

- B) Write True/False** **06**
- 1) Sulfonate are classified into four main chemical types.
 - 2) The nitrating agent is a Nucleophilic reactant.
 - 3) Apparatus of special grades of stainless steel is generally used for commercial scale esterification units.
 - 4) The fluorine derivatives is well established in the fields of refrigerants and aerosol.
 - 5) Polyethylene terephthalate is prepared by a transesterification reaction.
 - 6) $-\text{NO}_2$ is an example of $-I$ effect as it causes reduction in reactivity.
- Q.2 Answer the following.** **16**
- a) Oxidation of methanol
 - b) Nitrate resins
 - c) Photohalogenation
 - d) Manufacture of vinyl acetate
- Q.3 Answer the following.** **16**
- a) What is nitration? Discuss the process equipment for technical nitration.
 - b) Explain the Continuous manufacturing process of nitrobenzene
- Q.4 Answer the following.** **16**
- a) What is sulphonation? What are the workings up procedures in sulphonation?
 - b) Discuss the mechanism of aromatic sulphonation.
- Q.5 Answer the following.** **16**
- a) Discuss the manufacturing process of polyethylene.
 - b) Describe the various methods of polymerization.
- Q.6 Answer the following.** **16**
- a) Describe the manufacturing process of monochloroacetic acid.
 - b) Explain with flow chart the manufacturing process of vinyl chloride from acetylene.
- Q.7 Answer the following.** **16**
- a) Give an account of liquid phase oxidation with oxidizing compound.
 - b) Explain the manufacturing of ethyl acetate.

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M.Sc. (Semester - I) (New) (CBCS) Examination: Oct/Nov - 2022
(ENTREPRENEURSHIP)
Microbial Technology – I

Day & Date: Tuesday, 14-02-2023
 Time: 03:00 PM To 06:00 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) _____ microbial control methods does not actually kill microbes or inhibit their growth but instead removes them physically from samples.
 - a) Filtration
 - b) Desiccation
 - c) Lyophilisation
 - d) Nonionizing radiation
- 2) The effectiveness of chemical disinfectants has been compared to that of _____.
 - a) Ethyl alcohol
 - b) Phenol
 - c) Bleach
 - d) Formaldehyde
- 3) _____ is used for killing only certain types and not all microorganisms.
 - a) Pasteurization
 - b) Incineration
 - c) Boiling water
 - d) Fractional Sterilization
- 4) Differential staining procedure works on the principle that _____.
 - a) Different types of cells will take up stain differently
 - b) All types of cells take up stain equally
 - c) Different cells will appear the same after staining
 - d) The bacteria will be stained while viruses will remain unstained
- 5) In pour-plate method, the medium should be maintained at _____ temperature at the time of inoculation
 - a) 37 degree C
 - b) 67 degree C
 - c) 45 degree C
 - d) 0 degree C
- 6) _____ is a Complex media for fungal growth.
 - a) Nutrient broth
 - b) Luria-Bertani media
 - c) Potato Dextrose Agar media
 - d) MacConkey's Agar media
- 7) _____ cannot be cultivated on laboratory synthetic media.
 - a) Viruses
 - b) Bacteria
 - c) Algae
 - d) Fungi
- 8) Bacteria producing acetyl-methyl carbinol from pyruvic acid can be identified by _____.
 - a) MR-test
 - b) VP-test
 - c) Citrate test
 - d) Indole production test
- 9) _____ stain is used for negative staining.
 - a) Nigrosine
 - b) Cystal Violet
 - c) Methylene Blue
 - d) ZNCF

- 10) _____ is the basic function of the fermenter.
- To sterilize the medium
 - To recover the product
 - To provide optimum growth conditions to organisms and obtain the desired product
 - To purify the product

B) Fill in the blanks**06**

- _____ is used to pick a single bacterial cell from a mixed culture.
- The non-ionising radiations used to control microorganisms are _____.
- _____ indicates the number of bacterial colonies growing on a non-specific solid nutrient agar after a given period of incubation.
- _____ reactions are a set of four useful reactions that are commonly employed in the identification of members of family Enterobacteriaceae.
- Cold sterilization is carried using _____.
- _____ is mordant used in Gram staining.

Q.2 Answer the following**16**

- Starch hydrolysis test
- Living media
- Membrane filter technique
- Maintenance of stock cultures

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

- Describe in detail sterilization by heat.
- Write on method of evaluation of disinfectants.

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

- Discuss in detail methods of isolation of pure culture using solid media.
- Explain in detail direct methods of cell enumeration.

