

NEET MODEL QUESTION PAPER 8

NATIONAL TESTING AGENCY
Excellence in Assessment





PHYSICS

- The length of a metal rod at 0°C is 0.5m. When it is heated its length increases by 2.7 mm. The final temperature of rod is (coeff. of linear expansion of metal $90 \times 10^{-6}/^{\circ}\text{C}$)
 - 20°C
 - 30°C
 - 40°C
 - 60°C
- A mercury drop of radius 1 cm is sprayed into 10^6 drops of equal size. The energy expended in joule is (surface tension of mercury is $(460 \times 10^{-3}\text{N/m})$)
 - 0.057
 - 5.7
 - 5.7×10^{-4}
 - 5.7×10^{-6}
- The resistance of a resistance thermometer has values 2.7Ω and 3.70Ω at 0°C and 100°C respectively. The temperature at which the resistance is 3.10Ω is
 - 30°C
 - 40°C
 - 60°C
 - 70°C
- A liquid is filled into a semi elliptical cross section with a as semi major axis and b as semi minor axis. The ratio of surface tension forces on the curved part and the plane part of the tube in vertical position will be
 - $\frac{\pi(a+b)}{4b}$
 - $\frac{2\pi a}{b}$
 - $\frac{\pi a}{4b}$
 - $\frac{\pi(a-b)}{4b}$
- Coefficient of linear expansion of a solid depends upon
 - the unit of pressure
 - the nature of the material only
 - the nature of the material and temperature
 - unit of mass
- Which of the following is a characteristic of turbulent flow?
 - velocity more than critical velocity
 - irregular flow
 - molecules crossing from one layer to the other
 - 1, 2, 3.
- A wire of length 100cm increases in length by 10^{-2}m when it is heated through 100°C . The coefficient of linear expansion of the material of the wire expressed in /K units is
 - -1×10^{-6}
 - 1×10^4
 - 1×10^{-4}
 - 10^{-2}
- Capillary tubes of diameters 1, 1.5, 2mm are dipped vertically in the same liquid. The capillary ascents of the liquid in the tube are in the ratio
 - 2: 3: 4
 - 6: 4: 3
 - 3: 4: 6
 - 4: 3: 2
- A steel tape is placed around the earth at the equator. When the temperature is 0°C neglecting the expansion of the earth, the clearance between the tape and the ground if the temperature of the tape rises to 30°C , is nearly ($\alpha_{steel} = 11 \times 10^{-6}/\text{K}$)
 - 1.1 km



- 2) 0.5 km
3) 6400 km
4) 2.1 km
- 10.** One spherical ball of radius R , density d released in a liquid of density $d/2$ attains a terminal velocity V . Another ball of radius $2R$ and density $1.5d$, released in the liquid will attain a terminal velocity
- 1) $2V$
2) $4V$
3) $6V$
4) $8V$
- 11.** Bernoulli's theorem is applicable in the case of
- 1) compressible liquid in stream lined flow
2) compressible liquid in turbulent flow
3) incompressible liquid in stream lined flow
4) incompressible liquid in turbulent flow
- 12.** Water flowing from a hose pipe fills a 15 litre container in one minute. The speed of water from the free opening of radius 1 cm is (in ms^{-1})
- 1) 2.5
2) $\frac{\pi}{2.5}$
3) $\frac{2.5}{\pi}$
4) 5π
- 13.** In a cylinder of diameter 1.0cm at 30°C is to be solid into a hole of diameter 0.9997 cm in a steel plate at the same temperature, the minimum required rise in the temperature of the plate is :
(Coefficient of linear expansion of steel = $12 \times 10^{-6} /^\circ\text{C}$)
- 1) 25°C
2) 35°C
3) 45°C
4) 55°C
- 14.** A spherical soap bubble of radius 1 cm is formed inside another of radius 4 cm. The radius of single soap bubble which maintains the same pressure difference as inside the smaller and outside the larger soap bubble is _____ cm
- 1) 1
2) 0.8
3) 0.5
4) 0.25
- 15.** The temperature coefficient of resistance of wire is $12.5 \times 10^{-4} /^\circ\text{C}$. At 300 K the resistance of the wire is 1 ohm. The temperature at which resistance will be 2 ohm is
- 1) 1154 K
2) 1100 K
3) 1400 K
4) 1127 K
- 16.** A liquid does not wet the solid surface if the angle of contact is
- 1) 0°
2) $= 45^\circ$
3) $= 90^\circ$
4) $> 90^\circ$
- 17.** The temperature coefficient of resistance of wire is 12.5×10^{-4} . At 300 K the resistance of wire is 1 Ω . The temperature at which resistance will be 2Ω is
- 1) 827 K
2) 854 K
3) 1527 K
4) 1127 K
- 18.** A pipe having an internal diameter D is connected to another pipe of same size. Water flows into the second pipe through 'n' holes, each of diameter d . If the water



in the first pipe has speed v , the speed of water leaving the second pipe is

- 1) $\frac{D^2 v}{nd^2}$
- 2) $\frac{nD^2 v}{d^2}$
- 3) $\frac{nd^2 v}{D^2}$
- 4) $\frac{d^2 v}{nd^2}$

19. A ring shaped piece of a metal is heated, If the material expands, the hole will

- 1) contract
- 2) expand
- 3) remain same
- 4) expand or contract depending on the width

20. A vessel whose bottom has round holes with diameter of 1mm is filled with water. Assuming that surface tension acts only at holes, then the maximum height to which the water can be filled in vessel without leakage is (Given surface tension of water is 75×10^{-3} N/m and $g = 10\text{m/s}^2$)

