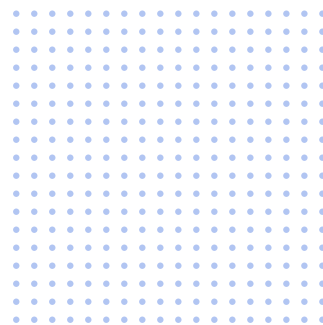




FOR KUET EXAM PREPARATION

KUET 2024

Question Paper · M.Sc. Environmental Science

EXAM	YEAR	TYPE	SUBJECT
KUET	2024	Question Paper	M.Sc. Environmental Science

Sr. No. **481****ENTRANCE TEST-2024****SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES****ENVIRONMENTAL SCIENCE**

Question Booklet Series

A

Total Questions : 60

Time Allowed : 70 Minutes

Roll No. :

--	--	--	--	--	--

Instructions for Candidates :

1. Write your Entrance Test Roll Number in the space provided at the top of this page of Question Booklet and fill up the necessary information in the spaces provided on the OMR Answer Sheet.
2. OMR Answer Sheet has an Original Copy and a Candidate's Copy glued beneath it at the top. While making entries in the Original Copy, candidate should ensure that the two copies are aligned properly so that the entries made in the Original Copy against each item are exactly copied in the Candidate's Copy.
3. All entries in the OMR Answer Sheet, including answers to questions, are to be recorded in the Original Copy only.
4. Choose the correct / most appropriate response for each question among the options A, B, C and D and darken the circle of the appropriate response completely. The incomplete darkened circle is not correctly read by the OMR Scanner and no complaint to this effect shall be entertained.
5. Use only blue/black ball point pen to darken the circle of correct/most appropriate response. In no case gel/ink pen or pencil should be used.
6. Do not darken more than one circle of options for any question. A question with more than one darkened response shall be considered wrong.
7. There will be '**Negative Marking**' for wrong answers. Each wrong answer will lead to the deduction of 0.25 marks from the total score of the candidate.
8. Only those candidates who would obtain positive score in Entrance Test Examination shall be eligible for admission.
9. Do not make any stray mark on the OMR sheet.
10. Calculators and mobiles shall not be permitted inside the examination hall.
11. Rough work, if any, should be done on the blank sheets provided with the question booklet.
12. OMR Answer Sheet must be handled carefully and it should not be folded or mutilated in which case it will not be evaluated.
13. Ensure that your OMR Answer Sheet has been signed by the Invigilator and the candidate himself/herself.
14. At the end of the examination, hand over the OMR Answer Sheet to the invigilator who will first tear off the original OMR sheet in presence of the Candidate and hand over the Candidate's Copy to the candidate.

SP-4510-A

1
✦**[Turn over**

1. What among the following is more appropriate for Repiti discontinuity inside the Earth ?

(A) Between upper and lower crust
 (B) Between lower crust and upper mantle
 (C) Between lower mantle and outer core
 (D) None of the above

2. Which of the following situation is true regarding the carbon balance in Tundra ecosystem with time due to increasing and heavily permafrost thawing ?

(A) Plants growing faster
 (B) More carbon out than in
 (C) More old carbon released
 (D) All of the above

3. Match List I with List II and select the appropriate combination :

List I	List II
A. Hadley Cell	1. Boundary between air masses that differ in temperature moisture & density
B. Ferrel Cell	2. North-South deflection of air currents of convective cells
C. Coriolis force	3. 0-30 degree N S
D. Front	4. Blow from East to West
E. Trade winds	5. 30-60 degree N S

	A	B	C	D	E
(A)	3	5	4	1	2
(B)	3	5	2	1	4
(C)	5	3	2	1	4
(D)	5	3	1	2	4

4. Match List I with List II and select the appropriate combination :

List I	List II
A. Theory of special creation	1. Oparin and Haldane
B. Spontaneous generation	2. Richter and Arrhenius
C. Cosmozoic	3. Aristotle and Needham
D. Chemical theory	4. Supernatural power

	A	B	C	D
(A)	4	2	3	1
(B)	3	2	1	4
(C)	3	1	4	2
(D)	4	3	2	1

5. The term 'Biosphere' was first coined by which of the following scientist ?

(A) Eduard Suess
 (B) Arthur George Tansley
 (C) Ernst Haeckel
 (D) George Evelyn Hutchinson

6. Which of the following is/are the important attributes of an ecosystem ?

(A) Nutrient cycling
 (B) Energy flow
 (C) Biotic diversity
 (D) All of the above

