

**CEE MODEL ENTRANCE EXAM**

(SET-8)

Instructions:

* There are 200 multiple-choice questions, each having four choices of which only one choice is correct.
* Fill (⚫) the most appropriate one.

**Date** : 2081/10/19 **Duration** : 3 hours

(Feb 01)  **Time :** 7 A.M. – 10 A.M.

**1. How many atoms in total are present in 1 mole of sugar?**

(a) 7.92 × 1025 atoms (b) 6 × 1023 atoms (c) 6.023 × 1023 atoms (d) 2.71 × 1025 atoms

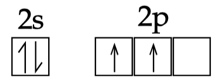
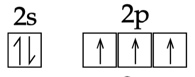
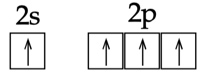
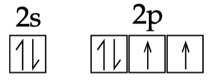
**2. The exact volumes of 1M NaOH solution required to neutralize 50 ml of 1M H3PO3 solution and 100 ml of 2M H3PO2 solution respectively are**

(a) 100 ml and 100 ml (b) 100 ml and 200 ml (c) 100 ml and 50 ml (d) 50 ml and 50 ml

**3. How many neutrons are there in ?**

(a) 38 (b) 50 (c) 126 (d) 88

**4. The orbital diagram in which the Aufbau principle is violated is**

(a)  (b)  (c)  (d) 

**5. Which of the following electronic configurations is of transition elements?**

(a) 1s2 2s2 2p6 3s2 3p6 4s1 (b) 1s2 2s2 2p6 3s2 3p6 3d10 4s2 4p1

(c) 1s2 2s2 2p6 3s2 3p6 3d10 4s2 4p6 (d) 1s2 2s2 2p6 3s2 3p6 3d2 4s2

**6. What is the common property of the oxides CO, NO and N2O?**

(a) All are acidic oxides (b) All are basic oxides (c) All are neutral oxide (d) All are amphoteric oxide

**7. Which of the following elements will have the highest electron affinity?**

(a) Chlorine (b) Nitrogen (c) Phosphorous (d) Fluorine

**8. In which of the following species the bond is non-directional?**

(a) NCl3 (b) RbCl (c) BeCl2 (d) BCl3

**9. A flask of capacity 2L is heated from 35°C to 45°C. What volume of air will escape from the flask?**

(a) 10 ml (b) 20 ml (c) 50 ml (d) 60 ml

**10. If W is the amount of work done by the system and q is the amount of heat supplied to the system, identify the type of the system.**

(a) Isolated system (b) Closed system

(c) Open system (d) System with thermally conducting walls

**11. The reaction , will be favoured by**

(a) high temperature and low pressure (b) low temperature and high pressure

(c) high temperature and high pressure (d) low temperature and low pressure

**12. Identify the process in which change in the oxidation state is five?**

(a) (b) (c) (d)

**13. Solubility product expression of salt MX4 which is sparingly soluble with a solubility S can be given as**

(a) 256 S5 (b) 16 S3 (b) 5 S (d) 25 S4

**14. Which of the following species is an acid and also a conjugate base of another acid?**

(a) (b) (c) (d)

**15. The radiation which has highest penetrating power is**

(a) α-rays (b) β-rays (c) γ-rays (d) Cathode ray

**16. When the electron of a hydrogen atom jumps from n = 4 to n = 1 state, the number of spectral lines emitted is**

(a) 3 (b) 6 (c) 9 (d) 15

**17. The ratio of close packed atoms to tetrahedral holes in cubic close pacing is**

(a) 1 : 1 (b) 1 : 2 (c) 1 : 3 (d) 2 : 1

**18. The unit of electrochemical equivalent is**

(a) gram (b) gram/ampere (c) gram/coulomb (d) Coulomb/gram

**19. Which of the following does not give oxygen on heating?**

(a) K2Cr2O7 (b) KClO3 (c) (NH4)2Cr2O7 (d) Zn(ClO3)2

**20. Mercury on heating with aqua-regia gives**

(a) Hg(NO3)2 (b) HgCl2 (c) Hg(NO2)2 (d) Hg2Cl2

**21. Blister copper is**

(a) Ore of Cu (b) Pure Cu (c) Alloy of Cu (d) Cu containing 1% impurities

**22. Which of the following is not true for transition elements?**

(a) They are malleable and ductile

(b) They have high boiling and melting point

(c) They crystallize with body centered cubic and hexagonal close-packed structure only

(d) They show variable oxidation states although not always

**23. In the extraction of silver, Ag2S is dissolved in**

(a) HCl (b) HNO3 (c) KCN (d) H2SO4

**24. Among the following the ambidentate ligand is**

(a) H2NCH2CH2NH2 (b) (c) (d)

