Msc. Environmental Scince C(489)

1289

14P/290/28 Question Booklet No.....

(To be filled up by the candidate by blue/black ball-point pen)

Roll No. | | | | | | | | | |

Roll No.
(Write the digits in words) .....

Serial No. of OMR Answer Sheet .....

Day and Date ....
(Signature of Invigilator)

INSTRUCTIONS TO CANDIDATES

(Use only **blue/black ball-point pen** in the space above and on both sides of the Answer Sheet)

1. Within 10 minutes of the issue of the Question Booklet, check the Question Booklet to ensure that it contains all the pages in correct sequence and that no page/question is missing. In case of faulty Question Booklet bring it to the notice of the Superintendent/Invigilators immediately to obtain a fresh Question Booklet.
2. Do not bring any loose paper, written or blank, inside the Examination Hall *except the Admit Card without its envelope.*
3. A separate Answer Sheet is given. *It should not be folded or mutilated. A second Answer Sheet shall not be provided. Only the Answer Sheet will be evaluated.*
4. Write your *Roll Number and Serial Number of the Answer Sheet by pen* in the space provided above.
5. **On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.**
6. No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR sheet and also Roll No. and OMR Sheet No. on the Question Booklet.
7. Any change in the aforesaid entries is to be verified by the invigilator, otherwise it will be taken as unfair means.
8. Each question in this Booklet is followed by four alternative answers. *For each question, you are to record the correct option on the Answer Sheet by darkening the appropriate circle* in the corresponding row of the Answer Sheet, by ball-point pen as mentioned in the guidelines given on the first page of the Answer Sheet.
9. For each question, darken only one circle on the Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.
10. *Note that the answer once filled in ink cannot be changed.* If you *do not wish to attempt* a question, leave all the circles in the corresponding row blank (such question will be awarded zero mark).
11. For rough work, use the inner back page of the title cover and the blank page at the end of this Booklet.
12. Deposit *only the OMR Answer Sheet* at the end of the Test.
13. You are not permitted to leave the Examination Hall until the end of the Test.
14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such punishment as the University may determine and impose on him/her.

[उपर्युक्त निर्देश हिन्दी में अन्तिम आवरण-पृष्ठ पर दिये गए हैं]

[No. of Printed Pages : 28+2

No. of Questions/प्रश्नों की संख्या : 180

Time/समय : 2 Hours/घण्टे **Full Marks/पूर्णांक** : 360

Note : (1) **Attempt as many questions as you can. Each question carries 3 marks. One mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question.**

(2) **If more than one alternative answers seem to be approximate to the correct answer, choose the closest one.**

(3) **This Question Booklet comprises two Sections, viz., *Section—A* and *Section—B*.**

***Section—A* : This is compulsory.**

***Section—B* : This contains three Sub-section having questions of three disciplines viz., Physics (Sub-section B-1), Life Science (Sub-section B-2) and Geology (Sub-section B-3).**

A candidate is required to attempt only one from these *three* Sub-sections.

SECTION—A

BASIC ENVIRONMENTAL SCIENCES

(Compulsory for all)

Which gas forms the main constituent of [redacted]?

(1) Nitrogen (2) Oxygen (3) Ca[redacted]