- 1) 3 cm
- 2) 0.3 cm
- 3) 3 mm
- 4) 3m

21. A crystal has a coefficient of linear expansion $12 \times 10^{-6}/^\circ\text{C}$ in one direction and $244 \times 10^{-6}/^\circ\text{C}$ in every direction at right angles to it. Then the coefficient of cubical expansion of crystal is

- 1) $450 \times 10^{-6}/^\circ\text{C}$
- 2) $500 \times 10^{-6}/^\circ\text{C}$
- 3) $244 \times 10^{-6}/^\circ\text{C}$
- 4) $36 \times 10^{-6}/^\circ\text{C}$

22. Eight spherical rain drops of the same mass and radius are falling down with a terminal speed of $6\text{ cm}\cdot\text{s}^{-1}$. If they coalesce to form one big drop, what will

be the terminal speed of bigger drop? (Neglect the buoyancy of the air)

- 1) 1.5 cms^{-1}
- 2) 6 cms^{-1}
- 3) 24 cms^{-1}
- 4) 32 cms^{-1}

23. A thin brass sheet at 20°C and a thin steel sheet at 30°C have the same surface area. The common temperature at which both would have the same area is (Coefficient of linear expansion for brass and steel are respectively, $19 \times 10^{-6}/^\circ\text{C}$ and $11 \times 10^{-6}/^\circ\text{C}$)

- 1) -6.25°C
- 2) $+6.25^\circ\text{C}$
- 3) -3.25°C
- 4) $+3.25^\circ$

24. The work done in blowing a soap bubble of volume "V" is W. The work done in blowing a soap bubble of volume "2V" is

- 1) W
- 2) $2^{\frac{2}{3}}W$
- 3) $3^{\frac{2}{3}}W$
- 4) 2 W

25. Celsius is the unit of

- 1) Temperature
- 2) Heat
- 3) Specific heat
- 4) Latent heat

26. Two needles are floating on the surface of water. A hot needle when touches water surface between the needles, then they move

- 1) closer
- 2) away
- 3) out of the liquid
- 4) into the liquid



27. A second's pendulum clock having steel wire is calibrated at 20°C . When temperature is increased to 30° , then how much time does the clock lose or gain in one week? [$\alpha_{\text{steel}} = 1.2 \times 10^{-5}(\text{C}^{\circ})^{-1}$]
- 1) 0.3628s
 - 2) 3.626s
 - 3) 362.8 s
 - 4) 36.28s
28. Calculate the force required to separate the glass plates of area 10^{-2}m^2 with a film of water 0.05 mm thickness between them (surface tension of water $=70 \times 10^{-3}$ N/m)
- 1) 28 N
 - 2) 112 N
 - 3) 5.6 N
 - 4) 11.2 N
29. The freezing point on a thermometer is marked as 20° and the boiling point as 150° . A temperature of 60°C on this thermometer will be read as
- 1) 40°
 - 2) 65°
 - 3) 98°
 - 4) 110°
30. A capillary tube is attached horizontally at a constant head arrangement. If the radius of the capillary tube is increased by 10%, the rate of flow of liquid changes by about
- 1) -40%
 - 2) +40%
 - 3) +21%
 - 4) +46%
31. Two main metal strips, one of brass and the other of iron are fastened together parallel to each other. Thickness of each strip is 2 mm. If the strips are of equal length at 0°C . The radius of the arc formed by the bimetallic strip when heated to 80°C is (Coefficient of linear expansion of brass $= 19 \times 10^{-6}/^{\circ}\text{C}$ & of iron $= 12 \times 10^{-6}/^{\circ}\text{C}$)
- 1) 3.57 m
 - 2) 2.67 m
 - 3) 3.12 m
 - 4) 4.56 m
32. If the shearing stress between the horizontal layers of water in a river is 1.5 milli newton / m^2 and $\eta_{\text{water}} = 1 \times 10^{-3}$ Pa.s . The velocity gradient is... s^{-1}
- 1) 1.5
 - 2) 3
 - 3) 0.7
 - 4) 1
33. Thermostat is based on the principle of
- 1) equal expansion of two rods of different lengths
 - 2) different expansion of two rods of different lengths.
 - 3) different expansion of two rods of same length
 - 4) equal expansion of two rods of same length
34. A tank with vertical walls is mounted so that its base is at a height H above the horizontal ground. The tank is filled with water to a depth 'h'. A hole is punched in the side wall of the tank at a depth 'x' below the water surface. To have maximum range of the emerging stream, the value of x is.
- 1) $\frac{H+h}{4}$
 - 2) $\frac{H+h}{2}$
 - 3) $\frac{H+h}{3}$
 - 4) $\frac{3(H+h)}{4}$