**25. Helium is used in balloons instead of hydrogen because it is**

(a) lighter than hydrogen (b) more abundant than hydrogen

(c) incombustible (d) Radioactive and easily detected

**26. If NaOH is added to an aqueous solution of Zn ions a white precipitate appears and on adding excess NaOH, the precipitate dissolves. In this solution zinc exists in the**

(a) Cationic part (b) anionic part

(c) both in cationic and anionic parts (d) there is no zinc ion in the solution

**27. Bad conductor of electricity is**

(a) H2F2 (b) HCl (c) HBr (d) HI

**28. When chlorine is passed through KI and starch solution**

(a) A yellow colour is obtained (b) Iodine is liberated

(c) Bromine is liberated (d) Iodine is liberated and solution becomes blue

**29. The reason why conc. H2SO4 is used extensively to prepare other acid is that conc. H2SO4**

(a) has a high boiling point (b) has a high specific gravity

(c) is an excellent dehydrating agent (d) highly ionized

**30. Oxygen molecule exhibits**

(a) Paramagnetism (b) Diamagnetism (c) Ferromagnetism (d) Ferrimagnetism

**31. The best fertilizer is**

(a) Ammonium sulphate (b) Urea

(c) Calcium ammonium nitrate (d) Basic calcium nitrate

**32. Poisonous gas present in the exhaust fumes of Car is**

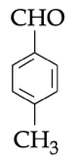
(a) CH4 (b) C2H2 (c) CO (d) CO2

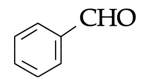
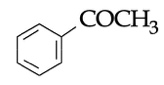
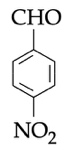
**33. Aldehydes and ketones give addition reaction with**

(a) hydrazine (b) phenyl hydrazine (c) semicarbazine (d) hydrogen cyanide

**34. To distinguish between formaldehyde and acetaldehyde, we require**

(a) Tollen's reagent (b) Fehling's solution (c) Schiff's reagent (d) Caustic soda solution

**35. Which one is most reactive towards nucleophilic addition reaction?**

(a) (b)  (c) (d) 

**36. The general formula CnH2nO2 could be for open chain**

(a) Diketones (b) Carboxylic acids (c) Diols (d) Dialdehydes

**37. Oxalic acid when reduced with zinc and H2SO4 gives**

(a) Glyoxalic acid (b) Glyoxal (c) Glycolic acid (d) Glycol

**38. IUPAC name of C2H5CN is**

(a) Ethyl Cyanide (b) Propionitrile (c) Propane nitrile (d) Cyanoethane

**39. An aromatic amine (A) was treated with alcoholic potash and another compound Y when a foul-smelling gas was formed with formula C6H5NC. Y was formed by reacting a compound Z with Cl2 in presence of slaked lime. The compound Z is**

(a) C6H5NH2 (b) CH3OH (c) CH3COCH3 (d) CHCl3

**40. Which of the following acid is present in oranges and lemons?**

(a) Oxalic acid (b) Citric acid (c) Formic acid (d) Latic acid

**41. Which of the following gives maximum energy in metabolic process?**

(a) Carbohydrates (b) Fats (c) Proteins (d) Vitamins

**42. Of the following, which one is classified as polyester polymer?**

(a) Terylene (b) Bakelite (c) Melamine (d) Nylon-66

**43. Toilet soap is a mixture of**

(a) Calcium and sodium salt of fatty acids (b) Fatty acid and glycerol

(c) Sodium salts of fatty acids (d) Potassium slats of fatty acids

**44. Gasoline has compounds having**

(a) C3 – C5 (b) C6– C10 (c) C8 – C12 (d) C10 – C13

**45. Benzene reacts with Cl2 sunlight to give a final product**

(a) C6Cl6 (b) C6H5Cl (c) C6H6Cl6 (d) CCl4

**46. Identify the compound Y in the following reaction**

**CH ≡ CH ⎯⎯⎯⎯⎯→X ⎯⎯⎯⎯⎯⎯→Y**

(a) CH3OH (b) CH3CH2OH

(c) CH2OHCH2OH (d) CH3COOH

**47. Which will form hydrocarbon with Grignard reagent?**

(a) CH3CHO (b) CH3CH2OH (c) CH3COCH3 (d) CH3COOCH3

**48. Due to the presence of an unpaired electron free radicals are**

(a) Chemically reactive (b) Chemically inactive

(c) anions (d) cations

**49. Which alkane would have only the primary and tertiary carbon?**

(a) Pentane (b) 2-Methylbutane

(c) 2, 2-Dimethylpropane (d) 2, 3-Dimethylbutane

**50. Absolute alcohol is prepared from rectified spirit by**

(a) Fractional distillation (b) Steam distillation

(c) Azeotropic distillation (d) Vacuum distillation

**51. Two forces each numerically equal to 10 dynes are acting as shown in the adjoining fig. then the resultant is:**

(a) 10 dynes (b) 20 dynes (c) 10 dynes (d) 5 dynes

**52. A girl riding a bicycle with a speed of 5 ms–1 towards north direction, observes rain falling vertically down. If she increases her speed to 10 ms–1, rain appears to meet her at 45° to the vertical. What is the speed of the rain?**

