

1. If momentum (p), Area (A), Time (T) are taken to be fundamental quantities, then energy has the dimensional formula :-

- (1) $p^1 A^{-1} T^1$ (2) $p^2 A^1 T^1$
 (3) $p^1 A^{-1/2} T^1$ (4) $p^1 A^{1/2} T^{-1}$

2. The displacement x of a particle varies with time as $x = ae^{-\alpha t} + be^{\beta t}$, where a, b, α and β are positive constants. The velocity of the particle will :-

- (1) be independent of α and β
 (2) go on increasing with time
 (3) drop to zero when $\alpha = \beta$
 (4) go on decreasing with time

3. A body moving with a uniform acceleration crosses a distance of 65m in the 5th second and 105m in 9th second. How far will it go in first 20 sec.

- (1) 2040 m (2) 240 m (3) 2400 m (4) 2004 m

4. A ball is dropped from the top of a very high building. Estimate the magnitude of the acceleration of the ball right after it's collision with the ground in m/s^2 .

(Assume collision is perfectly elastic & do not neglect air resistance and $g = 9.8 m/s^2$)

- (1) $9.8 m/s^2$ (2) zero
 (3) $19.6 m/s^2$ (4) None

5. A car is moving horizontally with a velocity v. A shell is fired upward with velocity u from the car. Find the horizontal range of the shell relative to the ground

- (1) $\frac{2uv}{g}$ (2) $\frac{v^2 \sin \theta}{g}$ (3) $\frac{2u}{g}$ (4) $\frac{2T}{g}$

6. A bullet of mass m travelling at speed v strikes a block of mass M at rest and gets embedded in it. Finally both will have combined kinetic energy :-

- (1) $\frac{1}{2}mv^2 \times \left(\frac{m}{m+M}\right)$ (2) $\frac{1}{2}mv^2 \times \left(\frac{M}{m+M}\right)$
 (3) $\frac{1}{2}mv^2 \times \left(\frac{M+m}{M}\right)$ (4) $\frac{1}{2}Mv^2 \times \left(\frac{m}{m+M}\right)$

1. (p), (A), (T)

:-

- (1) $p^1 A^{-1} T^1$ (2) $p^2 A^1 T^1$
 (3) $p^1 A^{-1/2} T^1$ (4) $p^1 A^{1/2} T^{-1}$

2. $x = ae^{-\alpha t} + be^{\beta t}$,
 a, b, α β

- (1) $\alpha = \beta$
 (2) $\alpha > \beta$
 (3) $\alpha < \beta$
 (4) $\alpha = 0$

3. 65m 105m
 20

- (1) 2040 m (2) 240 m (3) 2400 m (4) 2004 m

4. m/s^2

$g = 9.8 m/s^2$

- (1) $9.8 m/s^2$ (2) $19.6 m/s^2$
 (3) $19.6 m/s^2$ (4) $9.8 m/s^2$

5. v u

- (1) $\frac{2uv}{g}$ (2) $\frac{v^2 \sin \theta}{g}$ (3) $\frac{2u}{g}$ (4) $\frac{2T}{g}$

6. m v M

- (1) $\frac{1}{2}mv^2 \times \left(\frac{m}{m+M}\right)$ (2) $\frac{1}{2}mv^2 \times \left(\frac{M}{m+M}\right)$
 (3) $\frac{1}{2}mv^2 \times \left(\frac{M+m}{M}\right)$ (4) $\frac{1}{2}Mv^2 \times \left(\frac{m}{m+M}\right)$

7. Which statement are not correct-
- [a] A body can have momentum without kinetic energy.
- [b] Mechanical energy conservation is defined for non-conservation forces.
- [c] P.E. of an object can have a negative value
- [d] K.E. of an object can have a negative value
- (1) a, c, d (2) a, b, c
- (3) a, b, d (4) a, b, c, d
8. A force acts on a 3 gm particle in such a way that the position of the particle as a function of time is given by $x = 3t - 4t^2 + t^3$, where x is meters and t is in seconds. The work done during the first 4 second is-
- (1) 384 mJ (2) 168 mJ
- (3) 528 mJ (4) 541 mJ
9. A motor cyclist want to drive on the vertical surface of a wooden well of radius 10 m with a minimum speed of 20 m/s. The minimum value of coefficient of friction between the tyres and the wall of the wood must be ($g = 10\text{m/s}^2$) :-
- (1) 0.4 (2) 0.2 (3) 0.5 (4) 0.25
10. A uniform cylinder has a radius R and length L. If the moment of inertia of this cylinder about an axis passing through its centre and normal to its circular face is equal to the moment of inertia of the same cylinder about an axis passing through its centre and normal its length; then :
- (1) $L = R$ (2) $L = \sqrt{3} R$
- (3) $L = \frac{R}{\sqrt{3}}$ (4) $L = 0$
11. Two identical solid cylinders run a race starting from rest at the top of an inclined plane. If one cylinder slides and the other rolls:
- (1) The sliding cylinder will reach the bottom first with greater speed
- (2) The rolling cylinder will reach the bottom first with greater speed
- (3) Both will reach the bottom simultaneously with the same speed
- (4) Both will reach the bottom simultaneously but with different speeds