7. Process of successful establishment of species in a new area/habitat is called :
 - (A) Nudation
 - (B) Invasion
 - (C) Ecesis
 - (D) Sere
8. Markhor (*Capra falconeri*) an endangered mammal is found in which of the below mentioned area/region of the Kashmir Himalaya :
 - (A) Kazinag National park
 - (B) Hirpora Wildlife Sanctuary
 - (C) Both (A) and (B)
 - (D) (A) is wrong but (B) is correct
9. The correct sequence in descending order of the following soil types in terms of coverage in India is :
 - (A) Alluvial, black, red, laterite
 - (B) Alluvial, red, black, laterite
 - (C) Alluvial, red, laterite, black
 - (D) Red, alluvial, black, laterite
10. Which of the following substance has the highest specific heat (cal g^{-1}) ?
 - (A) Ethyl alcohol
 - (B) Water
 - (C) Ammonia
 - (D) Ice at zero degree centigrade
11. In natural aquatic systems in which the following zones will have the highest peak for BOD :
 - (A) Septic zone
 - (B) Decomposition zone
 - (C) Recovery zone
 - (D) Clean zone
12. Photochemical smog is a resultant of the reaction between :
 - (A) NO_2 , O_3 and PAN in the presence of sunlight
 - (B) CO , CO_2 and NO_2 at low temperature
 - (C) High concentration of NO_2 , O_3 and CO in the evening
 - (D) CO , O_2 and PAN in the presence of sunlight
13. Which one of the following combination/s depicts correct right bank and left bank tributary combination/s of river Jhelum ?
 - (A) Arapal-Rembiara
 - (B) Bringhi-Ningli
 - (C) Both (A) and (B)
 - (D) None of the above
14. Identify the wrong combination :
 - (A) Coenozoic- Age of mammals
 - (B) Mesozoic-Age of reptiles
 - (C) Paleozoic-Age of fishes
 - (D) None of the above
15. Cave formation is more pronounced in which of the following rock types ?
 - (A) Basalt
 - (B) Limestone
 - (C) Granite
 - (D) Sandstone
16. Which one of the following is a wrong match ?
 - (A) Chamoli disaster-2023
 - (B) Himachal Pradesh flood-2023
 - (C) Turkey earthquake-2023
 - (D) Typhoon Saola-South China-2023

17. Champions of earth award (UNs highest Environment Honour) of 2023 was given to which of the following women ?
 - (A) Josefina Belmonte
 - (B) Ellen Macarthur
 - (C) Blue Circle
 - (D) All of the above
18. Which one of the following does not characterize Shallow Ecology ?
 - (A) Environmental ethics
 - (B) Intrinsic value
 - (C) Eccentric
 - (D) All of the above
19. Which of the following scientist gave the Gaia hypothesis ?
 - (A) Joseph Grinnell
 - (B) James Lovelock
 - (C) Frederic Clements
 - (D) Arne Naess
20. Identify which one of the following is not correctly matched?
 - (A) Bishnoi movement – Rajasthan
 - (B) Chipko movement-Uttarakhand
 - (C) Tehri Dam conflict- Bihar
 - (D) Appiko movement-Karnataka
21. Safe noise level is considered to depend on which of the following important factors ?
 - (A) Frequency
 - (B) Pitch
 - (C) Both (A) and (B)
 - (D) Noise level and exposure
22. In light of WHO data which of the following is/are related to Indoor air pollution exposure globally ?
 - (A) Ischemic heart disease
 - (B) Stroke
 - (C) Cancer
 - (D) All of the above
23. Which of the following is primarily responsible for acid precipitation ?
 - (A) Sulphur dioxide
 - (B) NO_x
 - (C) Both (A) and (B)
 - (D) A is wrong but B is correct
24. Which one of the following air pollution control devices is suitable for removal of finest dust particles from the air ?
 - (A) Cyclone separator
 - (B) Electrostatic precipitator
 - (C) Fabric filter
 - (D) Wet scrubber
25. Which of the following do you think is not a symptom of eutrophication process ?
 - (A) Increase in productivity
 - (B) Algal bloom
 - (C) High total phosphorus
 - (D) Low dissolved oxygen
26. Identify which one of the following disease is not a water-borne disease :
 - (A) Hepatitis A
 - (B) Poliomyelitis
 - (C) Hepatitis B
 - (D) Hepatitis E