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

- Discuss Gram staining with respect to: Principle, Mechanism, and Significance.
- What are essential Components of media? Describe types of media depending upon the nature of ingredients in them.

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

- Describe the design of typical fermentation vessel with well labelled diagram.
- What is screening of microorganism? Discuss primary screening with suitable example.

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

- Write in detail on exploitation of microorganism and their products.
- Describe methods of waste Disposal.

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**M.Sc. (Semester - I) (New) (CBCS) Examination: Oct/Nov-2022
(ENTREPRENEURSHIP)
Agricultural Biotechnology - I**

Day & Date: Wednesday, 15-02-2023
Time: 03:00 PM To 06:00 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 is the biofertilizer present in the roots of legumes?
 - a) Anabaena
 - b) Rhizobium
 - c) Azospirillum
 - d) All of the above
- 2) What is VAM?
 - a) Bioinsecticide
 - b) Bioherbicide
 - c) Endomycorrhiza
 - d) Ectomycorrhiza
- 3) Which aquatic fern is an excellent biofertilizer?
 - a) Salvinia
 - b) Azolla
 - c) Marsilea
 - d) Pteridium
- 4) Which of the following is produced by fermenting soybeans?
 - a) Yogurt
 - b) Kombucha
 - c) Miso
 - d) Jiangs
- 5) Sauerkraut is made from which vegetable?
 - a) A cauliflower
 - b) A potato
 - c) A cabbage
 - d) A tomato
- 6) Which of the following is used as a biocontrol agent against caterpillars of butterflies?
 - a) *Trichoderma*
 - b) *Streptococcus*
 - c) *Bacillus thuringiensis*
 - d) *Saccharomyces cerevisiae*
- 7) Which bacteria produce Biogas by anaerobic digestion?
 - a) Alkaligens
 - b) Ammonifying
 - c) Acidifying
 - d) Methanogens
- 8) Baculo viruses attack which of the following organisms?
 - a) Arthropods
 - b) Mammals
 - c) Fishes
 - d) Plants
- 9) Which is the important enzyme for the production of high fructose corn syrup (HFCS)?
 - a) Glucose oxidase
 - b) Glucose isomerase
 - c) Pyruvate kinase
 - d) Glucose phosphatase
- 10) What are the small molecular iron chelators that are produced by microbes and whose most notable function is to sequester iron from the host and provide this essential metal nutrient?
 - a) Chromophores
 - b) Siderophores
 - c) Osmophores
 - d) Chlorophores

- B) Fill in the blanks.** **06**
- 1) _____ enzyme catalyses the hydrolysis of the fats and oils.
 - 2) _____ bacterial species are used for acid production in fermented milk products.
 - 3) _____ Enzyme is used for production of cheese from the milk.
 - 4) _____ is a free living aerobic and non-photosynthetic nitrogen fixing bacterium.
 - 5) Symbiotic association between Fungi and roots of higher plants is called as _____.
 - 6) Microorganisms that kill specific insects are called as _____.

- Q.2 Answer the following.** **16**
- a) Explain Phosphate Solubilizing Bio-fertilizers.
 - b) Write on Sauerkraut production and nutritive value.
 - c) Discuss bio-fungicides.
 - d) Explain Quality control of Bio fertilizers as per FCO (Fertilizer Control Order).

- Q.3 Answer the following.**
- a) Write on types and production of Rhizobium Bio-fertilizers. **08**
 - b) Explain various steps in production of cheese. **08**

- Q.4 Answer the following.**
- a) Explain classification and general account of microbes used as Bio-insecticides. **08**
 - b) Write on need, sources and applications of enzymes in production of high fructose syrup and Fruit juice industry. **08**

- Q.5 Answer the following.**
- a) Describe types and production of Azotobacter and Azospirillum Bio-fertilizers. **08**
 - b) Write on production of Soy sauce and Bread. **08**

- Q.6 Answer the following.**
- a) Explain various steps and microorganisms involved in biogas production. **08**
 - b) Write sources and applications of enzymes in production of Baking industry and Oils and fat processing. **08**

- Q.7 Answer the following.**
- a) Write on industrial production of Siderophores and Gibberellins. **08**
 - b) Explain Probiotic Foods w. r. t. Definition, types, microorganisms and health benefits. **08**

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**M.Sc. (Semester - I) (New) (CBCS) Examination: Oct/Nov-2022
(ENTREPRENEURSHIP)
Entrepreneur Skill- I**

Day & Date: Thursday, 16-02-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) Question 1 and 2 are compulsory.
2) Attempt any Three from Q.3 to Q.7
3) Figures to the right indicate full marks.