7. [a]
- [b]
- [c]
- [d]
- (1) a, c, d (2) a, b, c
- (3) a, b, d (4) a, b, c, d
8. 3 gm
- $x = 3t - 4t^2 + t^3$
- (1) 384 mJ (2) 168 mJ
- (3) 528 mJ (4) 541 mJ
9. 10 m
- 20 m/s
- ($g = 10\text{m/s}^2$) :-
- (1) 0.4 (2) 0.2 (3) 0.5 (4) 0.25
10. R L
- (Face)
- (1) $L = R$ (2) $L = \sqrt{3} R$
- (3) $L = \frac{R}{\sqrt{3}}$ (4) $L = 0$
11. (1)
- (2)
- (3)
- (4)

12. A stationary hydrogen atom of mass M emits a photon corresponding to the first line of Lyman series. If R is the Rydberg's constant, the velocity that the atom acquires is :-

- (1) $\frac{3Rh}{4M}$ (2) $\frac{Rh}{4M}$ (3) $\frac{Rh}{2M}$ (4) $\frac{Rh}{M}$

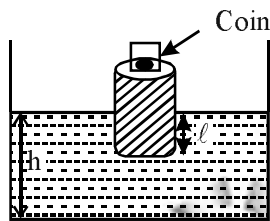
13. 10^{-3} W of 5000 Å light is directed on a photoelectric cell. If the current in the cell is 0.16 mA, the percentage of incident photons which produce photoelectrons, is :-

- (1) 40% (2) 0.4% (3) 20% (4) 10%

14. A radioactive element X converts into another stable element Y. Half-life of X is 2h. Initially, only X is present after time t , the ratio of atoms of X and Y is found to be 1 : 4 then t in hours is :-

- (1) 2 (2) 4
(3) Between 4 and 6 (4) 6

15. A wooden block, with a coin placed on its top, floats in water as shown in figure the distance l and h are shown there. After some time the coin falls into the water. Then :-



- (1) l decreases and h increases
(2) l increases and h decreases
(3) Both l and h increases
(4) Both l and h decreases

16. Dettol antiseptic lotion is used for nursing cuts and wounds on the body because its surface tension is :-

- (1) Less so it spreads well into the wound
(2) High so it spreads well into the wound
(3) Less so that it does not spread on the surface of other parts of the body
(4) High so that it does not spread on the surface of other parts of the body

17. To expel half the mass of air from a large flask at 27°C it must be heated to :

- (1) 54°C (2) 177°C

12. M

R

:-

- (1) $\frac{3Rh}{4M}$ (2) $\frac{Rh}{4M}$ (3) $\frac{Rh}{2M}$ (4) $\frac{Rh}{M}$

13. 5000 Å

10^{-3}

0.16 mA

:-

- (1) 40% (2) 0.4% (3) 20% (4) 10%

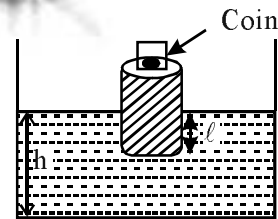
14.

- X X X X X
Y 1 : 4 t X
(1) 2 (2) 4
(3) 4 6 (4) 6

15.

l h

:-



- (1) l h
(2) l h
(3) l h
(4) l h

16.