2. Which pollutant interacts with haemoglobin and displaces oxygen to form carboxy-haemoglobin?

(1) CO_2 (2) CO (3) O_2 (4) O_3

3. Each ecological factor to which organism's response has maximum and minimum limit, is commonly called

(1) law of tolerance (2) law of minimum

(3) law of maximum (4) law of conservation

4. Air preasure can be determined by

(1) Anemometer (2) Barometer (3) Hydrometer (4) Psychometer

5. Maximum thermometer contain by

(1) alcohol (2) mercury (3) water (4) borine water

6. Which one is the important chemical species in the stratosphere?

(1) Nitrogen (2) Ozone (3) Oxygen (4) Carbon dioxide

7. Which contaminant is related with Bhopal Disaster?

(1) Methyl isocynate (2) Phosgene gas

(3) Carbaryl (4) All of the above

8. Which one is biotic in origin?

(1) Soil texture (2) Rainfall (3) Light (4) CO_2 in soil

9. The characteristics of photochemical smog is

(1) oxidising (2) reducing (3) inert (4) None of these

10. The time required for a population to double in size in known as

(1) exponential growth (2) doubling time

(3) doubling rate (4) growth rate

11. Which one is the acid associated with soil?

(1) Acetic acid (2) Humic acid (3) Nitric acid (4) Sulphuric acid

12. Role of micro-organisms is

(1) to act as scavenger (2) pollution indicator

(3) removal of pollutants (4) All of these

13. The nuclear accident occurred at Chernobyl, Ukraine on 28th April, 1996 is related with

(1) I-131 (2) Cs-137 (3) Th-238 (4) U-238

14. Sechi disc is used for the measurement of

(1) turbidity of waters (2) BOD in water

(3) moisture content (4) light

15. SPM may lead to

(1) [redacted] (2) skin [redacted]

(3) asthma (4) [redacted]

16. The National Forest Policy first adopted in 1894 revised in 1952 was again revised in

(1) 1980 (2) 1974 (3) 1988 (4) 1972

17. The tem ecological pyramid was given by

(1) Elton (2) Odum (3) Haeckel (4) Smith

18. When some work is done, there will be some waste heat; this is in accordance with

(1) 1st law of thermodynamics (2) 2nd law of thermodynamics

(3) 3rd law of thermodynamics (4) entropy

19. India produces which mineral in largest amount in the world?

(1) Iron (2) Aluminium (3) Mica (4) Manganese

20. DDT accumulates in which tissue of the body?

(1) Bones (2) Blood (3) Fat (4) Muscles

21. Concept of the biosphere reserve was evolved in 1986 by

(1) MAB Programme of UNESCO (2) IUCN

(3) Project Tiger (4) Save the Crocodile Project

22. What does 'CBD' stand for?

(1) Conservation of Biological Diversity

(2) Committee for Biological Diversity

(3) Convention on Biological Diversity

(4) Council for Biological Diversity

23. How many hot spots zones are there in the world?

(1) 20 (2) 15 (3) 25 (4) 35

24. Largest Tiger reserve in India is

(1) Indravati (MP) (2) Simlipal (Odisha)

(3) Dudhwa (UP) (4) Nagarjuna Sagar, Hyderabad (AP)

25. Organisms occupying same ecological niche in different geographical regions are known as

(1) ecological equivalents (2) spatial niche

(3) trophic niche (4) None of these

26. The nuclear bomb exploded over Nagasaki in Second World War contained

(1) U-235 (2) Pu-239 (3) U-233 (4) Pu-233

27. The largest island in the world is

(1) Sri Lanka (2) Greenland (3) Madagascar (4) Australia

28. The major source of sulphur dioxide in atmosphere is

(1) diesel (2) petrol (3) coal (4) wood

29. The inner core of the earth is mainly composed of

(1) Cu and Zn (2) Ni and Fe (3) Ca and Al (4) Na and Cl

30. Which of the following is a protein?

(1) Wool (2) Starch (3) Natural rubber (4) Cellulose

CHEMISTRY

(Compulsory for all)

