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Ν	I.Sc. (Semester	- I) (New) (CBCS) Examination: Oct/I	Nov - 2022
		ENVIRONMENTAL SCIENCE	
	Fund	amentals of Environmental Science	

Day & Date: Monday, 13-02-2023 Time: 03:00 PM To 06:00 PM

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Instructions: 1) Q. No. 1 and 2 are compulsory.

- 2) Attempt any three questions from Q. 3 to 7
- 3) Figures to the right indicate full marks.

### Q.1 A) Choose the correct alternatives from the options.

- The atmospheric greenhouse effect is produced mainly by the \_\_\_\_\_.
  - a) Absorption and re-emission of visible light by the atmosphere
  - b) Absorption and re-emission of ultraviolet radiation by the atmosphere
  - c) Absorption and re-emission of infrared radiation by the atmosphere
  - d) Absorption and re-emission of visible light by clouds
- 2) Salinization is \_\_\_\_\_
  - a) Accumulation of salts in water
  - b) Accumulation of salts in soil
  - c) Accumulation of salts in body
  - d) Accumulation of salts in animals
- 3) Ramsar Convention refers to the conservation of \_\_\_\_\_.
  - a) Deserts b) Wetlands
  - c) Agriculture lands d) Forest land
- 4) Water vapour is\_\_\_\_
  - a) A gas b) A cloud droplet
  - c) A rain drop d) A snowflake
- 5) \_\_\_\_\_is biotic component of ecosystem.
  - a) Edaphic factor b) Living organism
  - c) Climatic factors d) All of these
- 6) The apex of age pyramid of a stationary population is?
  - a) Very narrow b) Broad
  - c) Not much differences d) Equal to base
- 7) Which of the ecological Pyramid is always upright?
  - a) Pyramid of biomass b) Pyramid of energy
  - c) Pyramid of number d) All of these
- 8) When was the first Earth Day observed?
  - a) 22 April 1992 b) 22 April 2001
  - c) 22 April 1970 d) 22 April 1982
- 9) Which of the following is not affected by the Phenomena of El Nino?
  - a) Paddy b) Maize
  - c) Castor d) Tea Plantation

Max. Marks: 80

		<ul> <li>Movement.</li> <li>I) It was launched from Gopeshwar in Chamoli district, Uttarakhand in 1973.</li> <li>II) The movement was to prevent illegal cutting of trees in the Himalayan region (Uttarakhand). Code: <ul> <li>a) Only I</li> <li>b) Only II</li> <li>c) Both I and II</li> <li>d) Neither I nor II</li> </ul> </li> </ul>				
Q.1	B)	<ol> <li>Fill in the blanks OR Write True / False-</li> <li>The main component of greenhouse gases is H2S. True / False</li> <li>The pollutants that decomposable and manageable in nature are termed as biodegradable pollutants. True / False</li> <li>The ozone layer is present in the thermosphere. True / False</li> <li>CNG stands for Compressed Natural Gas. True / False</li> <li>Animals whose primary source of food is based on plants are known as omnivores. True / False</li> <li>Hydrometer device is used to measure the atmospheric humidity. True / False</li> </ol>	06			
Q.2	<ul> <li>Answer the followings.</li> <li>a) Explain importance of celebration of world environment day.</li> <li>b) Write short note on environmental awareness and education.</li> <li>c) Write a brief note on natural resource depletion.</li> <li>d) Discuss the effects and causes of overpopulation.</li> </ul>					
Q.3	<b>Ans</b> a) b)	wer the followings. Write a note on environmental segments. What is pollution? Explain soil pollution in detail.	16			
Q.4	Ans a) b)	wer the followings. Write note on present status of environment and future scenarios. Comment on sustainable development growth and role of youth in sustainable development.	16			
Q.5	Ans a) b)	wer the followings. Write a note on impact of cultural change, industrial societies on the environment. Explain the term acidification. Causes and its effects in detail.	16			
Q.6	<b>Ans</b> a) b)	wer the followings. Define the term environmental science and write note on environmental science and technology. Explain the environmental movements and write note on Narmada movem	<b>16</b> ent.			
Q.7	Ans a)	wer the followings. Explain the in detail causes and impacts of Tsunami with case study.	16			

10) Consider the following statement (s) is/are related to the Chipko

b) Explain in detail water pollution due to industries.

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### M.Sc. (Semester - I) (New) (CBCS) Examination: Oct/Nov - 2022 (ENVIRONMENTAL SCIENCE) Environmental Chemistry & Instrumentation

Day & Date: Tuesday, 14-02-2023 Time: 03:00 PM To 06:00 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] Multiple choice question.

- 1. Photochemical smog normally does not contain \_\_\_\_
  - a) Chlorofluorocarbonsc) Ozone
    - Ozone d) Acrolein
- 2. Depiction of the ozone layer is caused due to \_\_\_\_\_
  - a) Ferrocene
  - c) Freons
- 3. Find the incorrect statement \_\_\_\_
  - a) BOD value of clean water is less than 5 ppm
  - b) Drinking water pH should be between 5.5-9.5
  - c) Carbon, sulphur and nitrogen oxides are the most widespread air pollutants

b)

- d) Dissolved oxygen concentration below 5 ppm is ideal for the growth of fish
- 4. Find the secondary pollutant among these \_
  - a) PAN b) N2O
  - c) SO2 d) SO2
- 5. The reaction responsible for the radiant energy of the Sun is \_\_\_\_\_
  - a) Nuclear fission b) Nuclear fusion
  - c) Chemical reaction d) Combustion
- 6. Alum's capacity to purify water is due to \_\_\_\_\_
  - a) Softens hard water
  - d) Pathogenic bacteria get destroyed
  - c) Impurities' coagulation
  - d) It improves taste

a)

c)

### 7. The coldest region of the atmosphere \_\_\_\_

- Troposphere b) Thermosphere
- Stratosphere d) Mesosphere
- 8. Which of the oxide of nitrogen is not a common pollutant?
  - a) N2O5 b) N2O
  - c) NO d) NO2

Max. Marks: 80

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e to \_\_\_\_

Peroxyacetyl nitrate

- b) Fullerenes
- d) Polyhalogens



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- 9. The compound essential for the process of photosynthesis has this element \_\_\_\_\_
  - a) Ca b) Ba
  - c) Fe d) Mg
- 10. In the air, N2 and O2 occur naturally but they do not react to form oxides of nitrogen because \_\_\_\_\_
  - a) Oxides of nitrogen are unstable
  - b) Catalyst is required for the reaction
  - c) The reaction is endothermic
  - d) N2 and O2 do not react with each other

### Q.1 B] Fill in the blanks

- The air in Earth's atmosphere is made up of approximately \_\_\_\_\_\_ percent nitrogen and \_\_\_\_\_\_ percent oxygen.
- 2. Atmosphere, hydrosphere, lithosphere and biosphere are the \_\_\_\_\_\_ of environment.
- 3. Mole fraction is defined as the \_\_\_\_\_\_of a solution divided by the total number of moles of all of the components in the solution.
- 4. A colloid is a mixture and its components can be separated by the technique known as \_\_\_\_\_.
- 5. The role of an indicator in a reaction is to detect the \_\_\_\_\_ of the titration.
- 6. The primary objective of titration is to find the \_\_\_\_\_ of an unknown acid or base.