:-

- (1)
(2)
(3)
(4)

17. 27°C

18. Two rods of lengths L_1 and L_2 are made of materials whose coefficients of linear expansion are α_1 and α_2 . If the difference between the two lengths is independent of temperature :

- (1) $(L_1/L_2) = (\alpha_1/\alpha_2)$ (2) $(L_1/L_2) = (\alpha_2/\alpha_1)$
 (3) $L_1^2\alpha_1 = L_2^2\alpha_2$ (4) $\alpha_1^2L_1 = \alpha_2^2L_2$

19. A Carnot engine works first between 200°C and 0°C and then between 0°C and -200°C . The ratio of its efficiency in these two cases is :

- (1) 1.0 (2) 0.721 (3) 0.577 (4) 0.34

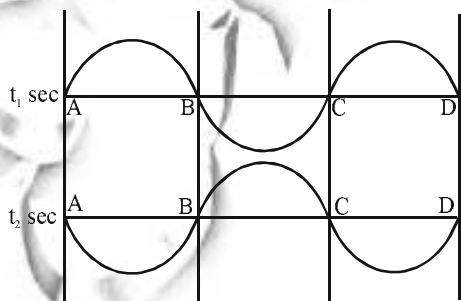
20. Three samples of the same gas A, B and C ($\gamma = 3/2$) have initially equal volume. Now the volume of each sample is doubled. The process is adiabatic for A, isobaric for B and isothermal for C. If the final pressures are equal for all the three samples, the ratio of their initial pressures is :

- (1) $2\sqrt{2} : 2 : 1$ (2) $2\sqrt{2} : 1 : 2$
 (3) $\sqrt{2} : 1 : 2$ (4) $2 : 1 : \sqrt{2}$

21. A particle is in linear simple harmonic motion between two points, A and B, 10 cm apart. Take the direction from A to B as the positive direction and give the signs of velocity, acceleration and displacement. If particle is 2 cm away from A and going towards B :-

- (1) -ve, +ve, +ve (2) +ve, -ve, +ve
 (3) +ve, +ve, -ve (4) +ve, +ve, +ve

22. For transverse stationary wave in string follow two picture are shown, freq of system is 250 Hz. Then correct statement for difference between t_1 & t_2 is :-



- (1) $\frac{1}{250}$ s (2) $\frac{1}{500}$ s (3) $\frac{1}{125}$ s (4) 500s

23. Waves from three sources of the same intensity and frequencies 2003, 2005 and 2013 Hz super-impose. The number beats per second is :

- (1) 2 (2) 10 (3) 17 (4) 20

18. L_1 L_2
 α_1 α_2

- (1) $(L_1/L_2) = (\alpha_1/\alpha_2)$ (2) $(L_1/L_2) = (\alpha_2/\alpha_1)$
 (3) $L_1^2\alpha_1 = L_2^2\alpha_2$ (4) $\alpha_1^2L_1 = \alpha_2^2L_2$

19. 200°C 0°C
 0°C -200°C

- (1) 1.0 (2) 0.721 (3) 0.577 (4) 0.34

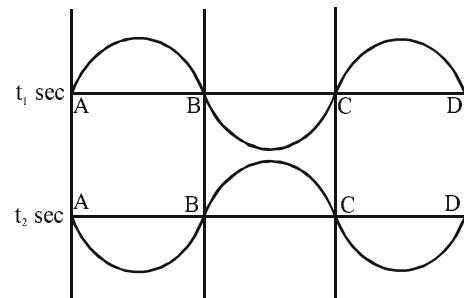
20. $C(\gamma = 3/2)$ A, B C
 A B

- (1) $2\sqrt{2} : 2 : 1$ (2) $2\sqrt{2} : 1 : 2$
 (3) $\sqrt{2} : 1 : 2$ (4) $2 : 1 : \sqrt{2}$

21. A B 10 cm SHM
 A B
 A 2 cm B

- (1) -ve, +ve, +ve (2) +ve, -ve, +ve
 (3) +ve, +ve, -ve (4) +ve, +ve, +ve

22. t_1 t_2
 250 Hz :-



- (1) $\frac{1}{250}$ s (2) $\frac{1}{500}$ s (3) $\frac{1}{125}$ s (4) 500s

23. 2003, 2005 2013 Hz

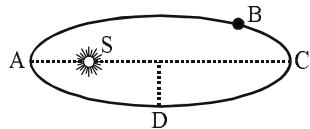
24. The same note being played on sitar and veena differ is

- (1) pitch
- (2) quality
- (3) both pitch and quality
- (4) neither pitch nor quality