31. Water boils at 100 °C under pressure of

(1) 780 mm (2) 760 mm (3) 790 mm (4) None of these

32. The entropy of a perfect crystalline solid on absolute zero is

(1) zero (2) positive (3) negative (4) None of these

33. The element which will be closer to the ideal solution

(1) normal solution (2) dilute solution

(3) saturated solution (4) super-saturated solution

34. The first metal used by man was

(1) gold (2) silver (3) copper (4) iron

35. Gobar gas contains mainly

(1) ethane (2) methane (3) acetylene (4) butane

36. Which of the following is used as a refrigerant?

(1) Ammonia (2) Ether (3) Acetone (4) Nitrogen

37. Gasoline is the name given to the same substance

(1) crude oil (2) natural gas (3) petrol (4) diesel oil

38. Acetyl salicylic acid is commonly used as

(1) tear gas (2) chemical fertilizer

(3) paint (4) pain reliever

39. The rate at which a substance reacts us proportional to

(1) mass (2) weight (3) volume (4) active mass

40. When iron rusts, its weight

(1) increases (2) decreases (3) remains same (4) None of these

41. Electrical conductivity in a metal is due to

(1) movement of free elements (2) positive and negative ions

(3) positive ions only (4) negative ions only

42. Synthetic detergent is

(1) a mixture of sodium salts of aromatic and sodium chloride

(2) a mixture of sodium carbonate and sodium chloride

(3) sodium salts of fatty acid

(4) calcium salts of hydrochloric acid

43. Dry ice at room temperature gives

(1) water (2) CO_2 gas (3) [illegible]

44. Entropy change of a system depends on

(1) pressure (2) volume (3) temperature (4) None of these

45. Artificial rain is produced by seeding clouds with

(1) potassium iodide (2) silver iodide

(3) silver nitrate (4) copper sulphate

46. The chief constituent of animal bones is

(1) magnesium carbonate (2) calcium sulphate

(3) calcium phosphate (4) magnesium phosphide

47. The power used for developing fingerprint on a multicolored surface is

(1) gold dust (2) charcoal

(3) manganese dioxide (4) floreacent powder

48. For welding, the gas used is

(1) methane (2) ethane (3) ethylene (4) acetylene

49. Malachite is the mineral of

(1) copper (2) iron (3) calcium (4) magnesium

50. Nitrogen fertilizer having maximum amount of nitrogen is

(1) ammonium chloride (2) potassium nitrate

(3) ammonium sulphate (4) urea

51. The wrong statement is

(1) Enzymes are specific in their actions

(2) Enzymes are capable of initiating chemical reaction

(3) Enzymes are proteins

(4) Enzymes are sensitive to heat

52. Which of the following has never been used as a sulpha drug?

(1) sulphapyridine (2) sulphanilamide

(3) sulphathiazole (4) None of the above

53. The element which is present in all organic compounds is

(1) hydrogen (2) carbon (3) oxygen (4) nitrogen

54. Phosphorus is kept under water because

(1) it is highly sensitive in air

(2) it is highly sensitive in water

(3) water forms a protective coating on it

(4) None of these

55. A manmade element is

(1) plutonium (2) U-235 (3) thorium (4) radium

[redacted] acetate will hydrolyse to give a solution that is

(1) acidic (2) basic (3) neutral

57. Oxygen is prepared in the laboratory by

(1) heating potassium chlorate (2) heating potassium oxalate

(3) heating non-metallic oxides (4) heating sand

58. A chemical bond formed by the sharing of electrons between the reacting atoms is known as

(1) an ionic bond (2) a covalent bond

(3) a polar bond (4) a dative bond

59. Alpha particles are electrically charged

(1) hydrogen atom (2) neutrons

(3) helium atoms (4) X-rays

60. Specific heat of perfect gases are functions only of

(1) heat (2) volume (3) pressure (4) temperature

61. Ionic theory of electrolysis was given by

(1) Archimedes (2) Arrhenius (3) Boyle (4) Charles

62. Air is

(1) a compound (2) a mixture (3) an element (4) None of these

63. The element present in the largest amount in rocks and minerals is

(1) gold (2) carbon (3) hydrogen (4) silicon

64. Dehydration of fruits is done before tinning them for food which is

(1) to preserve the essence in full strength

(2) to prevent microbial growth

(3) to remove bacteria

(4) to add nutrients in the fruit

65. The chemical substance present in bones and teeth is

(1) calcium sulphate (2) calcium phosphate

(3) calcium borate (4) calcium chloride

66. The pH of acid gastric juice would be

(1) 7 (2) below 7 (3) above 7 (4) None of these

67. In an agriculture farm, potassium nitrate was repeatedly used as a nitrogenous fertilizer. After several successive crops, the soil was left with excess of potassium ions, making it