27. Apart from fossil fuel production and intensive livestock farming which one of the following contribute to human sources of methane emissions globally :
- Landfill and waste
 - Biomass burning
 - Biofuel
 - All of the above
28. Development of saline and sodic soils are an outcome of which of the following factor/s ?
- Poor drainage
 - High evaporation
 - Low rainfall
 - All of the above
29. Lithium reserves were recently found in which of the following area in Jammu and Kashmir ?
- Reasi
 - Kathua
 - Kishtiwar
 - Rajouri
30. Identify which one of the below mentioned Sustainable Development Goal (SDG) number is related to Zero hunger ?
- SDG 1
 - SDG 2
 - SDG 4
 - SDG 13
31. Environmental performance index puts highest weightage in terms of percentage to which one of the below mentioned indicator ?
- Air quality
 - Water quality
 - Soil quality
 - None of the above
32. Identify the correct combination with regard to desert and region :
- Chalbi desert- South America
 - Dasht-e Lut - Iran
 - Registan desert- Kenya
 - Karakum desert-India
33. Which one of the following combination is properly matched ?
- | National Park/Wildlife sanctuary | State |
|----------------------------------|-------------------|
| (A) Kazinag National Park | Jammu and Kashmir |
| (B) Kaziranga National Park | Rajasthan |
| (C) Lachipora Wildlife Sanctuary | Himachal Pradesh |
| (D) Bandipur National Park | Assam |
34. Endangered black necked crane is found in which of the following areas ?
- Ladakh
 - Arunachal Pradesh
 - Both (A) and (B)
 - (A) is correct but (B) is wrong

35. Which of the following is true related to Biodiversity levels ?
- (A) Genetic, population and ecosystem
(B) Genetic, species and biome
(C) Species, population and community
(D) Genetic, species and ecosystem
36. Match the following lists I and II and select the most appropriate answer using the code given below the lists :
- | List I | List II |
|--------------------------|-------------------|
| a. Tso Khar | i. Madhya Pradesh |
| b. Chilka lake | ii. Jammu |
| c. Shallbugh wetland | iii. Ladakh |
| d. Bhoj wetland | iv. Kashmir |
| e. Surinsar-Mansar lakes | v. Odisha |
- Code : a. b. c. d. e.
- (A) iii i iv v ii
(B) iii v iv i ii
(C) i v iv iii ii
(D) v i iv iii ii
37. The inside wall of fluorescent tube is coated with which of the following material ?
- (A) Sulphur powder
(B) Phosphorus powder
(C) Sodium
(D) Krypton
38. Which of the following is correct about Carbon Positive Area ?
- (A) Area with carbon emissions more than carbon sequestration
(B) Area with carbon emissions balanced with carbon sequestration
(C) Area with more carbon sequestration than carbon emissions
(D) None of the above
39. Which of the following is most appropriate about green cities ?
- (A) High carbon footprint
(B) High water footprint
(C) Low carbon footprint
(D) All of the above
40. The concept and initiative of Green jobs is aimed to help :
- (A) To cut energy, raw material and water consumption through efficient technology
(B) De-carbonize the economy
(C) Minimize waste and pollution
(D) All of the above
41. Which of the following best explains why more contaminants are leached when solid waste is crushed into small particles and put in contact with water than when the particles are large ?
- (A) Smaller particles have a larger surface area per unit volume than larger particles
(B) Water penetrates larger particles more easily than small particles
(C) Larger particles have greater density per unit weight
(D) Internal pressure is greater in smaller particles than in larger particles

42. Sour crop disease in the worms in Vermiculture is attributed to which of the following ?
 (A) Too much protein in the bed
 (B) Overfeeding of worms
 (C) Both (A) and (B)
 (D) Fungal infection
43. Which of the following is not used in Vermicomposting ?
 (A) *Eisenia fetida*
 (B) *Eudrilus eugeniae*
 (C) *Perionyx excavates*
 (D) *Eisenia bicyclis*
44. Which of the following is true about the specification/ criteria (desirable limit) of arsenic and cadmium for drinking water monitoring in and around landfill sites in light of Solid Waste Management rules 2016 ?
 (A) 0.05 mg /L
 (B) 0.01 mg/L
 (C) 0.3 mg/L
 (D) 0.001mg/L
45. Which of the below mentioned country is not among top ten largest Methane emitting countries worldwide ?
 (A) Indonesia
 (B) Iran
 (C) Pakistan
 (D) Saudi Arabia
46. Which of the following is true about the contribution of solar (percentage) as of 2023 in installed generation capacity of electricity of India ?
 (A) 16%
 (B) < 5 %
 (C) 25 %
 (D) 40%
47. Nuclear energy contribution currently to the overall World electricity grid is approximately about :
 (A) 2%
 (B) 5%
 (C) 10%
 (D) 20%
48. Which of the below mentioned country currently occupies the top position in oil producing countries of the world ?
 (A) Russia
 (B) Saudi Arabia
 (C) USA
 (D) Canada
49. Match correctly List I (Global population distribution 2024) with List II (Freshwater Reserves 2024) :
- | List I | List II |
|-----------------------------|---------|
| A. America 12 % | 1. 5% |
| B. Europe 9% | 2. 36% |
| C. Africa 18% | 3. 11% |
| D. Asia 60% | 4. 8% |
| E. Australia and Oceania 1% | 5. 40% |
- Codes : A B C D E
- | | | | | | |
|-----|---|---|---|---|---|
| (A) | 5 | 4 | 3 | 1 | 2 |
| (B) | 5 | 4 | 3 | 2 | 1 |
| (C) | 2 | 1 | 3 | 4 | 5 |
| (D) | 2 | 1 | 3 | 5 | 4 |