### Q.2 Answer the following.

- A) What are the environmental segments? Discuss it in detail about environmental segments.
- B) Discuss in detail the process for formation of inorganic and organic particulate matter.
- C) Discuss the monitoring techniques and methodology for water.
- D) Discuss role and importance of analytical techniques in analysis of environmental samples.

### Q.3 Answer the following.

- A) Explain saturated and unsaturated hydrocarbon, Discuss colloidal chemistry.
- B) Explain the thermochemical and photochemical reaction in the atmosphere.

### Q.4 Answer the following.

- A) Discuss organic and inorganic chemicals and their reactions in the environment.
- B) Give the detail account on Titrimetry with its examples.

### Q.5 Answer the following.

- A) Which are toxic chemicals in environment discuss it in detail.
- B) Briefly explain various monitoring methods for water analysis.

### Q.6 Answer the following.

- A) Draw a neat sketch of AAS (Atomic Absorption Spectrophotometer) and Write the informative note on spectrophotometry.
- B) Discuss role and importance of analytical techniques in analysis of environmental samples.

### Q.7 Answer the following.

- A) Write a critical note on pesticides with its types.
- B) Give an account on soap, detergent, drugs and dyes..

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	Μ	.Sc. (	Semester - I) (New) (CBCS) Examination: Oct/Nov-2022 (ENVIRONMENTAL SCIENCE)	
		C	omputer Applications in Environmental Science	
Day Time	& Dat : 03:0	te: We 00 PM	Inesday, 15-02-2023 Max. Marks: 8	0
Instr	uctio	o <b>ns:</b> 1) 2) 3)	Question no. 1 and 2 are compulsory. Attempt any three questions from Q. No. 3 to Q. No. 7. Figure to right indicate full marks.	
Q.1	A)	Multi 1)	Ie choice questions.1Personal computer (PC) is a type ofa) Microcomputerb) Mini computerc) Super computerd) Mainframe computer	0
		2)	Control unit is part of a) Cabinet b) Monitor c) CPU d) None of these	
		3)	RAM stands for a) Random Access Memory b) Rewrite Available Memory c) Read Access Memory d) Ready to Access Memory	
		4)	Who is the father of computer? a) James Gosling b) Charles Babbage c) Dennis Ritchie d) Bjarne Stroustrup	
		5)	<ul> <li>Which of the following is the correct abbreviation of Computer?</li> <li>a) Commonly Occupied Machines Used in Technical and Educational Research</li> <li>b) Commonly Operated Machines Used in Technical and Environmental Research</li> <li>c) Commonly Oriented Machines Used in Technical and Educational Research</li> <li>d) Commonly Operated Machines Used in Technical and Educational Research</li> </ul>	
		6)	Which of the following language does the computer understand? a) Only C language b) Only assembly language c) Only Binary language d) Only Basic language	
		7)	Which of the following is the smallest unit of data in a computer? a) Bit b) KB c) Nibble d) Byte	
		8)	Which of the following unit is responsible for converting the data received from the user into a computer understandable format? a) Output unit b) Memory unit c) Input unit d) Arithmetic & Logic unit	
		9)	Which of the following are physical devices of a computer? a) Hardware b) Software	

b) d) c) System software Package SLR-GI-3

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		10)	a) c)	allows user to se Draft Sent	end a file wi b) d)	ith	n e-mail. Messenger Attachments	
	B)	Fill in 1) 2) 3) 4) 5) 6)	the Del EEI CD Mai (Tru Sup Har	e blanks OR True / F eted emails are store PROM stands for Ele RW symbol is used n electronic part in fi ue / False) percomputers contain d copy of a documer	False. ed in Trash. ectrically Era for re-writea rst generation thousands nt is printed	(Tas ab or	True / False) able. (True / False) le CD. (True / False) n computer was Transistor. of microprocessors. (True / False) n printer. (True / False)	06
Q.2	An: a) b) c) d)	<b>swer th</b> Write a Explair Write s Explair	e fo no n ce hor n DE	Ilowing te on pendrive. ntral processing unit t note on uses of spr BMS in databases.	with neat la eadsheet.	ıb	elled diagram.	16
Q.3	An: a) b)	<b>swer th</b> Explair Write a	e fo n sc n no	Ilowing. ope, tools and applic te on applications of	ations of bic computer in	oi N I	nformatics. Environmental Science.	16
Q.4	An: a) b)	<b>swer th</b> Explair Write ir	<b>e fo</b> n in n de	Ilowing. detail environmental tail standard softwar	modelling. e's for repre	es	enting various data.	16
Q.5	An: a) b)	<b>swer th</b> What d What is	<b>e fo</b> lo ye s the	l <b>lowing.</b> ou mean by graphs? e role of applications	Explain pro	ос а	edure of preparation graphs. pps in environmental science?	16
Q.6	An: a) b)	<b>swer th</b> Write s Write in	<b>e fo</b> igni n de	<b>llowing.</b> ficance of informatio etail data communica	n technolog tion and net	y tw	in protection of environment. orks.	16
Q.7	An: a)	swer the Discus	<b>e fo</b> s in	llowing. detail scope of bioin	formatics.			16