(1) neutral (2) dry (3) alkaline (4) acidic

68. Fixation of nitrogen refers to

(1) conversion of atmospheric nitrogen into nitrogenous compounds

(2) nitrogen cycle in nature

(3) liquefaction of nitrogen

(4) manufacturing nitrogen from air

69. Acid rain results due to

(1) oxides of nitrogen and sulphur dioxide

(2) ammonia

(3) carbon monoxide

(4) oxides of nitrogen

70. The least prone to fire is

(1) Rayon (2) Nylon (3) Cotton (4) Terycot

71. The longest wavelength is possessed by

(1) infrared (2) light rays (3) X-rays (4) Gamma rays

72. The gas which is preferred to be mixed with oxygen in an oxygen tube is

(1) argon (2) carbon dioxide

(3) helium (4) nitrogen

73. Which of the following is not a natural polymer?

(1) Silk (2) Rubber (3) Plastic (4) Cellulose

74. Which of the following contains carbon?

(1) Phosphorite (2) Chromite (3) Bauxite (4) Lignite

75. Ozone is important to mankind, because

(1) it helps in releasing hydrogen into atmosphere

(2) it helps in maintaining the temperature of earth

(3) it releases oxygen in the air

(4) it creates a protective covering against the ultraviolet rays

76. Gamma radiations are used for

(1) sterilising food stuff (2) controlling pests

(3) cancer therapy (4) All of these

77. If air is saturated, the relative humidity is 1 and the specific humidity is

(1) equal to one (2) greater than one

(3) less than one (4) None of these

78. If a system can exchange both matter and energy with the surrounding it is called

(1) open system (2) closed system

(3) isolated system (4) Homogenous system

79. The Carnot engine violate second law of thermodynamics when its efficiency become

(1) 100% (2) 25% (3) 50% (4) 75%

80. Heavy water is called heavy because it is

(1) a heavy liquid

(2) denser than water

(3) an oxide of heavier isotope of oxygen

(4) an oxide of deuterium

81. Low ionization energy is characteristic of a

(1) metal (2) non-metal (3) metalloids (4) inert gas

82. India's first major steel plant was erected at

(1) Durgapur (2) Jamshedpur (3) Bhadravathi (4) Raurkela

83. The gas used for artificial ripening of fruit is

(1) ethylene (2) barbitaric acid

(3) benzoic acid (4) None of these

84. The sugar that yields only glucose when hydrolyzed is

(1) maltose (2) sucrose (3) lactose (4) fructose

85. The enzyme which catalyzes the hydrolysis of proteins is

(1) insulin (2) steapsin (3) amylopsin (4) None of these

86. The partial pressure of any component in a gas mixture is proportional to

(1) the mole fraction (2) the total pressure

(3) the square of mole fraction (4) None of these

87. There is deviation from Boyle's law, when the gas is at

(1) low pressure (2) medium pressure

(3) high pressure (4) high temperature

88. Radioactive element which has been found to have large reserves in India is

(1) Thorium (2) Uranium (3) Radium (4) Plutonium

89. Color of solid iodine is

(1) steel gray (2) violet

(3) yellowish green (4) reddish brown

90. White phosphorous is

(1) a mild poison (2) a strong poison

(3) non-poisonous (4) None of the above

SECTION—B

PHYSICS (Sub-Section B-1)

[Optional]

91. The electromagnetic wave which has highest frequency is

(1) infrared radiation (2) radio waves

(3) cosmic rays (4) Gamma rays

92. A police van sounding its siren in moving away from an observer. The pitch of the sound from siren relative to its normal pitch is

(1) higher (2) lower (3) same (4) None of these

93. The speed of sound will be highest in

(1) humid air at 30 °C (2) dry air at 30 °C

(3) humid air at 0 °C (4) dry air at 0 °C

94. In astronomical telescope, the objective is

(1) of equal focal length to the eye piece

(2) of greater focal length

(3) of smaller focal length

(4) All of the above

95. One gram of ice at 0 °C is converted into water at the same temperature. The change in internal energy of the system is