25. A sonometer wire is vibrating in the second overtone. In the wire there are

- (1) Three nodes and two antinodes
- (2) Four nodes and three antinodes
- (3) Three nodes and three antinodes
- (4) Four nodes and four antinodes

26. A planet revolves in elliptical orbit around the sun. The linear speed of the planet will be maximum at:-



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

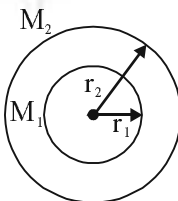
27. A spherical shells is cut into two pieces along a chord as shown in the figure. P is a point on the plane of the chord. The gravitational field at P due to the upper part is I_1 and that due to the lower part is I_2 . What is the relation between them :-

- (1) $I_1 > I_2$
- (2) $I_1 < I_2$
- (3) $I_1 = I_2$
- (4) No definite relation



28. Two concentric shells of masses M_1 and M_2 are having radii r_1 and r_2 . Which of the following is the correct expression for the gravitational field on a unit mass :-

- (1) $F = \frac{G(M_1 + M_2)}{r^2}$, for $r < r_1$
- (2) $F = \frac{G(M_1 + M_2)}{r^2}$, for $r < r_2$
- (3) $F = \frac{GM_2}{r^2}$, for $r_1 < r < r_2$
- (4) $F = \frac{GM_1}{r^2}$, for $r_1 < r < r_2$



24.

- (1)
- (2)
- (3)
- (4)

25.

- (1)
- (2)
- (3)
- (4)

26.

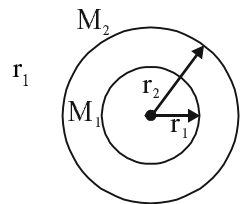
- (1) A
- (2) B
- (3) C
- (4) D

27.

- (1) $I_1 > I_2$
- (2) $I_1 < I_2$
- (3) $I_1 = I_2$
- (4)

28.

- M_1 M_2
(Concentric)
- (1) $F = \frac{G(M_1 + M_2)}{r^2}$, for $r < r_1$
 - (2) $F = \frac{G(M_1 + M_2)}{r^2}$, for $r < r_2$
 - (3) $F = \frac{GM_2}{r^2}$, for $r_1 < r < r_2$
 - (4) $F = \frac{GM_1}{r^2}$, for $r_1 < r < r_2$



29. The condition for a uniform spherical mass m of radius r to be a black hole is :-

(G = gravitational constant and g = acceleration due to gravity)

- (1) $(2Gm / r)^{1/2} \leq c$ (2) $(2gm / r)^{1/2} < c$
 (3) $(2Gm / r)^{1/2} \geq c$ (4) $(gm / r)^{1/2} \geq c$

30. An insulating solid sphere of radius ' R ' is charged in a non-uniform manner such that volume charge

density $\rho = \frac{A}{r}$, where A is a positive constant and

r the distance from centre. Electric field strength at any inside point at distance r_1 is :

- (1) $\frac{1}{4\pi\epsilon_0} \frac{4\pi A}{r_1}$ (2) $\frac{1}{4\pi\epsilon_0} \frac{A}{r_1}$

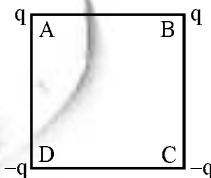
- (3) $\frac{A}{\pi\epsilon_0}$ (4) $\frac{A}{2\epsilon_0}$

31. A infinitely long line charge having a uniform charge per unit length λ lies a distance d from point O . Determine the total electric flux through the surface of a sphere of radius R ($R > d$) :-

- (1) $\phi = \frac{\lambda\sqrt{R^2 - d^2}}{\epsilon_0}$ (2) $\phi = \frac{2\lambda\sqrt{R^2 - d^2}}{\epsilon_0}$

- (3) $\phi = \frac{3\lambda\sqrt{R^2 - d^2}}{\epsilon_0}$ (4) $\phi = \frac{4\lambda\sqrt{R^2 - d^2}}{\epsilon_0}$

32. Charges are placed on the vertices of a square as shown. Let \vec{E} be the electric field and V the potential at the centre. If the charges on A and B are interchanged with those on D and C respectively, then :



- (1) \vec{E} changes, V remains unchanged
 (2) \vec{E} remains unchanged, V changes
 (3) Both \vec{E} and V change

29. r m
 (Black hole) :-

($G =$ $g =$)

- (1) $(2Gm / r)^{1/2} \leq c$ (2) $(2gm / r)^{1/2} < c$
 (3) $(2Gm / r)^{1/2} \geq c$ (4) $(gm / r)^{1/2} \geq c$

30. ' R '

$\rho = \frac{A}{r}$, A
 r_1

- (1) $\frac{1}{4\pi\epsilon_0} \frac{4\pi A}{r_1}$ (2) $\frac{1}{4\pi\epsilon_0} \frac{A}{r_1}$

- (3) $\frac{A}{\pi\epsilon_0}$ (4) $\frac{A}{2\epsilon_0}$

31.