**b**) Describe the history of information technology.

	Μ	l.Sc. (	Semester - I) (New) (CBC (ENVIRONMEN) Environmental	S) Ex [AL \$ Geo	xamination: Oct/Nov-2022 SCIENCE) Climate	
Day Time	& Da e: 03:	te: Thu 00 PM	ursday, 16-02-2023 To 06:00 PM		Max. Marks	3: 80
Instr	uctio	ons: 1) 2 3	Question no. 1 and 2 are comp Attempt any three questions fr Figure to right indicate full mai	oulsor om Q <sup>.</sup> ks.	y. . No. 3 to Q. No. 7.	
Q.1	A)	<b>Multi</b> 1)	<ul> <li>ple choice questions.</li> <li>Causes of Acid rain are?</li> <li>a) Coal thermal power plant</li> <li>c) Vehicular exhaust</li> </ul>	b) d)	Burning of fossil fuel All the above	10
		2)	<ul><li>Which is the measures of the a deter vertical motion and vertical different types of weather systema)</li><li>Latent heat</li><li>C) Thermal inversion</li></ul>	atmos xal mo ems a b) d)	phere's tendency to encourage or otion is directly correlated to and their severity. Thermal conversion Atmospheric stability	
		3)	Which of the following gas not a) water vapors c) CH <sub>4</sub>	contri b) d)	ibute to the greenhouse effect? Nitrogen CO <sub>2</sub>	
		4)	Control discontinuity is presen earth. a) Mantle and Asthenosphere b) Upper and lower mantle c) Upper and lower crust d) Upper and lower core	t in be e	etween and layer of	
		5)	Metal extraction process in wh and / or heat generating subst heated at high temperature in a) Reducing c) Roasting	ich ar ances an en b) d)	n ore (usually mixed with purifying s such as limestone and coke) is closed furnace is known as Fluxes Smelting	
		6)	The atmospheric state at a par cloudiness, dryness, sunshine a) precipitation c) climate	ticula, wind b) d)	r place and time as regards heat, l, rain etc. are known as weather none of these	
		7)	In a condition when Environme Lapse Rate (DALR) which of the observed. a) Looping c) Fanning	ntal L ne foll b) לו	Lapse Rate (ELR)>> Dry Adiabatic owing plume behavior would be Lofting Conning	
		8)	The rate at which temperature	decre	eases with increasing altitude is	

known as \_\_\_\_\_. a) Thermocline

- b)
- Sounding Temperature slope c) Lapse rate d)

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a) Absolute humidity b) Specific humidity c) Relative humidity d) All of these 10) Consider the following: a) Eurasian plate b) Indo-Australian plate c) Cocos plate Nazca plate d) Which of the tectonic plates given above is *I* are not the major plate? a) 1 and 3 only b) 2 and 4 only c) 4 only 3 and 4 only d) Fill in the blanks OR Write True / False. B)

Which of the following will decrease in a rising parcel of air?

- Monsoons are local seasonal winds. (True / False) 1)
- Doldrum belt lies between 10°N and 10° S latitudes. (True / False) 2)
- As per Indian standard, the safe permissible limit of Arsenic in potable 3) water is 0.05 mg/L. (True / False)
- 4) Crust forms, outermost solid part of the earth. (True / False)
- The rock type affects the rate of weathering. (True / False) 5)
- The damage caused by acid rain is due to corrosive nature of acid 6) rain. (True / False)

### Q.2 Answer the following

9)

- a) Write short note on significance of wind rose diagram.
- **b)** Importance of carbon cycle
- c) Explain Troposphere.
- d) Discuss the plate tectonics theory.

### Q.3 Answer the following.

- a) Elaborate Acid rain and discuss the effects of acid rain on environmental components.
- b) Explain Global Climate Change and role of man in it.

Q.4	Answe	r the fo	ollowing.			
	. –				-	

- a) Describe precipitation and explain its various forms. b) Explain in detail cyclones and its types. Q.5 Answer the following.
  - a) Discuss the nature and composition of the earth's atmosphere.
  - b) Write note on dry and wet adiabatic lapse rate.

### Q.6 Answer the following. a) Explain the term EMR, Solar radiations and terrestrial radiations.

b) Discuss the environmental lapse rate and humidity in detail.

### Q.7 Answer the following.

- a) Discuss in detail mountain formation.
- **b)** Write significance of drinking water standards in maintaining the quality of drinking water.

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M.Sc. (Semester - II) (New) (CBCS) Examination: Oct/Nov-2022 (ENVIRONMENTAL SCIENCE) Biodiversity and Conservation								
Day & Time:	Date: 11:00	Monday,20-02-2023 Max. AM To 02:00 PM	Marks	: 80				
Instru	ctions	<ul> <li>s: 1) Q. Nos. 1and 2 are compulsory.</li> <li>2) Attempt any Three questions from Q.No.3 to Q.No.7</li> <li>3) Figures to the right indicate full marks.</li> </ul>						
Q.1	<b>A)</b> 1)	<ul> <li>Choose correct alternative. (MCQ)</li> <li>What is the correct abbreviation for IUCN?</li> <li>a) International Union for Conservation of Nuts</li> <li>b) International Union for Conservation of Nature</li> <li>c) International Union for Conservation of Natural Habitat</li> <li>d) International Union for Conservation of Numbers</li> </ul>		10				
	2)	What is the conservation within the natural habitat known as?a) In-situ conservationb) Ex-situ conservationc) Ex-vivo conservationd) In-vivo conservation						
	3)	Dodo isa) Critically endangeredb) Endangeredc) Extinctd) Rare						
	4)	Alpha diversity is presenta) within communityb) in ranges of communitiesc) outside communitiesd) all of these						
	5)	The area where two major communities meet and blend together istermed asa) Ecotypeb) Biotypec) Ecotoned) Meeting place						
	6)	Salim Ali Centre for Ornithology and natural history is located ata) Bombayb) Thiruvananthapuramc) Coimbatored) Madras						
	7)	The state having the largest forest cover in India? a) Andhra Pradesh b) Orissa c) Maharashtra d) Chhattisgarh						
	8)	The great Indian Rhino has its natural home in a) Kaziranga National Park b) Sundarbans c) Corbett National Park d) Kanha National Park						
	9)	In year, the convention of Biodiversity enters into force. a) 29 December, 1983 b) 29 December,1963 c) 29 December, 1973 d) 29 December,1993						
	10)	Biodiversity of which organism is more in Eastern Ghat in comparisor Western Ghat? a) Reptilia b) Amphibians	n to					

C) Aves

- b) Amphibians
- d) Mammals

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	<ol> <li>Zoo is not an example of an In-situ conservation strategy.</li> <li>Diversity between two communities is known as In-situ conservation.</li> <li>The highest number of species in the world is represented through fungi.</li> <li>Those species called whose members are few and live in a small geographical area are known as rare species.</li> <li>20% of the total oxygen in earth's atmosphere is released by the Amazon forest.</li> <li>Number of individuals in an area and species richness determines biodiversity.</li> </ol>	
Q.2	Answer the following.1a) Explain the strategies of biodiversity conservation.1b) Write short note on Chipko movement.1c) Write note on community diversity.1d) Write note on Bio-piracy.	6
Q.3	Answer the following.11) Write an account on Ramsar Convention.2) Explain role of IUCN in world biodiversity conservation.	6
Q.4	Answer the following.1a) Describe the characteristics of Biosphere reserves? Discuss any two Biosphere reserves in India.1b) Write a note on wild-life management and describe its types.	6
Q.5	Answer the following.1a) What do you mean by biodiversity index? With suitable example describe the Simpson's Index?1b) Write an account on mangroves ecosystem in India.	6
Q.6	Answer the following.1a) Discuss the protected area network with national park, sanctuaries and sacred groves.1b) Explain the terms in detail extinct, endangered and vulnerable species.	6
Q.7	Answer the following.1a) Discuss the species, genetic and pattern diversity in detail.1b) Explain the major forests of India and distribution of wild life.	6

B)

Write True / False.