35. A square wire frame of side 'L' is dipped in a liquid. On taking out, a membrane is formed. If the surface tension of liquid is T, the force acting on the frame due to the membrane will be
- 1) 2 TL
 - 2) 4 TL
 - 3) 8 TL
 - 4) 16 TL
36. A boat full of scrap iron is floating on water in a lake. If all the iron is dropped into the water, the level of water will
- 1) go up
 - 2) fall down
 - 3) remain the same
 - 4) cannot be decided
37. A swimmer goes from the surface of water to a depth of 20m, the change in the pressure on his body is nearly
- 1) 3 atmospheres
 - 2) 1 atmosphere
 - 3) 2 atmospheres
 - 4) Zero
38. There is a hole at the side-bottom of a big water tank. The area of the hole is 4mm^2 . To it a pipe is connected. The upper surface of water is 5 m above the hole. The rate of flow of water through the pipe is (in m^3s^{-1}) ($g = 10\text{ms}^{-2}$)
- 1) 4×10^{-5}
 - 2) 4×10^5
 - 3) 4×10^{-6}
 - 4) 28×10^{-5}
39. Two soap bubbles of radii 3 mm and 4 mm are in contact radius of curvature of interface between those two bubbles is
- 1) 1mm
 - 2) 7 mm
 - 3) 12mm
 - 4) $\frac{12}{7}$ mm
40. Water from a tap emerges vertically downwards with initial velocity 4ms^{-1} . The cross-sectional area of the tap is A. The flow is steady and pressure is constant throughout the stream of water. The distance h vertically below the tap, where the cross-sectional area of the stream becomes $\left(\frac{2}{3}\right)A$, is ($g = 10 \text{ m/s}^2$)
- 1) 0.5 m
 - 2) 1 m
 - 3) 1.5 m
 - 4) 2.2 m
41. A capillary tube of radius 'r' is immersed in water and water rises in it to a height H. Mass of water in the capillary tube is m. If the Capillary of radius 2r is taken and dipped in water, the mass of water that will rise in the capillary tube will be
- 1) m
 - 2) 2m
 - 3) m/2
 - 4) 4m
42. A brass sphere weighs 100 gm wt in air. It is suspended by a thread in a liquid of specific gravity = 0.8. If the specific gravity of brass is 8, the tension in the thread in newtons is
- 1) 0.0882
 - 2) 8.82
 - 3) 0.882
 - 4) 0.00882
43. Poiseuille's equation holds good when
- 1) the flow is steady and stream line
 - 2) the pressure is constant at every cross section
 - 3) The liquid in contact with the walls is stationary
 - 4) All the above



44. A cube of wood supporting 200g mass just float in water. When the mass is removed, the cube rises by 1 cm, the linear dimension of cube is
- 1) 10 cm
 - 2) 20 cm
 - 3) $10\sqrt{2}$ cm
 - 4) $5\sqrt{2}$ cm
45. The surface tension of soap solution is 0.03 N/m. The work done in blowing a soap bubble of surface area 40 cm², (in J), is
- 1) 1.2×10^{-4}
 - 2) 2.4×10^{-4}
 - 3) 12×10^{-4}
 - 4) 24×10^{-4}

CHEMISTRY

46. Which one has the highest coagulation power?
- 1) K^+
 - 2) Ca^{2+}
 - 3) Al^{3+}
 - 4) Sn^{4+}
47. E₀ for $F_2 + 2e^- \rightarrow 2F^-$ is 2.8 V
E₀ for $1/2 F_2 + e^- \rightarrow F^-$ is
- 1) 2.8 V
 - 2) 1.4 V
 - 3) -2.8 V
 - 4) -1.4 V
48. The rate of chemisorption
- 1) decrease with increase of pressure
 - 2) is independent of pressure
 - 3) is maximum at one atmospheric pressure
 - 4) increase with decrease of temperature
49. Which of the following statements is true for fuel cells?
- 1) They are more efficient
 - 2) They are free from pollution
 - 3) They turn till reactants are active
 - 4) All of the above
50. When a beam of light is passed through colloidal solution, it

- 1) Gets scattered
 - 2) Gets absorbed
 - 3) is refracted
 - 4) Undergoes reflection
51. In a hydrogen – oxygen fuel cell, combustion of hydrogen occurs to
- 1) generate heat
 - 2) remove absorbed oxygen from electrode surfaces
 - 3) produce high purity water
 - 4) create potential difference between the two electrodes
52. If the dispersed phase is a liquid and the dispersion medium is a solid, the colloidal system is known as
- 1) a Sol
 - 2) an Emulsion
 - 3) a gel
 - 4) a foam
53. In aqueous solution, strong electrolytes ionize and yield
- 1) Ions
 - 2) Electrons
 - 3) Acids
 - 4) Oxides
54. Crystalloid and colloid can be distinguished by
- 1) Diffusion through membrane
 - 2) Particle size
 - 3) Chemical composition
 - 4) Solubility
55. The molar conductances of HCl , $NaCl$ and CH_3COONa are 426, 126 and 91 $\Omega^{-1} cm^2 mol^{-1}$ respectively. The molar conductance for CH_3COOH is
- 1) $561 \Omega^{-1} cm^2 mol^{-1}$
 - 2) $391 \Omega^{-1} cm^2 mol^{-1}$
 - 3) $261 \Omega^{-1} cm^2 mol^{-1}$
 - 4) $612 \Omega^{-1} cm^2 mol^{-1}$
56. Calculate the surface area of a catalyst that absorbs $10^3 cm^3$ of N_2 (reduced to STP) per gram in order to form the monolayer. The effective area occupied by N_2 molecule of the surface is $1.62 \times 10^{-15} cm^2$
- 1) $2520 \times 10^5 cm^2$
 - 2) $4350 m^2$