λ O
 d R

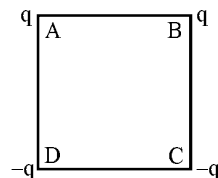
($R > d$) :-

- (1) $\phi = \frac{\lambda\sqrt{R^2 - d^2}}{\epsilon_0}$ (2) $\phi = \frac{2\lambda\sqrt{R^2 - d^2}}{\epsilon_0}$

- (3) $\phi = \frac{3\lambda\sqrt{R^2 - d^2}}{\epsilon_0}$ (4) $\phi = \frac{4\lambda\sqrt{R^2 - d^2}}{\epsilon_0}$

32.

\vec{E} V A
 B D C

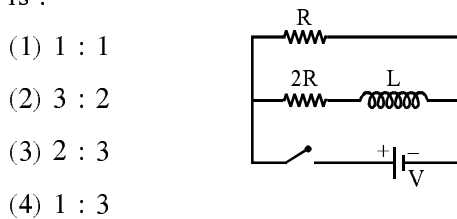


- (1) \vec{E} , V
 (2) \vec{E} , V
 (3) \vec{E} V
 (4) \vec{E} V

33. If ϵ_0 and μ_0 are the electric permittivity and magnetic permeability in free space, ϵ and μ are corresponding quantities in medium, the index of refraction of the medium is :-

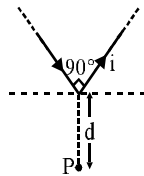
- (1) $\sqrt{\frac{\epsilon_0 \mu}{\epsilon \mu_0}}$ (2) $\sqrt{\frac{\epsilon}{\epsilon_0}}$
 (3) $\sqrt{\frac{\epsilon_0 \mu_0}{\epsilon \mu}}$ (4) $\sqrt{\frac{\epsilon \mu}{\epsilon_0 \mu_0}}$

34. The ratio of time constants during current growth and current decay of the circuit shown in figure is :-



- (1) 1 : 1
 (2) 3 : 2
 (3) 2 : 3
 (4) 1 : 3

35. Magnetic field at point 'P' due to given current distribution :-



- (1) $\frac{\mu_0 i}{\sqrt{2}\pi d} \left(1 - \frac{1}{\sqrt{2}}\right) \otimes$
 (2) $\frac{2\mu_0 i}{\sqrt{2}\pi d} \otimes$
 (3) $\frac{\mu_0 i}{\sqrt{2}\pi d} \otimes$
 (4) $\frac{\mu_0 i}{\sqrt{2}\pi d} \left(1 + \frac{1}{\sqrt{2}}\right) \otimes$

36. Magnetic field at the centre of a circular loop of area A is B. The magnetic moment of loop will be :-

- (1) $\frac{BA^2}{\mu_0 \pi}$ (2) $\frac{BA\sqrt{A}}{\mu_0}$
 (3) $\frac{BA\sqrt{A}}{\mu_0 \pi}$ (4) $\frac{2BA}{\mu_0} \sqrt{\frac{A}{\pi}}$

33. $\epsilon_0 \in$
 $\mu_0 \mu$

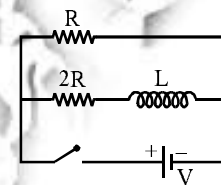
:-

- (1) $\sqrt{\frac{\epsilon_0 \mu}{\epsilon \mu_0}}$ (2) $\sqrt{\frac{\epsilon}{\epsilon_0}}$
 (3) $\sqrt{\frac{\epsilon_0 \mu_0}{\epsilon \mu}}$ (4) $\sqrt{\frac{\epsilon \mu}{\epsilon_0 \mu_0}}$

34.