		M.S	. (Sem-II) (New) (CBCS) Examination: Oct/Nov-2022 (ENVIRONMENTAL SCIENCE) Water and wastewater Engineering	
Day Time	& Da : 11:	te: Tue 00 AM	sday, 21-02-2023 Max. Marks: 80 To 02:00 PM	)
Instr	uctio	ons: 1) 2] 3]	Question no. 1 and 2 are compulsory. Attempt any three questions from Q. No. 3 to Q. No. 7. Figure to right indicate full marks.	
Q.1	A)	<b>Multi</b> 1)	ble choice questions.10Which of the following type of treatment methods are used for municipal and industrial wastewater?10a) main streamb) slow ratec) overflowd) rapid filtration	נ
		2)	<ul> <li>Which of the following type of wastewater treatment process is used for treating wastewater or industrial wastewater using aeration and biological flocs?</li> <li>a) Biological aeration</li> <li>b) Activated sludge process</li> <li>c) Anaerobic digestion</li> <li>d) Aeration</li> </ul>	
		3)	<ul> <li>Which of the following is called as the wastewater from different sources like bathroom, kitchens, and washbasins?</li> <li>a) discharge</li> <li>b) sillage</li> <li>c) garbage</li> <li>d) sewage</li> </ul>	
		4)	<ul> <li>What is the wastewater flow in a sewer system during the periods of dry weather with minimum infiltration called as?</li> <li>a) Wet flow b) Dry weather flow</li> <li>c) Dry flow d) Wet weather flow</li> </ul>	
		5)	What percentage of solids does wastewater contains?a) 0.1%b) 1%c) 0.5%d) 5%	
		6)	When alum is added to the wastewater containing Calcium ions which compound is formed as a precipitate? a) $Al_2(SO_4)_3$ b) $Al(OH)_3$ c) $CaCO_3$ d) $Ca(OH)_2$	
		7)	What is the lowest wastewater flow in hospitals?a) 40 lpcdb) 900 lpcdc) 700 lpcdd) 50 lpcd	
		8)	How many forms of nitrogen are present in wastewater? a) 5 b) 4 c) 3 d) 2	
		9)	Assume in a sample of wastewater around 60% TSS is removed by primary sedimentation without chemical addition. Calculate the mass of TSS removed for the following data.	

- a) 132 Kg/d c) 102 Kg/d
- 100 Kg/d 130 Kg/d b) d)

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- 10) What is the maximum concentration of total solids present in wastewater?
  - a) 850 mg/L b) 1200 mg/L
  - c) 720 mg/L d) 350 mg/L

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

- 1) The average temperature of sewage in India is 40° C. **True / False.**
- 2) The grit chambers of sewage treatment plants, are generally cleaned after 40 days. **True / False**
- 3) The spacing of bars for perforations in coarse screens used for the treatment of sewage is 50 mm. **True / False**
- 4) In very first stage of decomposition of the organic matter in sewage ammonia is formed. **True / False**
- 5) Cement concreate sewers are only suitable if non-scouring velocity is between 2.5 to 3.0 m/sec. **True / False**
- 6) The coagulant which is generally not used for treating the sewage is alum. **True / False**

### Q.2 Answer the following.

- a) Write a note on Grit Chamber.
- b) Write principle and applications of PACT.
- c) Write a note on sewage treatment plant (STP).
- d) Explain in brief the designing aspects of RBC's.

### Q.3 Answer the following.

- a) What are the demerits of open land filling process of industrial solid waste management practices?
- b) Explain the difference between an anaerobic reactor and an anoxic reactor with its merits and demerits.

### Q.4 Answer the following.

- a) What is chlorination? Why then is the breakpoint concentration used rather than a lesser concentration?
- b) Explain the process and design aspects of Upflow Anaerobic Sludge Biological (UASB) digester.

# Q.5Answer the following.<br/>a) Write note on wet air oxidation.<br/>b) Explain in detail sludge thickening.16Q.6Answer the following.<br/>a) Explain the various method of filtration.16

b) Write in detail principles, applications, and designing aspects of Activated Sludge Process.

### Q.7 Answer the following.

- a) Explain the various methods of water and wastewater disinfection.
- **b)** Write principles, applications and designing aspects of clarifier.

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M.Sc. (Semester - II) (New) (CBCS) Examination: Oct/Nov - 2022 (ENVIRONMENTAL SCIENCE) Remote Sensing, GIS, GPS in Environmental Science

Day & Date: Wednesday, 22-02-2023 Time: 11:00 AM To 02:00 PM

Instructions: 1) Q. No. 1 & 2 are compulsory.

- 2) Attempt any three questions from Q. No. 3 to 7
- 3) Figures to the right indicate full marks.

### Choose the correct alternatives from the options. Q.1 A)

- GIS deals with kind of data. 1)
  - a) Numeric data b) c) Spatial data d)
- What is metadata? 2)
  - a) It is 'data about data'
  - c) It is 'metrological' data d) It is 'Contour' data
- 3) Mapmakers use GIS to
  - a) Store geographic information
  - b) View geographic information
  - c) Use geographic information
  - d) Store, use, view geographic information
- 4) TIN stands for \_
  - a) Triangular Irregular Network
  - b) Traffic Internet Network
  - **Temporal Interest Network** C)
  - d) Temperature Interface Node
- GIS stands for 5)

a)

- a) Geographic Information System
- b) Generic Information System
- c) Geological Information System
- d) Geographic Information System
- 6) By 'spatial data' we mean data that has
  - a) Complex values Positional values b)
  - c) Graphic values d) **Decimal values**
- is the example of 'geographic fields'? 7)
  - Air temperature **Barometric pressure** b)
  - c) Elevation d) All of the above
- What is the orbital distance of a geostationary satellite? 8)
  - a) 26,000 km b) 26,000 m
  - 36,000 km 36,000 m c) d)

Max. Marks: 80

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- Binary data
- Complex data
- It is 'Oceanic' data b)