- 3) $3720 m^2$
4) $435 \times 10^5 m^2$
- 57.** As lead storage battery is charged
- 1) lead dioxide dissolves
 - 2) sulphuric acid is regenerated
 - 3) lead electrode becomes coated with lead sulphate
 - 4) the concentration of sulphuric acid decreases
- 58.** The auto catalyst in the decomposition of Arsene to Arsenic and H_2 is
- 1) As_2O_3
 - 2) As
 - 3) H_2
 - 4) Ar
- 59.** At 298 K, the standard reduction potentials for the following half reactions are given. Which acts as anode with others in electrochemical cell
- $$Zn^{+2}(aq) + 2e^- \rightarrow Zn(s), -0.762$$
- $$Cr^{+3}(aq) + 3e^- \rightarrow Cr(s), -0.740$$
- $$2H^+(aq) + 2e^- \rightarrow H_2(g), -0.000$$
- $$Fe^{+3}(aq) + e^- \rightarrow Fe^{2+}(aq), +0.762$$
- 1) Zn(s)
 - 2) $H_2(g)$
 - 3) Cr(s)
 - 4) $Fe^{2+}(aq)$
- 60.** Which of the following is not correct
- 1) Enthalpy of physical adsorption is less when compared to enthalpy of chemical adsorption
 - 2) Milk is an example of emulsion
 - 3) Physical adsorption increases with increase in temperature
 - 4) Smoke is an aerosol
- 61.** $E^0 Zn^{2+}/Zn = -0.76V$. The EMF of the cell $Zn/Zn_{1M}^{2+} || HCl (pH=2) | H_2(1 atm), Pt$ is
- 1) 0.878 V
 - 2) 0.642 V
 - 3) $-0.878 V$
 - 4) 0.701 V
- 62.** Which of the following is employed as antihistamine.
- 1) Omeperazole
 - 2) Chloramphenicol
 - 3) Diphenylhydramin
 - 4) Norethindrone
- 63.** Which of the following energy changes occur in galvanic cell?
- 1) Electrical energy \rightarrow Chemical Energy
 - 2) Chemical Energy \rightarrow Electrical Energy
 - 3) Chemical Energy \rightarrow Internal Energy
 - 4) Internal Energy \rightarrow Electrical Energy
- 64.** Which of the following is used to prevent the oxidation of fats in the processed food.
- 1) Sodium sulphate
 - 2) Sodium sulphite
 - 3) BHT
 - 4) Sodium metabisulphite
- 65.** In which of the following cells reactants are not contained within the cell but are continuously supplied from external source?
- 1) Fuel cell
 - 2) Dry cell
 - 3) Lithium battery
 - 4) Lead storage battery
- 66.** The chemical substances used for the treatment of diseases are called.
- 1) Biomolecules
 - 2) Carbohydrates
 - 3) Resins
 - 4) Drugs
- 67.** The standard reduction potentials of $Zn^{2+} | Zn, Cu^{2+} | Cu$ and $Ag^+ | Ag$ are respectively $-0.76, 0.34$ and $0.8 V$. The following cells were constructed.
- a) $Zn|Zn^{2+}||Cu^{2+}|Cu$
 - b) $Zn|Zn^{2+}||Ag^+|Ag$
 - c) $Cu|Cu^{2+}||Ag^+|Ag$
- What is the correct order E_{cell}^0 of these cells?
- 1) $b > c > a$
 - 2) $b > a > c$
 - 3) $a > b > c$
 - 4) $c > a > b$
- 68.** Which one of the following is employed as a tranquillizer drug.
- 1) Mifepristone
 - 2) Promethazine



- 3) Valium
4) Naproxen
69. On the electrolysis 1 mole Al atoms will be deposited by
- 1) 1 mole of electrons
 - 2) 2 moles of electrons
 - 3) 3 moles of electrons
 - 4) 6 moles of electrons
70. The substance used in the birth control pills is
- 1) Tetracycline
 - 2) Sulphadiazine
 - 3) Novestrol
 - 4) Penicillin
71. The amount of electricity that can deposit 108 gm of silver from $AgNO_3$ solution is
- 1) Faraday
 - 2) 1 Ampere
 - 3) 1 Coulomb
 - 4) None
72. The drugs which inhibit the enzymes which catalyse the degradation of noradrenaline are called.
- 1) Antidepressant drugs
 - 2) Antacids
 - 3) Antimicrobial
 - 4) Analgesics
73. The ionic mobilities of the cation and anion of a salt A_2B are 140 and $80 \text{ ohm}^{-1} \text{ cm}^2 \text{ eq}^{-1}$ respectively. The equivalent conductivity of salt at infinite dilution is (in $\text{ohm}^{-1} \text{ cm}^2 \text{ eq}^{-1}$):
- 1) 160
 - 2) 220
 - 3) 60
 - 4) 360
74. Which of the following antibiotics is not effective against infections caused by gram negative bacteria.
- 1) Penicillin
 - 2) Amoxillin
 - 3) Ampicillin
 - 4) All the three
75. In an electrolytic cell current flows from
- 1) Cathode to anode in outer circuit
 - 2) Anode to cathode outside the cell
 - 3) Cathode to anode inside the cell
 - 4) Current does not flow
76. Antidepressant drug among the following is
- 1) Phenelzine
 - 2) Promethazine
 - 3) Naproxen
 - 4) Cimetidine
77. Which of the following occurs at cathode
- 1) $2OH^- \rightarrow H_2O + \frac{1}{2}O_2 + 2e^-$
 - 2) $Ag \rightarrow Ag^+e^-$
 - 3) $Fe^{+2} \rightarrow Fe^{+3} + e^-$
 - 4) $Cu^{+2} + 2e^- \rightarrow Cu$
78. Which of the following is not an antacid
- 1) Histamine
 - 2) Rantidine
 - 3) Omeperazole
 - 4) All of these
79. The equivalent conductivity of a solution containing 2.54g of $CuSO_4$ per litre is $91.0 \text{ } \Omega^{-1} \text{ cm}^2 \text{ eq}^{-1}$. Its conductivity would be
- 1) $1.45 \times 10^{-3} \text{ } \Omega^{-1} \text{ cm}^{-1}$
 - 2) $2.17 \times 10^{-3} \text{ } \Omega^{-1} \text{ cm}^{-1}$
 - 3) $2.90 \times 10^{-3} \text{ } \Omega^{-1} \text{ cm}^2$
 - 4) $2.9 \times 10^{-3} \text{ } \Omega^{-1} \text{ cm}^{-1}$
80. The detergent which is used as a germicide is.
- 1) Sodium lauryl sulphate
 - 2) Cetyltrimethylammonium chloride
 - 3) Lauryl alcohol ethoxylate
 - 4) Sodium-2-dodecylbenzenesulphonate
81. Which of the following does not conduct current in aqueous solution
- 1) KNO_3
 - 2) CH_3COOH
 - 3) CH_3OH
 - 4) $NaOH$
82. Which of the following is used as an antacid?
- 1) Ampicillin
 - 2) Omeprazole
 - 3) Lansoprazole
 - 4) Both 2 & 3
83. The electrochemical equivalent of an element is 0.001118 gm/coulomb. Its equivalent weight is
- 1) 10.7