(1) 80 cals (2) 540 cals (3) 40 cals (4) None of these

96. More dew is formed on grass than on metallic utensils, because

(1) grass being a good radiator enables the water vapor in the air to condense on it

(2) grass is a good conductor

(3) grass attract dew drops on account of photosynthesis

(4) there is transpiration in plants

97. The wood which is used in railway sleepers

(1) Green heart wood (2) Mahogany

(3) Mahallic wood (4) Jarrah and Barri

98. Freshly laid eggs and stale eggs can be distinguished by

(1) ultraviolet (2) phosphorescence

(3) fluorescence (4) X-rays

99. Railway tracks are banked on curves so that

(1) the train may not fly off in the opposite direction

(2) necessary centripetal force may be obtained from the horizontal component of the weight of the train

(3) to avoid frictional force between tracks and wheels

(4) necessary centrifugal force may be obtained from the horizontal component of the weight of the train

100. The law involved in cleaning a carpet by beating it with a stick

(1) first law of motion (2) second law of motion

(3) law of conservation of mass (4) law of conservation of energy

101. If the velocity of a moving object is halved to its kinetic energy, then its velocity becomes

(1) one-fourth (2) half (3) double (4) four times

102. When a ship enters a sea from a river its level

(1) rises (2) falls (3) remains same (4) None of the above

103. The principle of dynamo was discovered by

(1) Max Planck (2) Albert Einstein

(3) Michael Faraday (4) Newton

104. A tape recorder's tape is coated with a

(1) ferromagnetic substance powder

(2) paramagnetic substance powder

(3) diamagnetic substance powder

(4) None of the above

105. Humidity of air

(1) does not show any consistent behavior with the change in atmospheric temperature

(2) is not affected by the change in atmospheric temperature

(3) decreases with increase in atmospheric temperature

(4) increases with increase in atmospheric temperature

106. A long glass tube is held vertically in water. A tuning fork is struck and held over the tube. Strong resonances are observed at two successive lengths 0·50 m and 0·54 m above the surface of water. If the velocity of sound is 340 m/sec, then the frequency of the tuning fork is

(1) 400 Hz (2) 450 Hz (3) 475 Hz (4) 500 Hz

107. A body of mass 100 kg is dropped to the ground from a height of 10 m. The work done by the gravitational force is

(1) 98 Joules (2) 980 Joules (3) 9800 Joules (4) 0 (zero)

108. Ampere-sec is a unit of

(1) strength of current

(2) quantity of electricity

(3) power

(4) energy

109. When viewed in green light a flag that is red-green will appear to be

(1) black and white (2) white and yellow

(3) black and green (4) green and yellow

110. A person can see the objects only at distances greater than 40 cm. He is advised to use lens of power

(1) −2·5 D (2) −1·5 D (3) +2·5 D (4) +1·5 D

111. Pyrometer is used to measure

(1) high pressure (2) low pressure

(3) high temperature (4) low temperature

112. Three semiconductors are arranged in the increasing order of their energy gap as follows. The correct arrangement is

(1) silicon, tellurium, germanium (2) silicon, germanium, tellurium

(3) tellurium, silicon, germanium (4) tellurium, germanium, silicon

113. The half-life of radium is 1620 years and its atomic weight is 226 K gm per kilo mol. The nufnber of atoms that will decay from its 1 gm sample per second will be

(1) $3{\cdot}61\times10^{19}$ (2) $3{\cdot}61\times10^{13}$ (3) $3{\cdot}61\times10^{10}$ (4) $3{\cdot}61\times10^{8}$

114. A solid sphere of mass *M* and radius *R* rolls on a horizontal surface without slipping. The ratio of rotational kinetic energy is