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	a)	Number of pixels	b)	Number of bands
	c)	Frequency	d)	Height
10)	Re a) b) c) d)	flectance is known as the ra radiant energy reflected by atmospheric absorption to energy received to energy emitted energy to atmosph	tio of a su total lost	 bstance to the energy it receives sun energy
	u)	chillica chorgy to atmospi		

Spatial resolution expresses

### Q.1 B) Write True or False.

9)

- Remote sensing is a technique of collection of information about an 1) object, without a physical contact.
- An aerial photograph, in broad terms, is any photograph taken from 2) the air.
- Vector and Raster data models used in GIS. 3)
- 4) Forest fire mapping is an application of GIS.
- QGIS is a proprietary software. 5)
- One of the application of GIPS is to calculate the area. 6)

Q.2	Answer the following.				
	a)	What is Platforms? Write any two types of Platforms.			
	b)	Spatial data query			
	c)	Nominal and Ordinal data			
	d)	Ratio and Interval data			
Q.3	An	swer the following.	16		
	a)	What is resolution? Write types of resolution.			
	ЪŚ	Define concerns Munite to man of concerns			

Define sensors. Write types of sensors. b)

Q.4	An	swer	the	follo	owing.	
		_				 

- Examine the Utility of Geographic Information system. a)
- What is Vector and Raster data? Write types of Vector and Raster data. b)

### Q.5 Answer the following.

- Write History of Remote Sensing. a)
- Describe any two components of GIS. b)

Q.6	Answer	the	following.	
-----	--------	-----	------------	--

- Concept of Connectivity, containment and contiguity. a)
- What do you mean by Electromagnetic spectrum? Describe its different b) regions with the help of diagram.

Q.7	Answer the following.				
	a)	Describe the stages of acquisition of data in remote sensing.			

b) Differentiate between push broom and whiskbroom scanners.

Seat No.						Set	Ρ
Ν	M.S	Sc. (S	em	ester - III) (New) (		S) Examination: Oct/Nov -2022	
		E	Env	ironmental Pollut	ion,	Monitoring and Control	
Day & Time:	. Da 11:	ate: Mo 00 AN	onda /I To	y, 13-02-2023 02:00 PM		Max. Mark	s: 80
Instru	icti	ons: 1 2 3	l) All 2) Fię 3) Dr	questions are compu gures to the right indic aw neat labeled diago	ulsory cate f rams	ull marks. wherever necessary.	
Q.1	A)	<b>Cho</b> 1)	<b>ose</b> Wh a) c)	the correct alternati ich of the following is CO <sub>2</sub> CO	<b>ves f</b> seco b) d)	<b>rom the options.</b> ndary pollutant? PAN SO <sub>2</sub>	10
		2)	The a) c)	e TAJ MAHAL at Agra Sulphur dioxide Hydrogen	n may b) d)	be damaged by Chorine Oxygen	
		3)	Chl a) c)	orofluorocarbon is us Air Conditioners Refrigerator	ed in b) d)	 Perfumes All of the above	
		4)	NA a) b) c) d)	AQS stands for National Ambient Air National Atmospheri National Ambient Air National Ambient Wa	 C Qua C Air Qua ater C	lity Standards Quality Standards ntity Standards Quality Standards	
		5)	Wh a) c)	ich of the following is Ozone Acid Rain	the c b) d)	ause of soil pollution? Aerosol Particulates	
		6)	Eff∉ a) c)	ect of modern agricult acidification salinization	ure o b) d)	n soil is due to erosion weathering	
		7)	The kinc a) c)	e "Municipal Solid Wa d of solid waste? Toxic Non-hazardous	ste" i: b) d)	s the term used to describe which Radioactive Hazardous	
		8)	Wh a) b) c) d)	at is toxic waste? Substances those ar quantity Substances which w Substances those ar Substances those ar quantity	e poi ork a e not e poi	sonous even when it taken in small s an antidote for toxic materials poisonous sonous only when it taken in large	

- 9) What is a permissible noise level for commercial area during day time?
  - a) 65dB b) 80dB
  - c) 70dB d) 60dB
- 10) Water pollution is caused due to \_\_\_\_\_.
  - a) Sewage and other wastes
  - b) Industrial effluents
  - c) Agricultural discharges
  - d) All of the above

### Q.1 B) Write True or False.

- 1) The depletion in the Ozone layer is caused by Carbon dioxide.
- 2) The high amount of E. coli in water is the indicator of sewage pollution.
- 3) Noise pollution reduces concentration, productivity and can cause mental and emotional distress.
- 4) Coral reefs are the examples of fresh water ecosystem.
- 5) Becquerel is the standard international unit of radioactivity.
- 6) Natural processes such as volcanic eruption or geothermal activities under the ocean or land could also increase thermal pollution.

Q.2	Ans a) b) c) d)	wer the followings. Describe electrostatic precipitators Explain Biostimulation. Effects of noise pollution on human health Major sources of solid waste	16
Q.3	Ans a)	wer the followings. Write a note on Air Pollution Impacts on environment, plants and human health.	16
	b)	Describe Control of inorganic emissions & industrial clean-up technology.	
Q.4	Ans a) b)	wer the followings. Explain Classification of water bodies, also physicochemical and biological properties of fresh water. Describe recycling of waste water & recycling of industrial effluent after treatment.	16
Q.5	Ans a) b)	wer the followings. Effects of noise pollution on human health and control for noise pollution. Explain carbon sequestration.	16
Q.6	Ans a) b)	wer the followings. Explain waste minimization technologies How to measurement of radiation & control of radiation pollution	16
Q.7	Ans	swer the followings.	16

- a) Describe National air monitoring programme.
- **b)** Explain Chemical and biological effects of thermal pollution.