:-

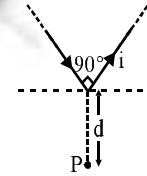
- (1) 1 : 1
 (2) 3 : 2
 (3) 2 : 3
 (4) 1 : 3



35.

P

:-



- (1) $\frac{\mu_0 i}{\sqrt{2}\pi d} \left(1 - \frac{1}{\sqrt{2}}\right) \otimes$
 (2) $\frac{2\mu_0 i}{\sqrt{2}\pi d} \otimes$
 (3) $\frac{\mu_0 i}{\sqrt{2}\pi d} \otimes$
 (4) $\frac{\mu_0 i}{\sqrt{2}\pi d} \left(1 + \frac{1}{\sqrt{2}}\right) \otimes$

36.

A

B

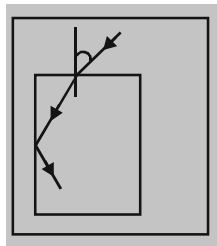
:-

- (1) $\frac{BA^2}{\mu_0 \pi}$ (2) $\frac{BA\sqrt{A}}{\mu_0}$
 (3) $\frac{BA\sqrt{A}}{\mu_0 \pi}$ (4) $\frac{2BA}{\mu_0} \sqrt{\frac{A}{\pi}}$

37. A virtual current 4A and 50 Hz flows in an circuit containing a coil the power consumed in the coil is 240 W. If the virtual voltage across the coil is 100V then its inductance of coil will be :-

- (1) $\frac{1}{3\pi}$ H (2) $\frac{1}{5\pi}$ H
 (3) $\frac{1}{7\pi}$ H (4) $\frac{1}{9\pi}$ H

38. For the given incident ray as shown in figure, the condition of total internal refraction of this ray the minimum refractive index of prism will be :-



- (1) $\frac{\sqrt{3}+1}{2}$ (2) $\frac{\sqrt{2}+1}{2}$
 (3) $\sqrt{\frac{3}{2}}$ (4) $\sqrt{\frac{7}{6}}$

39. A bulb is located on a wall. Its image is to be obtained on a parallel wall with the help of convex lens. If the distance between parallel walls is 'd' then required focal length of lens placed in between the walls is :-

- (1) Only $\frac{d}{4}$
 (2) Only $\frac{d}{2}$
 (3) More than $\frac{d}{4}$ but less than $\frac{d}{2}$
 (4) Less than or equal to $\frac{d}{4}$

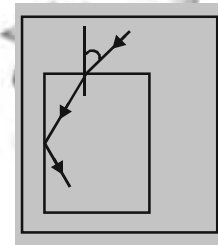
40. In Young's experiment, the distance between two coherent sources is $\frac{0.1}{\pi}$ mm, The distance of the screen from the slit is 25 cm. wave length of light used is 5000\AA . Then the angular position of the first dark fringe is :-

- (1) 10° (2) 0.15°

37. 4A 50 Hz
 240 W 100V
 :-

- (1) $\frac{1}{3\pi}$ H (2) $\frac{1}{5\pi}$ H
 (3) $\frac{1}{7\pi}$ H (4) $\frac{1}{9\pi}$ H

38.



- (1) $\frac{\sqrt{3}+1}{2}$ (2) $\frac{\sqrt{2}+1}{2}$
 (3) $\sqrt{\frac{3}{2}}$ (4) $\sqrt{\frac{7}{6}}$

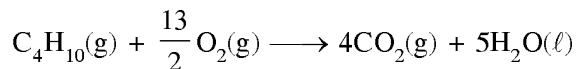
39.

- (1) $\frac{d}{4}$
 (2) $\frac{d}{2}$
 (3) $\frac{d}{4}$ $\frac{d}{2}$
 (4) $\frac{d}{4}$ $\frac{d}{4}$

40.