(a) 5 ms–1 (b) 5 ms–1 (c) 8 ms–1 (d) 8 ms–1

**53. In case of an angular projection of projectile, at which location the angular momentum is minimum?**

(a) At the starting point (b) At the highest point

(c) On return to the ground (d) At the location half of maximum height

**54. In the arrangement shown in Fig., the ends P and Q of an unstretchable string move downwards with uniform speed u. Pulleys A and B are fixed. Mass M moves upwards with a speed**

(a) (b) u cosθ (c) 2u cosθ (d)

**55. A wire is stretched under a force. If the wire suddenly snaps temperature of wire**

(a) increases (b) decreases (c) remains same (d) decreases first and then increases

**56. The minimum velocity (in ms–1) with which a car driver must traverse a flat curve of radius 150 m and coefficient of friction 0.6 to avoid skidding is**

(a) 60 (b) 25 (c) 15 (d) 30

**57. A square plate of side l has mass M. What is its moment of inertia about one of its diagonals?**

(a) (b) (c) (d)

**58. A body is orbiting very close to the earth's surface with kinetic energy KE. The energy required to completely escape form it is:**

(a) KE (b) KE (c) KE/ (d) 2 KE

**59. A simple pendulum of length *l* and having a bob of mass M is suspended in a car. The car is moving on a circular track of radius R with a uniform speed v. If pendulum makes small oscillations in a radial direction about its equilibrium position, its time period will be**

(a) b) (c) (d)

**60. Two wires A and B are of the same material. Their lengths are in the ratio 1 : 2 and the diameters are in the ratio 2 : 1. If they are pulled by the same force their increase in length will be in the ratio:**

(a) 2 : 1 (b) 1 : 4 (c) 1 : 8 (d) 8 : 1

61. A parallel plate capacitor is charged and then isolated. What is the effect of increasing the plate separation on charge, potential and capacitance respectively?

a) Constant, decreases, decrease b) Constant, increase, decrease

c) Increase, decrease, decrease d) Constant, decrease, increase

62. If the radius of a potentiometer wire is increased four times, keeping its length constant then the value of its potential gradient will become

a) half b) two times c) four times d) unchanged

63. A deuteron and an -particle are placed in an electric field. If they are accelerated by the same potential difference, the velocities gained by them will be

a) 1 : 1 b) 1 : c) : 1 d) 1 : 2

**64. Through which character, can we distinguish the sound waves from light waves?**

(a) Reflection (b) Refraction (c) Interference (d) Polarization

**65. Two uniform strings A and B made of steel are made to vibrate under the same tension. If the first overtone of A is equal to the second overtone of B and if the radius of A is twice that of B, the ratio of the lengths of the strings is**

(a) 1 : 2 (b) 1 : 3 (c) 1 : 4 (d) 1 : 6

**66. How many times more intense is a 60 dB sound than 30 dB sound**

(a) 100 (b) 4 (c) 1000 (d) 2

**67. Standardisation of thermometers is obtained with**

(a) Jolly thermometer (b) Platinum resistance thermometer

(c) Thermocouple thermometer (d) Gas thermometer

**68. The relative humidity on a day, when partial pressure of water vapour is 0.012 × 105 Pa at 12°C is (take vapour pressure of water at this temperature as 0.016 × 105 Pa)**

(a) 70% (b) 40% (c) 75% (d) 25%

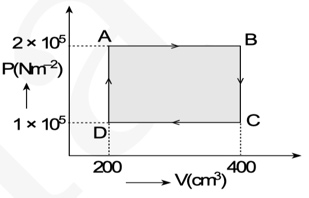
**69. A real gas behaves like an ideal gas if**

(a) its temperature and pressure are both low (b) its temperature and pressure are both high

(c) its temperature is high and pressure is low (d) its temperature is low and pressure is high

**70. Some gas at 350 K is enclosed in a box Now, the box is placed on a fast-moving train. What is the temperature of the gas while the train is in motion?**

(a) Rises above 350 K (b) Falls below 350 K (c) Remains unchanged (d) Becomes unstable

**71. The P-V diagram of a gas undergoing a cyclic process (ABCDA) is shown in the graph, Fig., where P is in units of Nm–2 and V in cm3. Identify the incorrect statement.**

(a) work is done by the gas from A to B

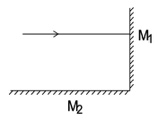
(b) work is done on the gas from C to D

(c) No work is done by the gas from B to C

(d) Work is done by the gas in going from B to C and on the gas from D to A

**72. The temperature of a room heated by a heater is 20°C, when outside temperature is –20°C, and it is 10°C, when the outside temperature is –40°C. The temperature of heater is**