Set No.			Set	Ρ
	M.S	Sc. (S	Semester - III) (New) (CBCS) Examination: Oct/Nov-2022 (ENVIRONMENTAL SCIENCE)	
Day 8 Time:	Date 11:0	e: Tue 0 AM	esday, 14-02-2023 Max. Marks To 02:00 PM	s: 80
Instru	uctio	n <b>s:</b> 1) 2) 3)	Q. Nos. 1 and 2 are compulsory. Attempt any three questions from Q. No. 3 to Q. No. 7 Figure to right indicate full marks.	
Q.1	A)	<b>Choo</b> 1)	ose correct alternative. (MCQ)A non-directed physico-chemical interaction between heavy metalions and microbial surface is calleda) Biotransformationb) Bioconversionc) Biosorptiond) Biomining	10
		2)	Chlorella Sp. are widely used in the removal ofa) organic wastesb) hydrocarbonsc) heavy metalsd) all of these	
		3)	<ul> <li>Microorganisms remove metals by</li> <li>a) adsorption and complexation</li> <li>b) adsorption and precipitation</li> <li>c) adsorption and volatilization</li> <li>d) all of these</li> </ul>	
		4)	<ul> <li>Which of the following microbe is widely used in the removal of industrial waste?</li> <li>a) Trichoderma sp.</li> <li>b) Aspergillus niger</li> <li>c) Pseudomonas putida</li> <li>d) All of these</li> </ul>	
		5)	<ul> <li>Ex-Situ bioremediation involves the</li> <li>a) degradation of pollutants by microbes directly</li> <li>b) removal of pollutants and collection at a place to facilitate microbial degradation</li> <li>c) degradation of pollutants by genetically engineered microbes</li> <li>d) none of the above</li> </ul>	
		6)	<ul> <li>Environmental biotechnology involves</li> <li>a) the use of microbes to clean up the environment</li> <li>b) Bioremediation</li> <li>c) the study of benefits and hazards associate with GMMs</li> <li>d) All of these</li> </ul>	
		7)	The use of living microorganisms to degrade environmental pollutantsis calleda) micro-remediationb) nano-remediationc) bio-remediationd) all of these	
		8)	The process of extracting metals from ore bearing rocks is calleda) bio-extractionb) microbial extractionc) bio-filtrationd) bioleaching	_·

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		9)	The process of converting environmental pollutants into harmless products by naturally occurring microbes is called a) Ex-situ bioremediation b) Intrinsic bioremediation c) Extrinsic bioremediation d) none of these	
		10)	<ul> <li>The rate of degradation and microbes' resistance to toxic pollutants remain better when the</li> <li>a) mixed cell population is used</li> <li>b) the Individual cell is used</li> <li>c) mixed cell population along with metals is used</li> <li>d) individual cell along with metal is used</li> </ul>	
	B)	Fill i 1)	n the blanks OR Write True/False. In response to infectious pathogens, plant produce phytoalexins, its immunization type of plant protection mechanism.	06
		2)	a) True b) Faise Phytoremediation means use of plastic for bioremediation.	
		3)	A) True b) False A) True b) False	
		4)	Mycology is the study of fungi. a) True b) False	
		5)	The name of smooth dieses is given to those produced by Ustilago because fungus produces black sooty spore masses.	
		6)	a) Faise Xanthomonas is the gram-negative bacterial plant pathogen. a) True b) False	
Q.2	Ans a) b) c) d)	wer th Defin What Expla Write	<b>he following.</b> he the term biomagnification. t is bioleaching? ain in short antagonism. e short note on microbial growth phases.	16
Q.3	Ans a) b)	<b>wer tl</b> Expla Discu	<b>he following.</b> ain in detail role of water microorganisms. uss which biotreatment is given for landfill leachate.	16
Q.4	Ans a) b)	<b>wer tl</b> Expla Discu	<b>he following.</b> ain the techniques used for bioremediation of air environment. uss mycopesticides and explain its role?	16
Q.5	Ans a) b)	wer tl Expla Elabo bene	<b>he following.</b> ain the Ex-Situ and In-Situ techniques of decontamination of ground water prate what are microbial pesticides? Explain its types with environmental fits?	16
Q.6	Ans a) b)	<b>wer tl</b> Discu Expla	<b>he following.</b> uss the concept of biotreatment of metals? ain the scope of environmental biotechnology?	16
Q.7	Ans a) b)	<b>wer tl</b> Expla Write	<b>he following.</b> ain the concept of transgenic plant and its significance? a detailed note on biofertilizer for biocontrol?	16

Seat No.						Set	Ρ
I	M.Sc. (	Semester	- III) (New) ( (ENVIRONM	CBCS) E	Examination: Oct/Nov-20 SCIENCE)	22	
	Sta	atistical M	ethods in E	arth & E	nvironmental Science		
Day & I Time: 1	Date: We 1:00 AM	ednesday, 18 I To 02:00 P	5-02-2023 M		Max.	Marks	: 80
Instruc	tions: 1 2 3	) Question n ) Attempt an ) Figure to ri	o. 1 and 2 are y three questic ght indicate fu	compulso ons from Q II marks.	ry. . No. 3 to Q. No. 7.		
Q.1 A	) Mult	iple choice	questions.				10
	1)	In frequence width of the	y distribution t class is 10. T	he mid val he lower li	ue of the class is 60.5 and the mit of the class is	<del>}</del>	
		a) 62.5 c) 55.5		b) d)	56.5 65.5		
	2)	The runs s the standa	cored by a bate rd deviation is	sman in 5 	ODIS are 31, 97, 112, 63 and	12,	
		a) 24.79 c) 25.79		b) d)	23.79 26.79		
	3)	Find the m 11, 13, 13,	ode of the call 17, 19, 23 and	received o 25.	n 7 consecutive days,		
		a) 11 c) 17		b) d)	13 23		
	4)	lf the proba a) 0.18 c) 0.14	ability of heatin	g an objec b) d)	t is 0.8, find the variance? 0.16 0.12		
	5)	Variance o a) 0 c) X	f a constant X	is b) d)	X/2 1		
	6)	The media replaced by a) 43 c) 53	n of the data 1 y 52 what will t	9, 25, 59, 3 be the new b) d)	35, 48, 30, 31, 32 and 51. If 25 median? 35 45	5 is	
	7)	In case of o to be used a) range	open ended cla in	asses, an a b)	appropriate measure of disper mean deviation	sion	
		c) quartile	e deviation	d)	standard deviation		
	8)	Which of th data?	e following dia	igram can	not be drawn from quantitative	Э	
		a) Flow c c) Pie cha	hart art	b) d)	Scattered diagram Histogram		
	9)	Variables a magnitude	are arranged ei s to determine	ther ascer	iding or descending order of		
		a) mean c) mediar	ı	b) d)	mode range		

Г

- 10) Median height can be easily identified from: Line diagram
  - a) Bar diagram
  - c) Ogive curve

Pie chart

### B) State True or False.

- Cumulative frequency is of four types. (True / False) 1)
- The age and sex structure of population may be described by 2) population pyramid. (True / False)
- Correlation coefficient tends to lie between -1 to +1. (True / False) 3)
- Chi square test is a known parametric test not based on any summary 4) values of populations. (True / False)

b)

d)

- Median is measure of central tendency representing the average of a 5) data set. (True / False)
- Hypothesis is an idea or assumption or concept that can be tested by 6) experimentation. (True / False)

### Q.2 Answer the following

- a) Define and explain random sampling.
- **b)** What is cluster analysis?
- c) Explain scattered diagram methodology.
- d) What are the applications of probability?