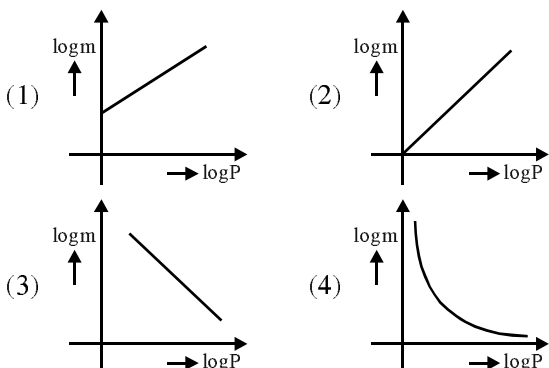
- $\frac{0.1}{\pi}$ 25
 5000\AA
 www.examrace.com
 (1) 10° (2) 0.15°

41. Protective sols are :-
 (1) Lyophilic (2) Lyophobic
 (3) Both (1) and (2) (4) None of these
42. A fuel cell involves combustion of butane at 1 atm and 298 K :-

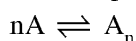


$$\Delta G^\circ = -3746 \text{ KJ/mol}$$

- (1) 1.09 V (2) 1.49 V
 (3) 4.74 V (4) 0.547 V
43. Which of the following curves represents the Henry's law ?



44. One mole of a solute A is dissolved in a given volume of a solvent. The association of the solute takes place as follows

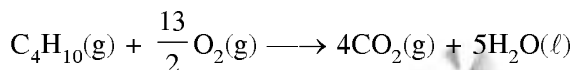


If α is the degree of association of A, the van't Hoff factor i is expressed as :-

- (1) $i = 1 - \alpha$ (2) $i = 1 + \frac{\alpha}{n}$
 (3) $i = \frac{1 - \alpha + \frac{\alpha}{n}}{1}$ (4) $i = 1$
45. Total charge required for the oxidation of two moles Mn_3O_4 into MnO_4^{-2} in presence of alkaline medium is :-

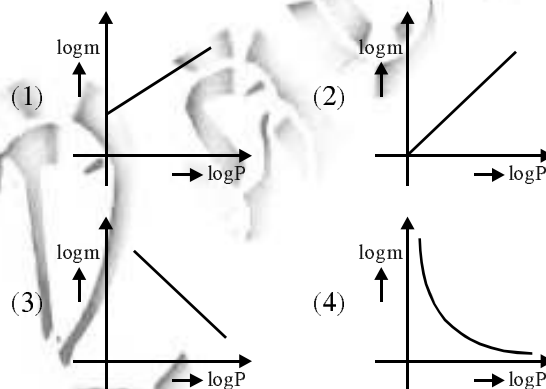
- (1) 5F (2) 10F
 (3) 20F (4) None of these
46. Which of the following is a buffer solution ?
 (1) 500 mL of 0.1 N CH_3COOH + 500 mL of 0.1 N NaOH
 (2) 500 mL of 0.1 N CH_3COOH + 500 mL of 0.1 N HCl
 (3) 500 mL of 0.1 N CH_3COOH + 500 mL of 0.2 N NaOH
 (4) 500 mL of 0.2 N CH_3COOH + 500 mL of 0.1

41. :-
 (1) (2)
 (3) (1) (2) (4)
 42. 1 298 K



$$\Delta G^\circ = -3746 \text{ KJ/mol}$$

- (1) 1.09 V (2) 1.49 V
 (3) 4.74 V (4) 0.547 V
- 43.



44. 'A'
 $n\text{A} \rightleftharpoons \text{A}_n$
 α

i :-

- (1) $i = 1 - \alpha$ (2) $i = 1 + \frac{\alpha}{n}$
 (3) $i = \frac{1 - \alpha + \frac{\alpha}{n}}{1}$ (4) $i = 1$

45. Mn_3O_4 MnO_4^{-2} :-
 (1) 5F (2) 10F
 (3) 20F (4)

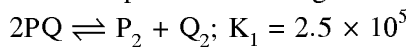
46.
 (1) 500 mL of 0.1 N CH_3COOH + 500 mL of 0.1 N NaOH
 (2) 500 mL of 0.1 N CH_3COOH + 500 mL of 0.1 N HCl
 (3) 500 mL of 0.1 N CH_3COOH + 500 mL of 0.2 N NaOH
 (4) 500 mL of 0.2 N CH_3COOH + 500 mL of

47. H_3PO_4 is a weak triprotic acid; approximate pH of 0.1 M Na_2HPO_4 (aq.) is calculated by :-

(1) $\frac{1}{2} [\text{pK}_{a_1} + \text{pK}_{a_2}]$ (2) $\frac{1}{2} [\text{pK}_{a_2} + \text{pK}_{a_3}]$

(3) $\frac{1}{2} [\text{pK}_{a_1} + \text{pK}_{a_3}]$ (4) $\text{pK}_{a_1} + \text{pK}_{a_2}$