(1) 7:10 (2) 1:2 (3) 2:7 (4) 2:5

115. Mean-free path is defined as the

(1) distance between two molecules

(2) distance between two molecular collisions

(3) average distance between two molecules

(4) average distance between two molecular collisions

116. What extinguishes a fire quicker?

(1) Boiling water (2) Cold water

(3) Both are equally effective (4) None of the above

117. When the adhesive force between a liquid and a glass is greater than the cohesive forces between the liquid molecules, the meniscus of liquid in a capillary tube is

(1) concave in shape (2) convex in shape

(3) flat (4) pyramidical

118. One Giga Volt is equal to

(1) $1{\cdot}0\times10^{9}$ volts (2) $1{\cdot}0\times10^{7}$ volts

(3) $1{\cdot}0\times10^{11}$ volts (4) $1{\cdot}0\times10^{6}$ volts

119. To make the longest possible throw, the cricketer is advised to make an angle of

(1) 60° (2) 45° (3) 35° (4) 0°

120. If we want to change a galvanometer into ammeter, extra resistance required is

(1) low resistance in parallel (2) high resistance in parallel

(3) low resistance in series (4) high resistance in series

LIFE SCIENCE (Sub-Section B-2)

[Optional]

121. The famous book *The Micrographia* was written by

(1) Robertson (2) Darwin (3) Brown (4) Robert Hook

122. The diameter of the DNA molecules around the axis is

(1) 10 A (2) 20 A (3) 3·4 A (4) 34 A

123. Which among of the following is not a saturated fatty acid?

(1) Palmitic acid (2) Stearic acid (3) Oleic acid (4) Myristic acid

124. Who first of all observed plasmoderma?

(1) Strasburger (2) Tangel (3) Yamada (4) Wysaling

125. What does planetic gamete mean?

(1) Flagellated (2) Non-flagellated gamete

(3) Isogamete (4) Zoosporangium

126. Vitamin B_5 is also known as

(1) Niacin (2) Riboflavin (3) Phylloquinone (4) Thiotic acid

127. Dark reaction of photosynthesis is also known as

(1) Hill reaction (2) Blackman reaction

(3) AMP pathway (4) Glyoxylate cycle

128. Which one of the following does not belong to quantitative characters?

(1) Frequency (2) Density (3) Abundance (4) Phenology

129. The first stage of Lithosere is

(1) crustose lichen stage (2) phytoplankton stage

(3) moss stage (4) foliose lichen stage

130. Which one of the following structures links biotic and abiotic components of the ecosystem?

(1) Biochemical structure (2) Phenotypical structure

(3) Genotypic structure (4) All of the above

131. A cross between F1 generation and recessive parent is known as

(1) monohybrid (2) back cross

(3) dihybrid (4) mass selection

132. Which one of the following is considered to be the vehicle of inheritance?

(1) RNA (2) Nucleolus (3) Chromosome (4) Vitamins

133. Emasculation mean

(1) removal of flower (2) removal of petals

(3) removal of anthers (4) removal of stigma

134. Hormones are destroyed mainly in the

(1) liver (2) heart (3) stomach (4) intestine

135. The phytohormones are also known as

(1) growth hormones
(2) growth of promoting substances
(3) growth factors
(4) All of the above