Q.1 A) Choose Correct Alternative. 10

- 1) Nature of managerial economics is/are _____.
 - a) Decision making
 - b) Forward planning
 - c) Decision making and Forward
 - d) None of these
- 2) Hicks and Allen believed that utility:
 - a) Can be measured in ordinal numbers
 - b) Cannot be expressed
 - c) Can be measured in cardinal numbers
 - d) Cannot be measured
- 3) Substitution effect takes place when price of the commodity becomes:
 - a) relatively cheaper
 - b) relatively dearer
 - c) Stable
 - d) both (a) and (b)
- 4) _____ is a part of every game theory model.
 - a) Players
 - b) Payoffs
 - c) Strategies
 - d) All of the above
- 5) The sensitivity of the change in quantity demanded to a change in price is called _____.
 - a) Law of demand
 - b) Demand schedule
 - c) Elasticity of demand
 - d) Utility
- 6) A _____ happens when the price consumers pay for a product or service is less than the price they're willing to pay
 - a) consumer surplus
 - b) Dumping
 - c) consumer deficit
 - d) None of these
- 7) Charging a high price during demand peaks, and a lower price during off-peak time periods is known as _____.
 - a) limit pricing
 - b) peak load pricing
 - c) transfer pricing
 - d) Dumping
- 8) When a company or a country exports its products at a price lower than its domestic price is known as _____.
 - a) limit pricing
 - b) peak load pricing
 - c) transfer pricing
 - d) Dumping

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M.Sc. (Semester - I) (New) (CBCS) Examination: Oct/Nov - 2022
(ENTREPRENEURSHIP)
Entrepreneur Skill – II

Day & Date: Thursday, 16-02-2023
 Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) Q. 1 & Q. 2 are compulsory.
 2) Solve any 3 questions out of Q. NO 3 To 7.
 3) Figures to the right indicate full marks.
 4) Draw neat labeled diagrams wherever necessary.

Q.1 A) Choose the correct alternative and rewrite the sentences again. 10

- 1) Business Economics is also known as _____.
 a) Managerial economics
 b) Economics for executives
 c) Economic analysis for business decision
 d) All the above
- 2) Product differentiation is an important feature of _____.
 a) Perfect competition b) Monopolistic competition
 c) Monopoly d) None of these
- 3) Managerial utility function is expressed as: _____.
 a) $u = s(s, m, i)$ b) $u = s(s, m)$
 c) $u = f(s, m, i)$ d) $u = f(s, m, i)$
- 4) At what point is the maximum profit of a firm _____.
 a) $MR > MC$ b) $MR = MC$
 c) $MR < MC$ d) None of these
- 5) _____ included in Primary Sector.
 a) Land b) Forest
 c) Mining d) All these
- 6) _____ included in National Income.
 a) Transfer Earnings
 b) Sale proceeds of Shares and Bonds
 c) Black Money
 d) None of the Above
- 7) Macro-economics is the study of: _____.
 a) Principle or Theories of national income
 b) Consumer's theory
 c) Production theory
 d) None of these
- 8) Production enterprises are divided in _____.
 a) Two sectors b) Three sectors
 c) Four sectors d) Five sectors
- 9) Macro Economics Studies: _____.
 a) Employment opportunities in the economy
 b) Theory of supply of Commodities
 c) Price of wheat in the market
 d) Elasticity of demand in scooter

- 10) General Price Level is studied in: _____
- a) Micro Economics
 - b) Macro Economics
 - c) Both (a) and (b)
 - d) None of these

B) True or false. (One Mark Each)**06**

- 1) $GNP = GDP + Depreciation$
- 2) $NNP = GNP + Depreciation$
- 3) $GNP_{MP} = GDP_{MP} + \text{Net Factor Income from Abroad}$
- 4) Microeconomics studies the theory of firm.
- 5) Scarcity of resources arises only in poor countries.
- 6) Demand means want or desire.

Q.2 Answer the following**16**

- 1) Tariff Analysis
- 2) Inflation analysis
- 3) National Income
- 4) Price elasticity

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

- 1) Explain technological change and production decisions of firms.
- 2) Explain theory of consumer choice.

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

- 1) Explain Baumol's sales maximization model.
- 2) Explain Game Theory of Firms?

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

- 1) Explain Managerial Theory of Firms.
- 2) Explain Special Pricing Techniques in detail.

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

- 1) Explain Business Cycle in detail.
- 2) Explain laws of return in detail.

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

- 1) Explain Demand estimation and forecasting in detail.
- 2) Explain operative aspects of macroeconomic policies.