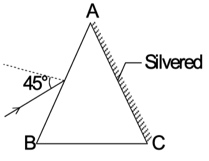
(a) 60°C (b) 40°C (c) 80°C (d) 100°C

**73. A ray of light strikes a silvered surface inclined to another one at an angle of 90°. Then the reflected ray will turn through**

(a) 0° (b) 45° (c) 90° (d) 180°

**74. If eye is kept at a depth h inside water of refractive index μ and viewed outside, then the diameter of the circle through which the outer objects become visible, will be**

(a) (b) (c) (d)

**75. A prism ABC of angle 30° has its face AC silvered. A ray of light incident at an angle of 45° at the face AB retraces its path after refraction at face AB and reflection at face AC. The refractive index of the material of the prism is**

(a) 1.5 (b) 3/ (c) (d) 4/3

**76. A convex lens will become less convergent in**

(a) oil (b) water (c) both (d) none

**77. The focal lengths of the objective and eye lenses of a telescope are respectively 200 cm and 5 cm. The maximum magnifying power of the telescope will be**

(a) 40 (b) 48 (c) 60 (d) 100

**78. When unpolarized light is incident on a plane glass plate at Brewster's angle, then which of the following statements is correct?**

(a) Reflected and refracted rays are completely polarized with their planes of polarization parallel to each other

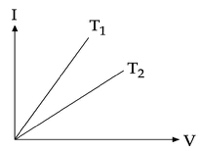
(b) Reflected and refracted rays are completely polarized with their planes of polarization perpendicular to each other

(c) Reflected light is plane polarized but transmitted light is partially polarized

(d) Reflected light is partially polarized but refracted light is plane polarized

**79. A charged particles having drift velocity of 7.5 × 10–4 ms–1 in electric field of 3 × 10–10 Vm–1, mobility is**

(a) 6.5 × 106 m2V–1s–1 (b) 2.5 × 106 m2V–1s–1 (c) 2.5 × 104 m2V–1s–1 (d) 6.5 × 104 m2V–1s–1

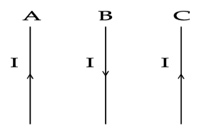
**80. The voltage V and current I graphs for a conductor at two different temperature T1 and T2 are shown in figure. The relation between T1 and T2 is**

(a) T1 > T2 (b) T1 < T1 (c) T1 = T2 (d) T1 =

**81. Three resistors 2Ω, 4Ω and 5Ω are combined in parallel. This combination is connected to a battery of emf 20V and negligible internal resistance. The total current drawn from the battery is**

(a) 10A (b) 15A (c) 19A (d) 23A

**82. Each of the three parallel wires A, B and C are carrying current I in the direction shown in the figure. The wire B will**

 (a) move to right (b) move to left

(c) remain stationary (d) move down in the direction of the current

**83. The strength of the earth's magnetic field is**

(a) constant everywhere (b) zero everywhere

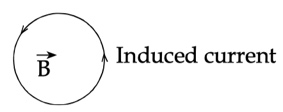
(c) having very high value (d) vary from place to place on the earth's surface

**84. Core of electromagnets are made of ferromagnetic materials which have**

(a) low permeability and low retentivity (b) high permeability and high retentivity

(c) high permeability and low retentivity (d) low permeability and high retentivity

**85. A coil is place in a magnetic field as shown below:**

 **A current is induced in the coil because is**

(a) parallel to the plane of coil and increasing with time

(b) outward and increasing with time

(c) outward and decreasing with time

(d) parallel to the plane of coil and decreasing with time

**86. The rms value of current in an ac circuit is 25A, then peak current is**

(a) A (b) A (c) 50A (d) 25A

**87. In an ac circuit, the instantaneous e.m.f. and current are given by E = 100 sin 30t; I = 20 . In one cycle of A.C, the average power consumed by the circuit and the wattless current are respectively**

(a) 50, 10 (b) , 10 (c) , 0 (d) 50, 0

**88. Light of wavelength λ falls on a metal having work function . Photoelectric effect will take place only when**

(a) λ ≥ λ0 (b) λ ≤ λ0 (c) λ ≥ 2λ0 (d) λ = 4λ0

**89. An electron is accelerated through a potential difference of 10,000 V. Its de Broglie wavelength is**

(a) 12.2 nM (b) 12.2 × 10–13 M (c) 12.2 × 10–12 M (d) 12.2 × 10–14 M

**90. In which of the following systems will the radius of the first orbit (n = 1) be minimum?**

(a) doubly ionized lithium (b) singly ionized helium

(c) deuterium atom (d) hydrogen atom

**91. A set of atoms in an excited state decay**

(a) in general, to any of the states with lower energy

(b) into a lower state only when excited by an external electric field

(c) all together simultaneously into a lower state

(d) to emit photons only when they collide

**92. Two samples X and Y contain equal amount of radioactive substances. If of sample X and of sample Y, remain after 8 hours, then the ratio of half-life periods of X and Y is**