136. Multiples forms of enzymes with the same catalytic activity but different structure are called

(1) holoenzymes (2) isoenzymes (3) prosthetic (4) apoenzymes

137. In albuminous seeds, food is stored in

(1) Plumule (2) Testa (3) Endosperm (4) Cotyledon

138. The infectious particle of virus is called

(1) capsid (2) nucleocapsid (3) virion (4) envelope

139. Casparian strips are found in the radial walls of

(1) endodermal cells
(2) epidermal cells
(3) pith cells
(4) hypodermal cells

140. The time lapsing between inoculation and appearance of symptoms is known as

(1) invasion
(2) systemic infection
(3) incubation period
(4) syndrome

141. Which one of the following is not an active factor for soil?

(1) Temperature
(2) Wind
(3) Biosphere affects
(4) Parent material

142. Animals which can withstand wider range of salinity are referred to as

(1) Stenohaline (2) Euryhaline (3) Saltiness (4) All of these

143. Which one of the following is not simple protein?

(1) Albumins (2) Globulins (3) Prolamines (4) Glycoproteins

144. In which part of mitochondria ATP is generated?

(1) Matrix (2) Cristase (3) Oxysome (4) All of these

145. The shape of metasentric chromosome is

(1) T-shaped (2) S-shaped (3) V-shaped (4) Rod shaped

146. First completely terrestrial vertebrate was

(1) Cotylosaurs (2) Pterosaurs (3) Dinosaurs (4) All of the above

147. Mesozoic era is considered to be special age of

(1) reptiles (2) man (3) fishes (4) birds

148. Eternity of life means

(1) life is nothing (2) immortality of life

(3) life originated in soil and air (4) life is created by God

149. According to Darwin, the variations are

(1) mutants (2) sports (3) variants (4) factors

150. Which of the following does not come under Paleozoic era?

(1) Cretaceous (2) Carboniferous (3) Devonian (4) Cambrian

GEOLOGY (Sub-Section B-2)

[Optional]

151. Temperature is maximum at

(1) Equator (2) Tropics

(3) Northern hemisphere (4) Southern hemisphere

152. The earth crust below the ocean is composed of

(1) sedimentary rock (2) metamorphic rock

(3) basaltic rock (4) granite rock

153. The star closest to earth is

(1) Sirius (2) North star (3) Sun (4) Proxima century

154. Fossils are evidence of

(1) the composition of earth's crust (2) the folding of earth's crust

(3) living things of long ago (4) life on other planets

155. Plant and animal remains preserved in rocks are called

(1) fossils (2) stalactites (3) humus (4) minerals

156. An earthquake is recorded by a

(1) Spectroscope (2) Seismograph (3) Thermometer (4) Barometer

157. The best proof that dinosaurs once lived on the earth can be found from a study of

(1) living animals (2) scientific book

(3) plants (4) fossils

158. The important agent of erosion is

(1) winds (2) streams (3) waves (4) glaciers

159. Who discovered that earth moves around the sun?

(1) Newton (2) Galileo (3) Copernicus (4) Archimedes

160. Avalanches are

(1) turbulent winds

(2) large sand storms

(3) valleys created by large-scale erosion of mountains

(4) large snow falls flowing along steep slopes

161. Equinox means

(1) when the night is longest

(2) when the days are longest

(3) two periods when day and night are equal

(4) None of these

162. The 'Nebular Hypothesis' was proposed by

(1) Kant (2) Laplace

(3) Kant and Laplace together (4) Kant and Laplace independently

163. The radial extent of the core is

(1) 2886 km (2) 3486 km (3) 1227 km (4) 4113 km

164. Water occupies what percent of the earth's surface?

(1) 10 (2) 29 (3) 70 (4) 99

165. The atmosphere of the early earth likely contained little or no

(1) nitrogen (2) oxygen

(3) carbon dioxide (4) methane

166. The largest mineral group is the

(1) carbonate group (2) silicate group

(3) sulfate group (4) oxide group

167. A common chemical sedimentary rock is

(1) slate (2) shale (3) limestone (4) sandstone

168. Bauxite is an important ore of

(1) copper (2) iron (3) aluminium (4) tin

169. The principle use of which metal is in photographic materials?

(1) Silver (2) Copper (3) Platinum (4) Bismuth

170. Tectonic is the study of

(1) volcanoes (2) earthquakes (3) earth crust (4) sand dunes

171. The largest reservoir of unfrozen freshwater is

(1) groundwater (2) freshwater lakes

(3) rivers and streams (4) the atmosphere

172. The salinity of sea waters can be determined by the ratios of

(1) Na/K (2) Ca/Na (3) C/C (4) Rb/Sr

173. Bombay South wind starts from

(1) South (2) North (3) East (4) West

174. Which of the following rocks is least resistant for use as a building material?

(1) Marble (2) Slate (3) Quartzite (4) Basalt

175. The angular velocity of earth is

(1) $3{\cdot}65\times10^{-8}$ (2) $4{\cdot}19\times10^{-7}$ (3) $2{\cdot}6\times10^{-4}$ (4) None of these