Seat No.	
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**M.Sc. (Semester - IV) (New) (CBCS) Examination: Oct/Nov-2022
(ENTREPRENEURSHIP)
Project Planning and Execution**

Day & Date: Monday, 20-02-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) Q. No. 1 and 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to 7
3) Draw neat labeled diagrams wherever necessary.
4) Figure to right indicate full marks.
5) Use of log table and calculators is allowed.

Q.1 A) Multiple choice questions.

10

- 1) Project is _____ endeavor.
 - a) Routine
 - b) Temporary
 - c) Unending
 - d) Continuous
- 2) Project management is helpful to _____.
 - a) Individuals
 - b) Businesses
 - c) Government
 - d) All the above
- 3) _____ is an important element in the project planning cycle.
 - a) Project objective
 - b) Project idea
 - c) Project identification
 - d) Project selection
- 4) First step in project planning:
 - a) Setting project goals
 - b) Project deliverables
 - c) Project schedule
 - d) Supporting plans
- 5) In the _____, information on actual cost, time and performance is compared with these estimates.
 - a) project implementation process
 - b) control process
 - c) planning process
 - d) none of the above
- 6) In resource allocation, the resources are allocated to a project in order that the _____ are attained.
 - a) Goals
 - b) Objectives
 - c) Both a & b
 - d) none of the above
- 7) In project scheduling, resources are allocated so that project objectives are attained within a _____.
 - a) sensible time span
 - b) lavish time
 - c) excessive time
 - d) none of the above
- 8) Resources refers to:
 - a) Manpower
 - b) Machinery
 - c) Materials
 - d) All the above
- 9) _____ is a systematic method to improve the value of goods or products and services by using an examination of function.
 - a) Value engineering
 - b) Project cost monitoring
 - c) Financial review
 - d) none of the above

- 10) The entire process of a project may be considered to be made up on number of sub process placed in different stage called the _____.
- a) Technical key resources
 - b) Work key structure
 - c) Work Breakdown Structure (WBS)
 - d) none of the above

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

- 1) During project planning, required documentation is created to ensure successful project completion.
- 2) Quality assurance is an umbrella activity.
- 3) In project planning phase, the project schedule is developed.
- 4) A project diary is a written record of significant activities, events or processes that occur during the life of a project.
- 5) Scope creep is a situation in which the initial size or scope of a project begins to gradually increase.
- 6) The audit is usually conducted by internal employee.

Q.2 Answer the following**16**

- a) Explain need of project management.
- b) Discuss about project cash flow.
- c) Define Value engineering.
- d) What are the goals of project implementation?

Q.3 Answer the following.

- a) Explain reasons for project overrun.
- b) Discuss the characteristics of project management.

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

- a) Explain the four-step process of project planning.
- b) Explain project scheduling techniques.

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

- 1) Mention the advantages of using the PERT analysis.
- 2) Explain objective of project audit.

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

- 1) Discuss the concept of CPM in detail.
- 2) Explain Pre-requisites for successful project implementation.

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

- 1) Explain in detail multi-project scheduling.
- 2) Discuss need and importance of Work Break Down Structure.

08**08**

Seat No.	
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**M.Sc. (Semester - IV) (New) (CBCS) Examination: Oct/Nov-2022
(ENTREPRENEURSHIP)
Research Methodology**

Day & Date: Wednesday, 22-02-2023
Time: 03:00 PM To 6:00 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 from given below. 10

- 1) Who defined "Research" as "systematized effort to gain new knowledge"?
 - a) Tom & Zerry
 - b) Redman and Mory
 - c) F.W. Taylor
 - d) Ross Taylor
- 2) Which of the following is the Objective of the Research?
 - a) To become familiar with a phenomenon
 - b) To test a hypothesis of a causal relationship between variables
 - c) To determine the frequency with which something occurs or with it is associated with something else.
 - d) All of the above
- 3) A hypothesis is a
 - a) Tentative statement whose validity is still to be tested
 - b) Supposition which is based on the past experiences
 - c) Statement of fact
 - d) All of the above
- 4) A null hypothesis is
 - a) hypothesis of no difference
 - b) Hypothesis that assigns value of zero to the variable
 - c) Hypothesis of zero significance
 - d) None of the above
- 5) The advantage of sampling is
 - a) time-saving
 - b) capital-saving
 - c) increased accuracy
 - d) Both 'A' and 'B'
- 6) The advantages of random sampling is that
 - a) It is free from personal biases
 - b) It produces reasonably accurate results
 - c) It is an economical method of data collection
 - d) All of the above
- 7) Which of the following is a step of research design?
 - a) Defining the problem and formulating a hypothesis
 - b) Collecting data
 - c) Drawing inferences from the data
 - d) All of the above
- 8) Which of the following is a non-probability sampling method?
 - a) Simple random sampling
 - b) Systematic sampling
 - c) Cluster sampling
 - d) Quota sampling