(a) 2 : 1 (b) 1 : 2 (c) 1 : 4 (d) 4 : 1

**93. For mass defect of 0.3%, the binding energy of 1 kg material is**

(a) 2.7 × 1014 erg (b) 2.7 × 1014 J (c) 2.7 × 10—14 erg (d) 2.7 × 10–14 J

**94. A n-type semiconductor has**

(a) more electrons than holes (b) more holes than electrons

(c) equal holes and electrons (d) can't be determined

**95. What is the voltage gain in a common emitter amplifier, where input resistance is 3Ω and load resistance 24Ω and β = 61?**

(a) 8.4 (b) 488 (c) 240 (d) 0

**96. The given truth table is for which logic gate**

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **Y** |
| 1 | 1 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 0 | 0 | 1 |

(a) NAND (b) XOR (c) NOR (d) OR

**97. Potential barrier developed in a junction diode opposes the flow of**

(a) minority carrier in both regions only (b) majority carriers only

(c) electrons in P region (d) holes in P region

**98. According to Hubble's law, the red shift (2) of receding galaxy and its distance r from the earth are related as**

(a) Z ∝ r (b) Z ∝ (d) Z ∝ (d) Z ∝

**99. The tail of a comet always points**

(a) towards the sun (b) away from the sun

(c) towards north-east (d) towards south-west

**100. Heaviest particle is**

(a) Meson (b) Neutron (c) Proton (d) Electron

**101. "Oncology" is the study of**

(a) Neoplasm (b) Cytoplasm (c) Nucleoplasm (d) Mollusca

**102. Which pair of organs are analogous in nature**

(a) Gill of fish and gill of prawn (b) Arm of man and limb of horse

(c) Ear of frog and ear of rabbit (d) Fins of fishes and flipper of seal

**103. Haeckel’s theory of recapitulation means that**

(a) Ontogeny repeats phylogeny (b) All organisms begin their life with a single cell

(c) Progeny of an organism resembles its parents (d) Regeneration

**104. The coral beds of the present time were found during**

(a) Devonian (b) Carboniferous (c) Permian (d) Ordovician

**105. The non-motile, spherical and non-pathogenic form of *Entamoeba* histolytica is**

(a) Trophic form (b) Minuta form (c) Metacyst (d) Monopodial form

**106. Structures for regulating osmotic pressure of the body of aquatic single celled animals, are called**

(a) Central vacuoles (b) Contractile vacuoles (c) Food vacuoles (d) Water vacuoles

***107. Trypanosoma* causes sleeping sickness in man. It finally invades**

(a) Liver (b) Blood (c) Brain (d) cerebro-spinal fluid

**108. "Choas" is also known as**

(a) Yellow *Amoeba* (b) Giant *Amoeba* (c) Parasitic *Amoeba* (d) *Vorticella*

**109. What is the name of hollow blastula of *leucosolenia*?**

(a) Sterogastrula (b) Coeloblastula (c) Planula (d) Parenchymula

**110. *Hydra* sometimes moves erect with its tentacles directed downwards using them as legs. This is known as**

(a) somersaulting (b) Gliding (c) looping (d) Walking

**111. Shedding of proglottids in tapeworm is called**

(a) Histolysis (b) Apolysis (c) Oblong (d) Rhomboid

**112. Which cells secretes wax located at the outer surface of body wall of insect?**

(a) Trophocytes (b) Oenocytes (c) Trichogen (d) Mycetocytes

**113. Which *Plasmodium* causes blood clotting in brain of human being?**

(a) *Plasmodium vivax* (b) *Plasmodium malarea* (c) *Plasmodium falciparum* (d) *Plasmodium ovalae*