### Q.3 Answer the following.

- a) What are various measures of central tendency? Discuss their merits and demerits.
- b) Calculate mode and median for the data related to the internode length (cm) of a rice variety.

Internode length (cm)	0-10	10-20	20-30	30-40	40-50	50-60
No. of plants	10	16	22	32	26	20

### Q.4 Answer the following.

- a) Explain multiplication rule of probability. What is the probability of the heads on 2 or 3 successive tosses?
- b) Define mean, median and mode. Calculate mean, median and mode from the given ungrouped data. 15.8, 13.3, 15.2, 13.3, 17.8, 8.1 and 18.9.

### Q.5 Answer the following.

- a) Distinguish between probability and non-probability sampling methods.
- b) What do you mean by sample and sampling? Describe merits of it.

### Q.6 Answer the following.

- a) Write an account on cumulative frequency curve.
- b) Discuss various methods of studying correlation.

16

16

16

16

06

### Q.7 Answer the following.

- a) Discuss type I and type II error in testing of hypothesis.b) Write a significance of graphic representation and prepare sub-divided bar graph by using following data.

Stream	No of Students						
	2009	2010	2011	2012			
Arts	50	70	75	82			
Science	200	250	300	320			
Commerce	100	120	130	150			

# M.Sc. (Sem-IV) (New) (CBCS) Examination: Oct/Nov-2022 (ENVIRONMENTAL SCIENCE)

Environmental Virology, Toxicology and Bio-safety Day & Date: Monday, 20-02-2023 Time: 03:00 PM To 06:00 PM

Seat

No.

### 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 correct alternatives. (MCQ)

- Who is the father of virology? 1)
  - a) Martinus Beijerinck Dmitri Ivanovsky b)
  - c) Frederick Twort
- 2) Which of the following organelle prevents the entry of viruses in plant cells?

d)

John Ellerman

- a) Cell wall b) Golgi bodies
- Mitochondria c) Plasma membrane d)
- 3) A toxic substance produced by biological system is specially referred to as a
  - a) toxicant b) xenobiotic toxin
  - c) poison d)
- Allergic contact determatitis is \_ 4)
  - a) a not immune response caused by a direct action of an agent on the skin
  - b) an immediate type- I hypersensitivity reaction
  - c) a delayed type IV hypersensitivity reaction
  - d) characterized by the intensity of reaction being proportional to the elicitation dose.
- 5) Which of the following toxicity can occur due to single exposure?
  - a) Acute toxicity Sub-acute toxicity b)
  - c) Sub-chronic toxicity d) Chronic toxicity
- Which of the following was banned under the delaney clause of the 6) food additive amendment of 1958?
  - a) Butylated hydroxytoluene b) Sulfamethazine
    - c) Cyclamate d) Phytoestrogens
- 7) Lead presence of in water can cause \_\_\_\_\_ to the human being.
  - a) Kidney damage b) Eye disease
  - c) Hair falling d) Minamata disease
- Which of the following is a pollutant from automobile exhausts that 8) affects the nervous system?
  - a) Copper b) Cadmium
  - c) Mercury d) Lead
- 9) Natural source of Polycyclic Aromatic Hydrocarbons (PAHs) is \_\_\_\_\_. Anaerobic bacteria
  - a) Root exudates c) Aerobic bacteria
- b) d) Grass fires

Max. Marks: 80

10

		10)	Ela a) c)	pidaes are Musculotoxic Nontoxic	b) d)	Neurotoxic Vasculotoxic	
	B)	Write 1) 2) 3) 4) 5) 6)	Fac sar 12: Wa PP Mic The Sw Inc to t	<b>Le / False.</b> Ce shield PPE is mandato nple for COVID-19 PCR. L°c is the most appropriat ste. E is possible protective e croscopic slides and cove e disease of meadivisna h ine. ubation period of rabies is ravel from its port of entry	ory while e tempe quipmer rslips arc nas beer s influen y to the (	collecting nasopharyngeal rature of autoclaving biomedical it. e this item is considered as sharp n reported in sheep, cattle and ced by the distance the virus has CNS.	06
Q.2	Ans a) b) c) d)	swer the following. Write note on structures of virus. Write classification of toxic material. Write note on LD50. Discuss in short: Disinfection.					16
Q.3	Ans a) b)	<b>swer the following.</b> What are personal protective equipment? Write its advantages. Write note on Impacts caused by heavy metals on aquatic ecosystem.					
Q.4	Ans a) b)	swer the following. Explain the procedure to evaluate LC50 for toxicity. How the toxicants affect the ecosystem and environment.					16
Q.5	Ans a) b)	<b>swer th</b> Write a Explai	<b>ie fo</b> a de n in	<b>bllowing.</b> etailed note on industrial t detail acute toxicity and o	oxicants chronic t	and hazardous materials. oxicity.	16
Q.6	Ans a) b)	<b>swer th</b> Explai Explai	<b>ne fo</b> n in n in	<b>bllowing.</b> detail 'No Observed Effe detail biosafety levels an	ct Conce d risk gr	entration' (NOEC). oup.	16
Q.7	Ans a) b)	<b>swer th</b> Discus What i	<b>le fo</b> ss ir s m	<b>bllowing.</b> I detail which hazards are eant by occupation healtl	e associa h? Which	ited with chemical industry?	16

				a policy, Acts, and		intental Management Oyste		
ay me	& Da e: 03:	te: Tue 00 PM	esda I To	ay, 21-02-2023 06:00 PM		Max. Mark	(s: 80	
st	ructio	<b>ons:</b> 1) 2 3	) Qu ) Att ) Fig	estion Nos.1 and 2 are empt any three questio jure to right indicate ful	compulso ons from Q. I marks.	ry. No. 3 to Q. No. 7.		
.1	A)	Choose correct alternative. (MCQ)1)The world environmental day is celebrated ona)November 14b)June 5c)December 1d)August 15						
		2)	The ma a) c)	e provision of environm de under Article 27-B (h) Article 21 – B	ental prote b) d)	ection in the constitution were Article 5-A Article 48-A & Article 51 - A (g)		
		3)	The a) c)	e Stockholm Conferenc 1980 1972	ce was held b) d)	d in 1973 1975		
		4)	UN a) b) c) d)	ICED stands for United Nations Confe United Nations Conve United Nations Confe Union Nations Confer	 rence on E ention on E rence on E ence on Er	nvironment and Development nvironment and Development nergy and Development nvironment and Development		
		5)	Re a) c)	d data book is publishe IUCN BNHS	ed by b) d)	 WWF WHO		
		6)	The a) c)	e forest (conservation) 1986 1980	Act was er b) d)	nacted in the year 1974 1972		
		7)	The in I a) c)	e first of the major envir ndia was Water Act Environmental Act	ronmental   b) d)	protection act to be promulgated Air Act Noise pollution Act		
		8)	The a) c)	e water act contains? 4 Chapters 7 Chapters	b) d)	5 Chapters 8 Chapters		
		9)	The Cer a) c)	e power to declare an a ntral Government is Wi Section 38 Section 18	area as a S Idlife (Prote b) d)	anctuary or National park of ection) Act is under Section 39 Section 27		
		10)	Mo a)	ntreal Protocol was dev Ozone layer protection	veloped for n b)	 Water conservation		