176. Conservation of natural resources means

(1) complete utilization of natural resources

(2) less utilization of natural resources

(3) less and effective utilization of natural resources

(4) rational use of natural resources

177. The point of origin of earthquakes is called

(1) Epicentre (2) Focus (3) Centre (4) Seismic vertical

178. The deepest surface on an oceanic surface is

(1) oceanic ridge (2) oceanic trench

(3) continental slope (4) continental rise

179. The coastline of India is about

(1) 3100 km (2) 4100 km (3) 5100 km (4) 6100 km

180. The earth is composed of —— major plates.

(1) 21 (2) 18 (3) 8 (4) 6

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D/4(166)—1500

अभ्यर्थियों के लिए निर्देश

(इस पुस्तिका के प्रथम आवरण-पृष्ठ पर तथा उत्तर-पत्र के दोनों पृष्ठों पर केवल नीली या काली बाल-प्वाइंट पेन से ही लिखें)

1. प्रश्न पुस्तिका मिलने के 10 मिनट के अन्दर ही देख लें कि प्रश्नपत्र में सभी पृष्ठ मौजूद हैं और कोई प्रश्न छूटा नहीं है। पुस्तिका दोषयुक्त पाये जाने पर इसकी सूचना तत्काल कक्ष-निरीक्षक को देकर सम्पूर्ण प्रश्नपत्र की दूसरी पुस्तिका प्राप्त कर लें।

2. परीक्षा भवन में *लिफाफा रहित प्रवेश-पत्र के अतिरिक्त,* लिखा या सादा कोई भी खुला कागज साथ में न लायें।

3. उत्तर-पत्र अलग से दिया गया है। ***इसे न तो मोड़ें और न ही विकृत करें। दूसरा उत्तर-पत्र नहीं दिया जायेगा, केवल उत्तर-पत्र का ही मूल्यांकन किया जायेगा।***

4. अपना *अनुक्रमांक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पेन* से निर्धारित स्थान पर लिखें।

5. उत्तर-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये वृत्तों को गाढ़ा कर दें। जहाँ-जहाँ आवश्यक हो वहाँ प्रश्न-पुस्तिका का क्रमांक तथा सेट का नम्बर उचित स्थानों पर लिखें।

6. ओ० एम० आर० पत्र पर अनुक्रमांक संख्या, प्रश्न-पुस्तिका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्न-पुस्तिका पर अनुक्रमांक सं० और ओ० एम० आर० पत्र सं० की प्रविष्टियों में उपरिलेखन की अनुमति नहीं है।

7. उपर्युक्त प्रविष्टियों में कोई भी परिवर्तन कक्ष निरीक्षक द्वारा प्रमाणित होना चाहिये अन्यथा यह एक अनुचित साधन का प्रयोग माना जायेगा।

8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। ***प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिये आपको उत्तर-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को उत्तर-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार पेन से गाढ़ा करना है।***

9. प्रत्येक प्रश्न के उत्तर के लिये केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों को गाढ़ा करने पर अथवा एक वृत्त को अपूर्ण भरने पर वह उत्तर गलत माना जायेगा।

10. ध्यान दें कि एक बार स्याही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का *उत्तर नहीं देना चाहते हैं,* तो सम्बन्धित पंक्ति के सामने दिये गये सभी वृत्तों को खाली छोड़ दें। ऐसे प्रश्नों पर शून्य अंक दिये जायेंगे।

11. रफ़ कार्य के लिये प्रश्न-पुस्तिका के मुखपृष्ठ के अन्दर वाले पृष्ठ तथा अंतिम पृष्ठ का प्रयोग करें।

12. परीक्षा के उपरान्त केवल ***ओ०एम०आर० उत्तर-पत्र*** परीक्षा भवन में जमा कर दें।

13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर जाने की अनुमति नहीं होगी।

14. यदि कोई अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का/की, भागी होगा/होगी।