**114. Shape of Phaosome in earthworm is**

(a) C (b) S (c) L (d) V

**115. Number of anterior loops in earthworm is**

(a) 1pair (b) 2pair (c) 3pair (d) 4 pair

**116. Acrosomal reaction takes place in presence of**

(a) Ca++ (b) Protein (c) Na+ (d) K+

**117. Gray crescent is found in**

(a) fertilized egg (b) Unfertilized egg (c) gastrula (d) Blastula

**118.** **Which of the following forms of *Plasmodium* is found in the wall of the stomach of the host mosquito?**

(a) Ookinete (b) Oocyst (c) Sporoblast (d) Sporozoite

**119. Mammalian brain differs from Frog's brain in having**

(a) Olfactory lobe (b) Corpus callosum (c) Cerebellum (d) Hypothalamus

**120. In frog "Bidder's canal' are found in**

(a) Testes (b) Kidney (c) Ovary (d) Pancreas

**121. Chamber of ruminant stomach where food is mixed with gastric juice is**

(a) Abomasum (b) Omasum (c) Rumen (d) Reticulum

**122. Physiology behind "hiccup" is**

(a) sudden opening of closed larynx (b) irritation of diaphragm

(c) sudden increase in thoracic pressure (d) all of them

**123. Kidney secrets a hormone that stimulate RBC production. It is**

(a) rennin (b) calcitonin (c) adrenaline (d) erythropoietin

**124. When transport of maximum renal threshold of any substance is reached, what happens to its reabsorption?**

(a) normal (b) increased (c) decreased (d) fluctuates

**125. Waldayer ring is formed by following 4 main masses of lymphoid tissue**

(a) 2 palatines, 1 pharyngeal, and 1 lingual tonsil (b) 2 palatine and 2 pharyngeal tonsils

(c) 2 pharyngeal and 2 lingual tonsils (d) 2 palatine and 2 lingual tonsils

**126. Portal vein carries --------- of total blood volume supplied to the liver**

(a) 15% (b) 20% (c) 75 % (d) 25%

**127. In the brain, the region for perception of pain is located in**

(a) Frontal lobe (b) Parietal lobe (c) Temporal lobe (d) Occipital lobe

**128. The disease or disease agent whose transmission occurs through ears in the skin and affects the nervous system is**

(a) polio (b) rabies (c) hydrocephalus (d) Parkinson's disease

**129. Crus commune is part of**

(a) Brain (b) Spinal cord (c) Eye (d) Ear

**130. Quantum of light entering the eye through the pupil is dependent on**

(a) Ciliary body (b) Lens (c) Retina (d) Iris

**131. Which of the following controls the function of sertoli cells?**

(a) FSH (b) ACTH (c) Estrogen (d) Testosterone

**132. Erection of penis in mammals is an example of**

(a) exoskeleton (b) Endoskeleton (c) bony skeleton (d) Hydrostatic skeleton

**133. Development of moustache in female is due to excessive secretion of**

(a) Thyroid gland (b) Pituitary gland (c) Ovary (d) Suprarenal gland

**134. Metastasis is associated with**

(a) Benign tumors (b) Grown gall tumor

(c) Malignant tumor (d) Both malignant and benign tumor

**135. Type of cartilage found in intervertebral disc and pubic symphysis is**

(a) Fibrous cartilage (b) Calcified cartilage (c) Hyaline cartilage (d) Elastic cartilage

**136. Sarcomere is the distance between**

(a) Z-line and Z-line (b) Two I- bands (c) Two A- bands (d) Two surface of Z-lines

**137. Muscle fatigue is due to**

(a) Less oxygen (b) Excess of carbondioxide

(c) Excess of acetic acid (d) Excessive accumulation of lactic acid

**138. The modified monocytes or macrophages of brain are**

(a) Microglia (b) Meninges (c) Neuroglia (d) Schwann cells

**139. A graft which is always rejected**

(a) Autograft (b) Isograft (c) Homograft (d) Heterograft

**140. Protein released from viral infected cells that blocks viral replication in other cells in called**

(a) complement (b) interferon (c) antibody (d) antigen

141. The amino acid Tryptophan is the precursor for the synthesis of

(a) Melatonin and Serotonin (b) Thyroxine and Triiodothyronine

(c) Estrogen and Progesterone (d) Cortisol and Cortisone

142. Prostaglandins functioning in inflammatory and allergic reactions are derivation of

(a) Palmitic acid (b) Stearic acid (c) Linoleic acid (d) Arachidonic acid

143. Haplontic life cycle is absent in

(a) Volvox (b) Chlamydomonas (c) Fucus (d) Spirogyra

144. A fruit developed from hypanthodium inflorescence is called

(a) Caryopsis (b) Sororis (c) Syconus (d) Hesperidium

145. The genetic material of the bacteriophage Ø×174 is

(a) SS – DNA (b) SS-RNA (c) DS-DNA (d) DS-RNA

**146. Kuru, a human disease, is caused by**

(a) Virus (b) Bacteria (c) PPLO (d) Prion

147. Vitamin B12 is synthesized during the retting of fibres using?

(a) *Lactobacillus bulgaricus* (b) *Pseudomonas denitrificans*

(c) *Aspergillus niger* (d) *Clostridium Butycrium*

148. In the phloem of gymnosperm, the element absent is:

(a) Sieve cell (b) Companion cell (c) Parenchyma (d) Sclerenchyma

149. Reserve food in Euglena is in the form of

(a) Paramylum starch (b) Starch (c) Glycogen (d) Mannitol

150. Indicator of SO2 pollution is

(a) Diatoms (b) Dinoflagellates (c) Lichens (d) E. Coli

151. Peristome of Funaria has

(a) 4 teeth in 1 ring (b) 16 teeth in 1 ring (c) 32 teeth in 2 rings (d) 16 teeth in 2 rings