- 2) 53.5
3) 1007
4) 107
84. Which of the following is not an antipyretic.
- 1) Aspirin
 - 2) Paracetamol
 - 3) Barbituric acid
 - 4) Phenacetin
85. The charge required to reduce 1 mole $Cr_2O_7^{2-}$ to Cr^{+3} ions is
- 1) 3F
 - 2) 3 coulomb
 - 3) 6F
 - 4) $2 \times 6.023 \times 10^{23} e^-$
86. Enzymes are
- 1) Proteins
 - 2) Lipids
 - 3) Carbohydrates
 - 4) Nucleic acids
87. An aqueous solution of which of the following concentration of CH_3COOH is the best conductor.
- 1) $10^1 M$
 - 2) $10^{-3} M$
 - 3) $10^{-1} M$
 - 4) $10^2 M$
88. Aspirin is known as
- 1) Phenylsalicylate
 - 2) Acetylsalicylate
 - 3) Methylsalicylic acid
 - 4) Acetylsalicylic acid
89. The passage of current through a solution of certain electrolyte results in the formation of hydrogen at anode the solution is
- 1) Aqueous HCl
 - 2) Fused CaH_2
 - 3) Sulphuric acid in water
 - 4) Aqueous K_2SO_4
90. Which of the following is not an artificial sweetener
- 1) Sucralose
 - 2) Alitame
 - 3) Saccharin
 - 4) Sucrose

BOTANY

91. Two kingdom system of classification given by Linnaeus, did not distinguish between
- 1) Eukaryotes and Prokaryotes
 - 2) Unicellular and Multicellular
 - 3) Photosynthetic and non – photosynthetic organisms
 - 4) all of the above
92. Major part of the organic matter in the sewage water in decomposed in
- 1) Primary treatment
 - 2) Tertiary treatment
 - 3) Anaerobic sludge digester
 - 4) Aeration tank/oxidation pond
93. Majority of bacteria are
- 1) Chemosynthetic
 - 2) Photosynthetic
 - 3) Saprotrophs
 - 4) Parasitic
94. Read the following statements
- 1) The majority of baculoviruses used as biological control agents are in the genus NPV
 - 2) Cyclosporin A is used as a clot buster
 - 3) The biogas production technology in India is developed by ICAR
 - 4) Whisky, brandy and rum are produced by distillation of fermented broth
95. With respect to fungal sexual cycle, identify the correct sequence of events
- 1) Meiosis, Karyogamy and Plasmogamy
 - 2) Plasmogamy, Karyogamy and Meiosis
 - 3) Plasmogamy, Meiosis and Karyogamy
 - 4) Karyogamy, Plasmogamy and Meiosis
96. Cytotaxonomy is based on
- 1) Chromosome number
 - 2) Cytological information
 - 3) Chromosome structure and behavior
 - 4) All



97. Fungi can show symbiotic association with

- 1) Mosses and Ferns
- 2) Bacteria and Viruses
- 3) Mosses and Bacteria
- 4) Algae or Roots of higher plants

98. Which one of the following is not a correct statement?

- 1) Herbarium stored dried, pressed and preserved plant specimens
- 2) Key is taxonomic aid for identification of specimens
- 3) Botanical gardens have collection of living plants for reference
- 4) A museum has collection of photographs of plants and animals

99. Identify the correct set of parasitic protistans

- 1) Trypanosoma, Paramoecium, Puccinia
- 2) Trypanosoma, Alternaria, Entamoeba
- 3) Albugo, Amoeba, Alternaria
- 4) Plasmodium, Entamoeba, Trypanosoma

100. Which of the following term is correctly matched with their correct term description

	Taxon	Description
1	Taxon	Provide the index to the plant species found in a particular area
2	Flora	Contains the actual account of habitat and distribution of plants of a given area
3	Monograph	Collection of preserved plants and animals
4	Catalogue	Contain information on any one taxon

101. Which of the following is not true for Diatoms?

- 1) Found in fresh water as well as marine water
- 2) Chief decomposers in the ocean
- 3) Cell walls are embedded with silica
- 4) Auxospores are formed as a result of sexual reproduction and they rejuvenatory spores

