pre>
  - b) <prefer>
  - c) <pre>
  - d) <pref>
- 7) The <body> element: Often referred to as the \_\_\_\_\_ of the page, this contains the information you actually see in the main browser window.
  - a) Head
  - b) Background
  - c) Body
  - d) Website
- 8) The \_\_\_\_\_ attribute is used to redirect to webpage, where the link should mentioned in source code.
  - a) aref
  - b) Linkref
  - c) href
  - d) arefere
- 9) The \_\_\_\_\_ attribute, indicating the source of the image.
  - a) Src
  - b) Drc
  - c) Irc
  - d) Krc

10) \_\_\_\_\_ are used to create online forms and surveys with multiple question types.

- a) Google documents                      b) Google forms
- c) Google slides                          d) Google drive

**B) Write True / False.**

**06**

- 1) The align attribute is still frequently used with tables.
- 2) Google Drive is the storage space for files online and it's very similar to the hard drive on computer.
- 3) The <caption> element appears directly after the opening <table> tag.
- 4) Google Slide is similar to Microsoft Word.
- 5) The two angle brackets and all of the characters between them are known as a tag.
- 6) Unordered lists, which use a sequence of numbers or letters instead of bullet points.

**Q.2 Answer the following**

**16**

- a) What is Website?
- b) What do you mean by HTML?
- c) Describe Google applications for Education.
- d) What do you mean by WWW?

**Q.3 Answer the following.**

**16**

- a) State and explain in detail five Golden rules of Web in Web Designing and Development.
- b) Discuss in detail structure of HTML forms and its control with suitable example.

**Q.4 Answer the following.**

**16**

- a) What is Internet? Explain in detail various application of Internet.
- b) State and explain types of HTML List with suitable example.

**Q.5 Answer the following.**

**16**

- a) What is Google Slide? Explain how to create Google slide and its various applications?
- b) Discuss in detail HTML Table tag with suitable example.

**Q.6 Answer the following.**

**16**

- a) Discuss HTML Image tag and its attributes with suitable example.
- b) Explain in detail working with text using HTML Font tag and its attribute.

**Q.7 Answer the following.**

**16**

- a) What is mean by Google Site? Discuss in detail components of Google Site.
- b) What is HTML? State and explain basic structure of HTML with suitable example.

Seat No.	
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Set **P**

**M.B.A. (Sem - III) (New) (CBCS) Examination: Oct/Nov-2022**  
**Entrepreneurship Development**

Day & Date: Friday, 17-02-2023  
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
 2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternatives from the options.****16**

- 1) DIC stands for \_\_\_\_\_.  
 a) Disassembled Industries Centers  
 b) District Industries Collaboration  
 c) District Industrial Centers  
 d) Developing Industries Centers
- 2) Innovation can best be defined as \_\_\_\_\_.  
 a) The generation of new ideas  
 b) The evolution of new ideas  
 c) The opposite of creativity  
 d) The successful exploitation of new ideas
- 3) Why the majority of women are unaware of technological developments?  
 a) Low-risk bearing ability                      b) Low mobility  
 c) need for achievement                      d) Lack of Education
- 4) To provide financial assistance to entrepreneurs the government has set up a number of \_\_\_\_\_.  
 a) financial advisors                      b) financial intermediaries  
 c) industrial estates                      d) Financial institutions
- 5) NSIC (National small industries corporation) \_\_\_\_\_.  
 a) 1953                      b) 1955  
 c) 1957                      d) 1959
- 6) Creativity is \_\_\_\_\_process.  
 a) Imaginative                      b) Productive  
 c) Romanticism                      d) Knowledge
- 7) Social attitude is one of the important problems of a \_\_\_\_\_ Entrepreneur.  
 a) Drone                      b) Adoptive  
 c) Fabian                      d) Women
- 8) A \_\_\_\_\_ is a professional money manager who makes risk investment from a pool of equity capital to obtain a high rate of return on investments.  
 a) Venture capitalist                      b) Entrepreneur  
 c) Businessman                      d) Buyer
- 9) \_\_\_\_\_ Entrepreneurs neither introduce new changes nor adopt new methods innovated by buyers.  
 a) Technical                      b) Fabian  
 c) Induced                      d) Business
- 10) Which of the following factors would not be included in?  
 a) Affiliation Need                      b) Power Need  
 c) Achievement Need                      d) Need for independence

- 11) The third phase of the Project Life Cycle is \_\_\_\_\_.  
a) Development the business plan  
b) Determining the resource required  
c) Identification of a need, problem, or opportunity  
d) Managing the enterprise
- 12) The \_\_\_\_\_ theory of entrepreneurship is based on the degree of inefficiency of use of resources and considers Market Imperfections as opportunities for entrepreneurial activities.  
a) Innovation  
b) High Achievement  
c) X-Efficiency  
d) Profit
- 13) According to Everette Hagen, 'withdrawal of status respect' leads to following behavioural patterns except one \_\_\_\_\_.  
a) Retreatist  
b) Ritualist  
c) Reformist  
d) Rationalization
- 14) Which of these is not a category of external forces that affects a business?  
a) Political force  
b) Technological forces  
c) Economic forces  
d) Socio-economic forces
- 15) Which of these is also known as corporate venturing?  
a) Entrepreneurship  
b) Mergers  
c) Acquisition  
d) None of these
- 16) The process of Entrepreneurship is divided into two parts & they are \_\_\_\_\_.  
a) Idea Generation and Feasibility study  
b) Innovation generation and Distribution Channel  
c) Creativity and Development  
d) Profit and Economic Development

**Q.2 Answer the following. 16**

- a) Elements of business plan  
b) Innovation Theory by Schumpeter

**Q.3 Answer the following. 16**

- a) Concept of Women entrepreneurship and challenges faced by them.  
b) Difference between creativity, invention and innovation.

**Q.4 Answer the following questions. (Any One) 16**

- a) Explain the influence of external factors on entrepreneurship development.  
OR  
b) Explain the concept of entrepreneur and mention the skills and types of entrepreneur.

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