152. Which type of soil is the least porous?

(a) Slit soil (b) Clay soil (c) Peat soil (d) Loam soil

153. Soil transported by air is called

(a) Alluvial (b) Colluvial (c) Glacial (d) Eolian

154. Conversion of organic nitrogenous compounds into ammonium compounds is called:

(a) Nitrification (b) Denitrification (c) Denaturation (d) Ammonification

155. Which ecosystem has the maximum biomass?

(a) Grassland ecosystem (b) Pond ecosystem (c) Lake ecosystem (d) Forest ecosystem

156. Th primary producers of the deep-sea hydrothermal vent ecosystem are

(a) green algae (b) chemosynthetic bacteria

(c) blue-green algae (d) coral reefs

157. If 46 chromosomes are present at G1 phase, then the number of chromosomes after S-phase will be

(a) 23 (b) 46 (c) 92 (d) 49

158. The synapsed homologues chromosomes first clearly appear as tetrad in

(a) Zygotene (b) Pachytene (c) Diplotene (d) Diakinesis

159. In which order, cytokinesis occurs in plants-

(a) Centripetal (b) Centrifugal (c) Oblique (d) Equatorial

160. XXY sex chromosome complement occurs in

(a) Super females (b) Down’s syndrome (c) Turner’s syndrome (d) Klinefelter’s syndrome

161. What substance is synthesized in the smooth endoplasmic reticulum?

(a) Lipid (b) Protein (c) Carbohydrate (d) Nucleic acid

162. A microtubule is composed of what type of protein?

(a) Tubulin (b) Myosin (c) Actin (d) Durable protein

163. Polyploidy can be produced artificially by

(a) Colchicine (b) Inbreeding (c) Line breeding (d) Self-pollination

164. The recessive gene that always produces its effect is

(a) Complementary gene (b) Holandric gene (c) Supplementary gene (d) Pleiotropic gene

165. A gene showing co-dominance has

(a) One allele dominant on the other (b) Alleles tightly linked on the same chromosome

(c) Alleles that is recessive to each other (d) Both alleles independently expressed in the heterozygote

166. A colour-blind man marries a woman with normal sight who has no history of colour blindness in her family. What is the probability of their grandson being colour blind ?

(a) 0.5 (b) 0.5 (c) 0.25 (d) Nil

167. In his classic experiments on pea plants Mendel did not use

(a) Seed color (b) Pod length (c) Seed shape (d) Flower position

168. The movement of a gene from one linkage group to another is called

(a) inversion (b) duplication (c) translocation (d) crossing over

169. Roots differs from stem in having

(a) Pericycle (b) Pith (c) Exarch xylem (d) Parenchymatous cortex

170. Companion cells are closely associated with

(a) Trichomes (b) Guard cells (c) Sieve elements (d) Vessel elements

171. Water potential of pure water at standard temperature is equal to

(a) 10 (b) 20 (c) Zero (d) None of these

172. At field capacity the soil contains

(a) Capillary and gravitational water (b) Capillary and runaway water

(c) Capillary and hygroscopic water (d) Capillary, hygroscopic and bound water

173. When CO2 is added to PEP, the first stable product synthesized is

(a) Pyruvate (b) Glyceraldehyde-3-phosphate

(c) Phosphoglycerate (d) Oxaloacetate

174. “Plants restore to the air whatever breathing animals and burning candles remove.” It was hypothesized by

(a) Warburg (b) Joseph Priestley (c) von Sachs (d) T.W. Engelmann

175. Acetyl Co-A combines with which of the following compounds to form citric acid:

(a) Oxalosuccinic acid (b) Oxaloacetic acid (c) Citric acid (d) alpha-Ketoglutaric acid

176. Genetic dwarfism is cured by treatment with

(a) Auxin (b) Gibberellin (c) Kinetin (d) Abscisic

177. Phytochrome is involved in

(a) Seed germination (b) Flowering (c) Chloroplast (d) All of these

178. Real growth is

(a) Increase in protoplasm (b) Increase in diameter

(c) Increases in length (d) Increase in surface area

179. Which of the following is a pair of biofertilizers?

(a) Azolla and blue green algae (b) Nostoc and Lactobacillus

(c) Rhizobium and grasses (d) *Salmonella* and *E. coli*

180. Among the following, the narrow-spectrum antibiotic is

(a) Chloramphenicol (b) Penicillin G (c) Ampicillin (d) Amoxicillin

**181. ABC, 6, EFG, 210, IJK, ........... ?**

(a) 190 (b) 990 (c) 1000 (d) 999

**182. Wood is related to charcoal in the same way as coal is related to**

(a) Fire (b) Smoke (c) Coke (d) Ash

**183. In a certain code, '256; means 'red color chalk' ; '589' means 'green color flower' and '245' means 'white color chalk'. Which digit in that code means 'white'?**