102. Organic farming does not include

- 1) Crop rotation
- 2) Green manure
- 3) Chemical fertilizers
- 4) Compost and farm yard manure

103. Which is true about viruses?

- 1) They contain both DNA and RNA
- 2) They live as intercellular obligate
- 3) They are non-cellular organisms
- 4) All

104. Which of the following is not an obligate category

- 1) Genus
- 2) Series
- 3) Class
- 4) Kingdom

105. Saprophytic protists are

- 1) Monera
- 2) Dinoflagellates
- 3) Slime moulds
- 4) Plantae

106. Dragon flies are used to get rid of

- 1) Aphids
- 2) Mosquitoes
- 3) Shoot and fruit borers
- 4) Both 1 and 2

107. Which one of the following statement is wrong?

- 1) Blue green algae are known Cyanobacteria
- 2) Chrysophytes includes diatoms and desmids
- 3) Viroids – Nucleo protein infectious agents
- 4) Phycomycetes are also called as Algal fungi

108. Which of the following is non-defining property of living organisms?

- 1) Metabolism
- 2) Reproduction
- 3) Consciousness
- 4) Cellular organization

109. In which of the following cell wall form two thin overlapping shells, which fit together as in soap box

- 1) Diatoms
- 2) dinoflagellates
- 3) Euglenoides



- 4) Slime moulds
- 110.** Select the wrong statement
- 1) Mycorrhiza absorbs phosphorous from soil and passes it to the plant
 - 2) The rumen of cattle harbours methanogens
 - 3) Methanogens are anaerobic microbes
 - 4) The spent slurry in a biogas plant is used as pesticide
- 111.** In most green algae, pyrenoids are located in
- 1) Cytoplasm
 - 2) Chloroplast
 - 3) Mitochondria
 - 4) Golgi bodies
- 112.** Baculovirus belongs to the genus:
- 1) Nucleopolyhedrovirus
 - 2) Cytoplasmic polyhedrosis
 - 3) Retrohedrovirus
 - 4) Granulosis virus
- 113.** Nutrition of gametophytes of pteridophytes is
- 1) Parasitic
 - 2) Saprophytic
 - 3) Autotrophic
 - 4) 2 and 3
- 114.** Which of the following gases are produced by methanogens?
- 1) H_2CO_2, H_2S
 - 2) CH_4, H_2, H_2O_3
 - 3) CO_2, N_2, CH_4
 - 4) H_2, CH_4, CO_2
- 115.** Life cycle of Ectocarpus is
- 1) Diplontic
 - 2) Haplontic
 - 3) Haplo-diplontic
 - 4) Haplo-Haplontic
- 116.** Statement – I: BOD is a measure of organic matter present in water.
Statement – II : Greater is BOD of waste water more is the polluting potential.
- 1) Both S – I & S – II are correct
 - 2) Both S – I & S – II are incorrect
 - 3) S – I is correct but S – II is correct
 - 4) S – I is incorrect but S – II is correct
- 117.** Gamma are a sexual reproductive bodies in

- 1) Marchantia
- 2) Cycas
- 3) Yam
- 4) Equisetum

118. Which of the following microbe forms symbiotic association with plant and help them in their nutrition?

- 1) Trichoderma
- 2) Azotobacter
- 3) Glomus
- 4) Aspergillus

119. The most common mode of a sexual reproduction in Algae, is due to the production in Algae, is to the production of

- 1) Aplanospores
- 2) Zoospores
- 3) Hypnospores
- 4) Conidia

120. A common biocontrol agent for control of plant diseases is

- 1) Glomus
- 2) Bacillus thuringiensis
- 3) Baculovirus
- 4) Trichoderma

121. Identify A, B, C in the figures given below



	A	B	C
1.	Porphyra	Polysiphornia	Fucus
2.	Laminaria	Fucus	Hydrodictyon
3.	Laminaria	Fucus	Dictyota
4.	Fucus	Dictyota	Laminaria

122. Which of the following pairs is wrongly matched?

- 1) Saccharomyces cerevisiae – Ethanol
- 2) Methanobacterium – Biogas
- 3) Acetobacter – Vinegar
- 4) Clostridium – Citric acid



123. Which of the following system of classification is based on natural affinities among existing organisms?

- 1) Linnacus system
- 2) Bantham and Hooker
- 3) Sexual system
- 4) Engler and Pranti

124. The last step of biogas formation is

- 1) Methanogenesis
- 2) Acidogenesis
- 3) Solubilisation of organic compound
- 4) Hydrolysis of organic substances

125. An elaborate mechanism for spore dispersal is present in

- 1) Riccia
- 2) anthoceros
- 3) Marchantia
- 4) Polytrichum

126. Which of the following is wrongly matched in the given table?

S. No	Microbe	Product	Application
1	Streptococcus	Streptokinase	Clot buster
2	Monascus purpureus	Statins	Blood cholesterol lowering agent
3	Aspergillus niger	Proteases & Pectinases	Removal of oily stains
4	Trichoderma polysporum	Cyclosporin A	Immunosuppressive agent

127. Distribution of living pteridophytes is limited and restricted to narrow geographical regions because of

- 1) absence of vasculature in sporophytes
- 2) Gametophytes require cool, damp, shady places to grow
- 3) Water is needed for fertilization
- 4) 2 and 3

128. While working on which of the following bacteria Alexander Fleming discovered Penicillin?

- 1) Streptococci

- 2) Staphylococci
- 3) Streptobacilli
- 4) Streptomyces

129. Find out incorrect match

- 1) Bryophytes – homosporous
- 2) Pteridophytes – mainly homosporous
- 3) Gymnosperms – mostly heterosporous, few homosporous
- 4) Angiosperms - heterosporous