50. In light of IPCC 2023 Report, the way forward for Climate resilient development should encompass which of the following ?
- Improving people's health and livelihood
 - Reducing poverty and hunger
 - Clean energy, water and air
 - All of the above
51. Identify among below mentioned substances which one is not coming under Ozone Depleting Substances (ODS) ?
- Chlorofluorocarbons (CFCs)
 - Methyl bromide
 - Carbon tetrachloride
 - All of the above
52. Identify which of the following pandemic event is not correctly matched :
- COVID-19 -2019-2023
 - HIV/AIDS Pandemic -1981 and onwards
 - Influenza Pandemic- 1957-58
 - Cholera Pandemic- 1946-60
53. Which of the following Indian personalities do you think have great contribution in the cause of Environmental Protection ?
- Sunita Narain
 - Anil Agarwal
 - M. C. Mehta
 - All of the above
54. Goals of Environmental Education were first formulated at :
- Tbilisi, USSR, 1977
 - UNESCO, 1977
 - Belgrade, Yugoslavia, 1975
 - Ahmedabad, India 2007
55. The World Environmental Education Congress (WEEC) in 2024 was held in which of the following country ?
- Abu Dhabi, United Arab Emirates
 - Prague, Czech Republic
 - Bangkok, Thailand
 - Canada
56. Match the list I (SDG 2015) and list II (Title/description) and select the correct answer from the codes given below the lists :
- | List I | List II |
|----------------|---------------------------------------|
| (SDG Goal No.) | (SDG Goal Title/description) |
| A. SDG No. 3 | 1. Clean water and sanitation |
| B. SDG No. 4 | 2. Sustainable cities and communities |
| C. SDG No. 6 | 3. Good Health and well-being |
| D. SDG No. 11 | 4. Climate action |
| E. SDG No. 13 | 5. Quality education |
- Codes : A B C D E
- | | | | | | |
|-----|---|---|---|---|---|
| (A) | 5 | 3 | 1 | 4 | 2 |
| (B) | 1 | 3 | 5 | 4 | 2 |
| (C) | 4 | 3 | 1 | 2 | 5 |
| (D) | 3 | 5 | 1 | 2 | 4 |

57. Polluter pay principle in the Indian context was invoked and upheld in which of the following case/s :
- (A) Indian Council of Enviro-legal action vs Union of India and others
- (B) Vellore citizens welfare forum vs Union of India and others
- (C) The Taj Trapezium case M.C. Mehta vs Union of India and Others
- (D) All of the above
58. Match list I and II and select the correct answer using the codes given below the lists :

List I

1. Air Pollution Act
2. Wildlife Protection Act
3. Article 48-A
4. Forty seven Amendment Act
5. Environmental Pollution Act
6. Article 51-A (g)

List II

- A. Citizen
- B. 1981
- C. 1972
- D. 1976
- E. State
- F. 1986

Codes :

- (A) 1-B, 2-C, 3-E, 4-D, 5-F, 6-A
- (B) 1-B, 2-C, 3-A, 4-D, 5-F, 6-E
- (C) 1-F, 2-C, 3-E, 4-D, 5-B, 6-A
- (D) 1-F, 2-C, 3-A, 4-D, 5-B, 6-E

59. Which of the following is the correct classification mentioned in Indian Forest Act?
- (A) Private forest, social forest and town forest
- (B) Tropical forests, deciduous forests and coniferous forests
- (C) Dry forests, wet forests and thorn forests
- (D) Protected forest, reserved forest and village forest
60. COP 28 of UNFCCC (UN Framework Convention on Climate Change) was held in which of the following country ?
- (A) Dubai
- (B) Egypt
- (C) United Kingdom
- (D) Spain