(a) 2 (b) 4 (c) 5 (d) 6

**184. Ram is 20th from left end and Rajesh is 8th from the right end. If there are 4 boys between them, then total no. of boys in the row is**

(a) 31 (b) 32 (c) 33 (d) 34

**185. A, B, C and D are playing cards. A and B are partners, D faces towards north. If A faces towards west, then who face towards south?**

(a) B (b) C (c) D (d) A

**186. On selling 17 balls at Rs. 720, there is a loss equal to the cost price of 5 balls. The cost price of a ball is**

(a) Rs. 45 (b) Rs. 50 (c) Rs. 55 (d) Rs. 60

**187. Average of 80 numbers are 42. When 5 more numbers are included, the average of 85 numbers become 45. Find the average of 5 numbers.**

(a) 82 (b) 89 (c) 93 (d) 98

**188. The difference between two numbers is 10 and the ratio between them is 5:3. Find the product of two numbers**

(a) 375 (b) 175 (c) 275 (d) 125

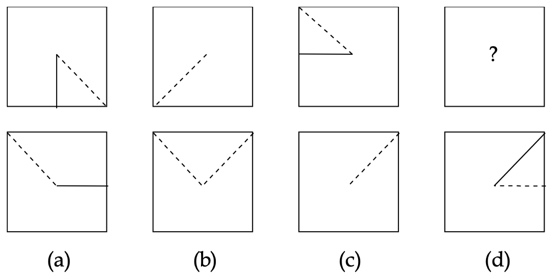
**189. The price of Maruti car rises by 30% while the sales of the car come down by 20%. What is the percentage change in the total revenue?**

(a) 2% (b) 4% (c) 8% (d) 16%

**190. A can do certain work twice than B. They complete the work in 18 days if they work together. In how many days will A along finish the work?**

(a) 20 (b) 23 (c) 27 (d) 30

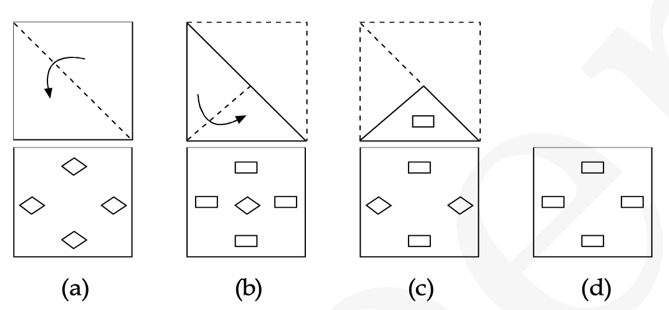
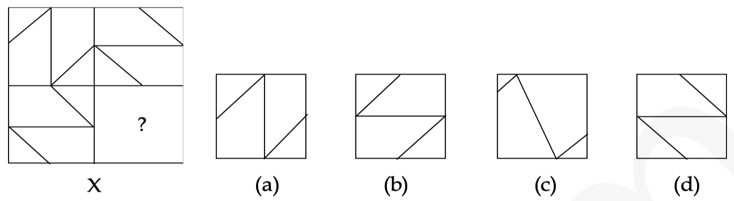
**191. Which of the figures shown below complete the sequence?**

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**192. In a group of cows and hens, the number of legs is 14 more than twice the number of heads. The number of cows is**

(a) 6 (b) 7 (c) 8 (d) 5

**193. Identify the figures that complete the pattern**

** **

**194.**

**195. Which number is on the face opposite to 6**

****

**196. Water image of the word 'NUCLEAR' is**

(a) (b) (c) (d)

RAELCUN

RAELCUN

NUCLEAR

NUCLEAR

**197. Thirty players enter a chess competition. If there can be no draws, how many games must be played to decide the winner, if each player can be eliminated by one loss?**

(a) 28 (b) 29 (c) 335 (d) 31

**198.**

|  |  |  |
| --- | --- | --- |
| **6** | **11** | **25** |
| **8** | **6** | **16** |
| **12** | **5** | **?** |

(a) 18 (b) 16 (c) 12 (d) 73

**199. Which of the following is different from each other?**

**2, 5, 10, 17, 26, 37, 50, 64**

(a) 50 (b) 26 (c) 37 (d) 64

**200. 6 : 12 : 18**

(a) 4 : 8 : 14 (b) 12 : 24 : 36 (c) 6 : 20 : 26 (d) 30 : 36 : 42

♦︎♦︎♦︎ Thank You !!! ♦︎♦︎♦︎