130. Which one of the following alcoholic drinks is not produced by distillation of the fermented broth?

- 1) Brandy
- 2) Wine
- 3) Rum
- 4) Whiskey

131. An event unique to Angiosperms is

- 1) Heterospory
- 2) Seed habit
- 3) Double fertilization
- 4) Pollination

132. In cheese microorganisms are required for

- 1) ripening only
- 2) souring of milk only
- 3) souring and ripening
- 4) development of resistance to spoilage

133. Holdfast, Stipe, Frond constitute plant body in case of

- 1) Laminaria
- 2) Volvox
- 3) Chlamydomonas
- 4) Chlorella

134. Which of the following microbe is proteinacious infectious agent?

- 1) Viroid
- 2) Virusoid
- 3) Prion
- 4) Viruse

135. The predominant stage in the life cycle of moss is gametophyte which consists of two stages. The first stage is

- 1) Prothallus
- 2) Protonema
- 3) Protocorn
- 4) Gametophore



ZOOLOGY

136. Indian Veterinary Research Institute is located at

- 1) New Delhi
- 2) Karnal
- 3) Hissar
- 4) Izzat Nagar

137. Pineal spicules of male Ascaris are

- 1) two equal in size
- 2) Two unequal sized
- 3) Single
- 4) Absent

138. A nutritional disease, which is found in poultry birds is

- 1) rickets
- 2) Ranikhet
- 3) fowl cholera
- 4) aspergillosis

139. Sporozoite of Plasmodium is

- 1) Haploid
- 2) Diploid
- 3) Triploid
- 4) Polyploid

140. In poultry, coccidiosis is caused by

- 1) Protozoan
- 2) virus
- 3) Taenia
- 4) fungus

141. The time interval between the entry of Plasmodium into blood in the form of sporozite and the first appearance of malaria symptoms is

- 1) Incubation period
- 2) Prepatent period
- 3) Resting period
- 4) Gestation period

142. In India, which state occupies first position in poultry farming

- 1) Maharashtra
- 2) Kerala
- 3) Andhra Pradesh
- 4) Uttar Pradesh

143. Reserve food in the cystic form of Entamoeba histolytica is in the form of

- 1) Chromatoid bodies and glycogen granules

2) haemoglobin and haemozoin

3) Glycogen mass and haemozoin

4) Haemoglobin and glycogen granules

144. The process of elimination of diseased birds from a flock is called

- 1) brooding
- 2) dubbing
- 3) culling
- 4) deworming

145. Haemozoin is a

- 1) precursor of hemoglobin
- 2) toxin released from Streptococcus infected cells
- 3) toxin released from Plasmodium infected cells
- 4) toxin released from Haemophilus infected cells

146. Broodiness in layer birds can be rectified by giving the hormonal injection of TM

- 1) progesterone
- 2) oestrogen
- 3) thyroxin
- 4) pituitary extract

147. Match Column – I with Column –II, and select the correct answer from codes given below

Column –I

A. Leishmania donovani

B. Wuchereria bancrofti

C. Trypanosoma gambiense

D. Entamoeba histolytica

Column –II

i. malaria

ii. Amoebiasis

iii. Kala azar

iv. Sleeping sickness

v. Filariasis

1) A-iv, B-ii, C-ii, D-i

2) A-iii, B-iv, C-v, D-ii

3) A-iii, B-v, C-iv, D-ii

4) A-iii, B-v, C-ii, D-i

148. Exotic breeds of poultry are

- 1) White leghorn and Rhode island red
- 2) Rhode island red and Andalusian
- 3) Plymouth and Andalusian
- 4) White leghorn and Andalusian

149. Hepatitis B is transmitted through



- 1) Sneezing
 - 2) Female anopheles
 - 3) Coughing
 - 4) Blood transfusion
- 150.** The buffaloes are better than cows because they
- 1) live longer
 - 2) give more milk
 - 3) are disease resistant
 - 4) All of the above
- 151.** The region in the body where the polio virus multiplies is
- 1) nerve cells
 - 2) muscle cells
 - 3) intestinal cells
 - 4) None of these
- 152.** Earliest animal to be domesticated by primitive man was
- 1) goat
 - 2) dog
 - 3) horse
 - 4) cat
- 153.** Mantoux test is done for
- 1) tuberculosis
 - 2) cholera
 - 3) malaria
 - 4) Both 2 and 3
- 154.** Indian camel is characterized by
- 1) 3 humps
 - 2) 2 hump
 - 3) 1 hump
 - 4) variable number of humps
- 155.** Chickenpox is a viral disease caused by
- 1) Herpes simplex
 - 2) Varicella
 - 3) Herpes zoster
 - 4) Echovirus
- 156.** Jaffrabadi is a breed of
- 1) sheep
 - 2) cattle
 - 3) horse
 - 4) buffalo
- 157.** Hydrophobia is a feature of which disease?
- 1) Polimyelitis
 - 2) Measles
 - 3) Rabies
 - 4) Hepatitis
- 158.** National Dairy Research Institute (NDRI) is situated in
- 1) Lucknow
 - 2) Patna
 - 3) Karnal
 - 4) Ludhiana
- 159.** Diethyl carbamazine is used to treat disease caused by
- 1) Ascaris
 - 2) Wucheraria
 - 3) Yesinia pasties
 - 4) Entameba
- 160.** 33 percent of India's (Gross Domestic Product) comes from
- 1) Industry
 - 2) Agriculture
 - 3) Export
 - 4) small-scale cottage industries
- 161.** Which of the following is not a virus caused STD
- 1) AIDS
 - 2) Gonorrhoea
 - 3) Genital herpes
 - 4) Hepatitis B
- 162.** Exotic breeds
- 1) require specific environment
 - 2) are hardy
 - 3) are sturdy
 - 4) take less food
- 163.** The disease not transmitted through contaminated water
- 1) Typhoid
 - 2) Cholera
 - 3) Amoebiasis
 - 4) Hepatitis B
- 164.** Choose the correct combination of alphabets which matches the zoological names given in column – I with their common name given in column – II
- | Column – I
(Zoological
Names) | Column – II
(Common Names) |
|-------------------------------------|-------------------------------|
| A. <i>Sus scrota</i> | 1. Horse |
| B. <i>Ovis aries</i> | 2. Pig |
| C. <i>Copra capra</i> | 3. Sheep |
| D. <i>Equus caballus</i> | 4. Goat |