### Seat No.

M.Sc. (Sem-IV) (New) (CBCS) Examination: Oct/Nov-2022 (ENVIRONMENTAL SCIENCE)

Environmental policy Acts and Environmental Management System

Da Ti

### Q

- c) Soil conservation

d) Air pollution

# SLR-GI-15

Set

Ρ

06

		1)	The COP-15 of the convention on Biological Diversity was held in		
		2)	There are six more Ramsar sites were added to Uttar Pradesh in		
		3) 4)	January, 2020. The Wildlife Protection Act was enforced in India in the year 1982. National Clean Air Programme was launched by the Central		
		5)	The Environment Protection Act is under welfare legislation of the categories of legislation		
		6)	Noise pollution has been inserted as pollution in the Air Act in 2000.		
Q.2	An a) b) c) d)	<b>swer tl</b> Write Explai Give t Write	<b>he following.</b> short note on CPCB. in Environmental Monitoring. prief account on Montreal Protocol. short note on Environmental Management system.	16	
Q.3	An a) b)	<b>swer tl</b> Explai Write	<b>he following.</b> in in detail the environmental policies in India. application of remote sensing and GIS in environmental management.	16	
Q.4	An a) b)	<b>swer tl</b> Write Explai	<b>he following.</b> a note on the National Water Policy 2002. in environmental movement in India and write note on Bishnoi tradition.	16	
Q.5	An a) b)	Iswer the following. Write a detail note on Rio (UNCED) Summit. Explain Stockholm conference and write note on principles of Stockholm conference.			
Q.6	An a) b)	<b>swer tl</b> Explai Write sustai	<b>he following.</b> in Air Pollution Act, 1981 and write its importance. note on fundamental principles of environmental protection and mable development.	16	
Q.7	An a)	swer ti Explai	h <b>e following.</b> in in detail the Wildlife (Protection) Act, 1986.	16	

**b)** Write a detail note on UN Environmental Programme.

B) Write True / False.

Max. Marks: 80

Seat	
No.	

### M.Sc. (Semester - IV) (New) (CBCS) Examination: Oct/Nov-2022 (ENVIRONMENTAL SCIENCE)

Environmental Impact Assessment and Environmental Audit

Day & Date: Wednesday, 22-02-2023 Time: 03:00 PM To 06:00 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) Choose correct alternative. (MCQ).

- 1) Which of the following is NOT correctly matched:
  - a) ISO- International Organization of Standards
  - b) EMS Environmental Management System
  - c) WTO Whole Trade Output
  - d) EIA Environmental Impact Assessment
- Environmental auditing helps in pollution control improves production, safety and health and conservation of natural resources by way of:
  - a) Placing environmental information to the public
  - b) Ensuring waste prevention and reduction
  - c) Assessing compliance with regulatory environment
  - d) All of these
- 3) The following agency which is not certifying the ISO is:
  - a) BIS
  - b) CPCB
  - c) QAS
  - d) All Indian Inset of Local Self-Government, Mumbai
- 4) Which of the following correct pair regarding the air quality monitoring technique is:
  - a) NO<sub>2</sub> IR absorption
  - b) O<sub>2</sub> UV photometry
  - c) SO<sub>2</sub> Diffusion tube
  - d) C,N,P Polyurethane filter
- 5) The ministry of Environment and Forests amended the EIA notification public hearing mandatory for environmental clearance on:
  - a) January 27, 1997
- b) April 03,1998
- c) April 10, 1997
- d) January 27, 1996

- 6) The areas up to the 100 meters around the premises such as hospitals, educational institutions are courts are:
  - a) Silent zones

Atrophic zones b)

c) EMP - zones

- d) Irrigation zones
- 7) The development of a documented process to assess the environmental performance of suppliers prior to appointment, would be covered by which part of an ISO 14001:2015 EMS?
  - a) Operation
- b) Context of the organization
- c) Performance evaluation

- d) Support
- 8) BIS stands for:
  - a) Bureau of Indian Standard
  - b) Bureau of Information Survey
  - c) Bureau of Investigation of Soil
  - d) Bureau of Investigation of Samples
- 9) The agency that has laid down the standards for the control of pollution of air, water and noise is:
  - a) Ministry of Home Affairs
  - b) Central Pollution Control Tribunal
  - c) Central Pollution Control Board
  - d) Central Pollution Control Agency
- 10) The audit of the purchasing department against ISO 14001 would best be described as which of the following audit type?
  - a) Third party audit
  - b) Legal compliance audit
  - c) Due diligence audit
  - d) Activity audit

### B) Write True / False-

- 1) Scoping is procedure of impact environmental issues. True / False
- 2) EIA is including mechanism for monitoring auditing and evaluation. True / False
- 3) EIA is three step activity. True / False
- 4) EIA is social and benefit environmental impacts. True / False
- 5) Environmental attributes are evident that order to identify, assess and predict the environmental impacts. True / False
- 6) Prediction of impact is economic. True / False

### Q.2 Answer the following.

- Define EIA and EIS. a)
- b) Write short note on Environmental inventory.
- Write a brief note on environmental impacts from an irrigation project. C)
- Write a short note on role of public participation in EIA. d)

### Q.3 Answer the following.

- a) Discuss in detail ISO 14001.
- Explain methods for impact identification. b)

### 06

16

Q.4	Ans a) b)	wer the following. Explain applicability and objective of environmental audit. Discuss in detail components and process of EIA.	16			
Q.5	Answer the following.					
	a)	Discuss in detail scope and applicability of Environmental Audit in developmental projects.				
	b)	What is NABET? Write functional areas and stepwise process of accreditation.				
Q.6	Answer the following.					
	a) b)	What is the overlay? Elaborate types and examples of overlay method. Explain principle and values EIA. Write in brief on environmental audit.				
Q.7	Answer the following.					
	a) b)	Discuss environmental setting and key features of EMP. Explain how GIS is useful in EIA, with suitable example.				