- 9) The Data of research is, generally
 - a) Qualitative only
 - b) Quantitative only
 - c) Both 'A' and 'B'
 - d) Neither 'A' nor 'B'
- 10) Ethical principle is available in which report
 - a) Belmont Report
 - b) Finance report
 - c) Research Report
 - d) None of the above

B) Answer the following. 06

- 1) Action research is a type of _____
- 2) _____ has a great impact on the mind of the researcher.
- 3) _____ is the first step in a research process.
- 4) In the purposive method of sampling design, items are selected according to _____.
- 5) A researcher uses statistical techniques in his problem to confirm_____
- 6) Usually which type of questions is asked during interviews?

Q.2 Answer the following 16

- 1) Explain important aspects of a questionnaire.
- 2) State objectives of research
- 3) Explain research design
- 4) Describe significance of research

Q.3 Answer the following. 16

- 1) What do you mean sample design? What points should be taken into consideration by researcher in developing a research design for the research project.
- 2) Explain the procedure of selecting a random sample.

Q.4 Answer the following. 16

- 1) Briefly describe the different steps involved in research process.
- 2) Examine the merits and limitations of the observation method in collecting data.

Q.5 Answer the following. 16

- 1) Why probability sampling is generally preferred in comparison to non-probability sampling?
- 2) Under what circumstances stratified random sampling design is considered appropriate?

Q.6 Answer the following. 16

- 1) Why tabulation is considered essential in a research study? Narrate the characteristics of a good table.
- 2) Describe fully the techniques of defining a research problem.

Q.7 Answer the following. 16

- 1) Describe the different types of research, clearly pointing out the difference between an experiment and a survey.
- 2) Explain the significance of a research report and narrate the various steps involved in writing such report.

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

Computer Application in Management

Day & Date: Thursday, 23-02-2023
Time: 03:00 PM To 06:00 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) Multiple choice questions.

10

- 1) The only language which the computer understands is _____.
a) Assembly Language b) Binary Language
c) BASIC d) C Language
- 2) RAM stands for _____.
a) Random Access Memory b) Regular Access Memory
c) Read Access Memory d) Random Access Magnet
- 3) The brain of any computer system is _____.
a) ALU b) Memory
c) CPU d) Control unit
- 4) The word computer comes from _____.
a) compute b) compote
c) copute d) calculator
- 5) The numbers on the left side of the spreadsheet indicate:
a) Rows b) Columns
c) Table d) None of the above
- 6) The files that are created with Spreadsheet software are called:
a) Package b) Program
c) Worksheet d) Spreadsheet
- 7) The arranging of data in a logical sequence is called:
a) Sorting b) Classifying
c) Reproducing d) Summarizing
- 8) Mathematical calculations in a spreadsheet are called:
a) Words b) Labels
c) Formulas d) Values
- 9) FTP stands for:
a) File transfer protocol b) File transmission protocol
c) Form transfer protocol d) Form transmission protocol
- 10) Which is not the browser:
a) Internet Explorer b) Mozilla
c) Google d) Opera

B) Write true or false.

06

- 1) E-mail stands for easy mail.
- 2) The first page that you normally view at a website is home page.

- 3) In a computer, most processing takes place in monitor.
- 4) Picture is not a valid data type in MS Access.
- 5) The Auto Form Wizard is the quickest and easiest way to create a form in MS access.
- 6) In MS Access, Reports are used primarily for printing selected database information.

Q.2 Answer the following	16
1) Components of Computer Systems	
2) Functions in Excel	
3) Features of MS Access	
4) Functions of Operating System	
Q.3 Answer the following.	
1) Explain security tools in internet.	08
2) Features of MS Access	08
Q.4 Answer the following.	
1) Report design in MS Access	08
2) Explain types of Operating System.	08
Q.5 Answer the following.	
1) Explain Statistical functions in MS Excel.	10
2) Explain elements of a database.	06
Q.6 Answer the following.	
1) Discuss popular operating systems and mention their features.	10
2) What are the offences according to Information Technology Act, 2000?	06
Q.7 Answer the following.	
1) What are the ten field types in Access?	08
2) Explain security issues in E-commerce.	08