- 1) A-2, B-4, C-3, D-1
- 2) A-1, B-3, C-4, D-2
- 3) A-2, B-3, C-4, D-1
- 4) A-4, B-2, C-3, D-1

165. Match the disease in Column – I with the appropriate items (pathogen/prevention/treatment) in Column –II

Column –I	Column –II
A. Amoebiasis	i. Treponema pallidum
B. Diphtheria	ii. Use only sterilized food and water
C. Cholera	iii. DPT Vaccine
D. Syphilis	iv. Use oral rehydration

- 1) A-i, B-i, C-iii, D-iv
- 2) A-ii, B-iii, C-iv, D-i
- 3) A-i, B-ii, C-iii, D-iv
- 4) A-ii, B-iv, C-i, D-iii

166. High milk yielding cross breed Frieswal cow is the product of

- 1) Brown swiss x Sahiwal
- 2) Friesian x Sahiwal
- 3) Holeystein x tharparkar
- 4) Brown swiss x Red sindhi

167. African sleeping sickness is transmitted by

- 1) Glossina palpalis
- 2) Phlebotomus
- 3) Anopheles
- 4) Aedes

168. In honey bee colony the bees with reduced wings and reduced mouth parts are respectively

- 1) Queen and Drones
- 2) Drone and Queens
- 3) Worker and Queens
- 4) Queen and workers

169. Salk – Sabin vaccine used against the disease

- 1) Diphtheria
- 2) Polio
- 3) Typhoid
- 4) Leprosy

170. In bees, dance is meant for

- 1) Reproduction
- 2) Visiting the source of food
- 3) Communication

4) Killing foreign bees

171. The extinct human ancestor, who are only fruits and hunted with stone weapons was

- 1) Ramapithecus
- 2) Dryopithecus
- 3) Homo erectus
- 4) Homo habilis

172. ‘Indian fishery’ refers to

- 1) culturing fish in fresh water
- 2) trapping and capturing fishes from sea coast
- 3) deep sea fishing
- 4) extraction of oil from fishes

173. Who was the first civilized man?

- 1) Cro-Magnon man
- 2) Neanderthal man
- 3) Heidelberg man
- 4) Ternifier man

174. Which of the following is a marine fish

- 1) Catla catla
- 2) Labio rohita
- 3) Hilsa ilisha
- 4) Wallago attu

175. The cranial capacity of Homo erectus was

- 1) Around 1400 cc
- 2) Around 900 cc
- 3) 650-800 cc
- 4) more than 1400 cc

176. Fish meal is a rich source of

- 1) potassium
- 2) iodine
- 3) iron
- 4) vitamin-C

177. Australopithecus lived in

- 1) Asia
- 2) West Africa
- 3) East African grass lands
- 4) Europe

178. Silk is a product of

- 1) cuticle of larva
- 2) cuticle of adult
- 3) salivary gland of larva
- 4) salivary gland of adult

179. The ancestors of Dinosaurs were

- 1) Thecodonts



- 2) Synapsids
- 3) Therapsids
- 4) Pelycosaurs

180. Chemical nature of silk

- 1) lipid
- 2) chitin
- 3) protein
- 4) carbohydrate





PHYSICS

1 – 10	4	1	2	1	2	4	3	2	4	4
11 – 20	3	3	1	2	3	4	4	1	2	1
21 – 30	2	3	2	2	1	2	4	1	3	4
31 – 40	1	1	3	2	3	2	3	1	3	2
41 – 45	2	3	4	3	2					

CHEMISTRY

46 - 50						4	1	2	4	1
51 - 60	4	3	1	1	2	2	2	2	1	3
61 - 70	2	3	2	3	1	4	2	3	3	3
71 - 80	1	1	2	4	1	1	4	1	4	2
81 - 90	3	4	4	3	3	1	2	4	2	4

BOTANY

91 - 100	4	4	3	2	2	4	4	4	4	2
101 - 110	2	3	3	2	3	2	3	2	1	4
111 - 120	2	1	4	4	3	1	1	3	2	4
121 - 130	3	4	2	1	4	3	4	2	3	2
131 - 135	3	3	1	3	2					

ZOOLOGY

136 - 140						4	3	1	2	1
141 - 150	2	3	4	3	3	2	3	1	4	4
151 - 160	3	3	1	3	2	4	3	3	2	2
161 - 170	2	2	4	3	2	2	1	1	2	3
171 - 180	4	1	2	3	2	2	3	3	1	3

TM