48. Consider the following reactions in which all the reactants and products are in gaseous state :-



The value of K_3 for the equilibrium

(1) 2.5×10^{-3} (2) 2.5×10^3

(3) 1.0×10^{-5} (4) 5×10^3

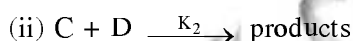
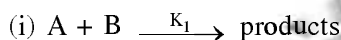
49. A sample of ammonium phosphate, $(\text{NH}_4)_3\text{PO}_4$, contains 6 moles of hydrogen atoms. The number of moles of oxygen atoms in the sample is :-

(1) 1 (2) 2 (3) 4 (4) 6

50. An element crystallises in a 'bcc' lattice. Nearest neighbours and next nearest neighbours of the elements are respectively :-

(1) 8, 8 (2) 8, 6 (3) 6, 8 (4) 6, 6

51. Given the following second order reactions occurring at a certain temperature (T_1) :-



The activation energy for reaction (i) is E_{a_1} and for (ii) it is E_{a_2} such that $E_{a_1} > E_{a_2}$. If the temperature of both the system is increased from T_1 to T_2 , choose the correct relation from the following :-

(1) $\frac{K_1(T_2)}{K_2(T_1)} = \frac{K_2(T_2)}{K_2(T_1)}$ (2) $\frac{K_1(T_2)}{K_1(T_1)} > \frac{K_2(T_2)}{K_2(T_1)}$

(3) $\frac{K_1(T_2)}{K_1(T_1)} < \frac{K_2(T_2)}{K_2(T_1)}$ (4) None of the above

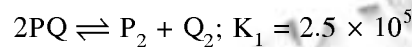
where $K_1(T_1)$, $K_1(T_2)$ & $K_2(T_1)$, $K_2(T_2)$ are rate constant for reaction (i) and (ii) at temperature T_1 and T_2 respectively

47. H_3PO_4 0.1 M
 Na_2HPO_4 (aq.) pH :-

(1) $\frac{1}{2} [\text{pK}_{a_1} + \text{pK}_{a_2}]$ (2) $\frac{1}{2} [\text{pK}_{a_2} + \text{pK}_{a_3}]$

(3) $\frac{1}{2} [\text{pK}_{a_1} + \text{pK}_{a_3}]$ (4) $\text{pK}_{a_1} + \text{pK}_{a_2}$

48.



(1) 2.5×10^{-3} (2) 2.5×10^3

(3) 1.0×10^{-5} (4) 5×10^3

49. $(\text{NH}_4)_3\text{PO}_4$ 6

:-

(1) 1 (2) 2

(3) 4 (4) 6

50.

'bcc'

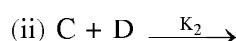
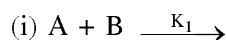
:-

(1) 8, 8 (2) 8, 6 (3) 6, 8 (4) 6, 6

51.

(T_1)

:-



(i) E_{a_1} (ii) E_{a_2}

$E_{a_1} > E_{a_2}$

T_1 T_2

:-

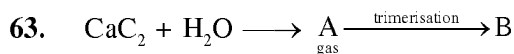
(1) $\frac{K_1(T_2)}{K_2(T_1)} = \frac{K_2(T_2)}{K_2(T_1)}$ (2) $\frac{K_1(T_2)}{K_1(T_1)} > \frac{K_2(T_2)}{K_2(T_1)}$

(3) $\frac{K_1(T_2)}{K_1(T_1)} < \frac{K_2(T_2)}{K_2(T_1)}$ (4)

(i) $K_1(T_1), K_1(T_2)$ $K_2(T_1), K_2(T_2)$
 (ii) T_1 T_2 www.examrace.com

52. The wave length will be minimum for which at the following electronic transition :-
 (1) $n = 6$ to $n = 4$ (2) $n = 4$ to $n = 2$
 (3) $n = 3$ to $n = 1$ (4) $n = 2$ to $n = 1$
53. If the nitrogen atom had electronic configuration $1s^7$, it would have energy lower than that of the normal ground state configuration $1s^2 2s^2 2p^3$ because the electrons would be closer to the nucleus. Yet $1s^7$ is not observed because it violates :-
 (1) Heisenberg uncertainty principle
 (2) Hund's rule
 (3) Pauli exclusion principle
 (4) Bohr postulate of stationary orbits
54. The enthalpy of vaporization of a liquid is 30 kJ mol^{-1} and entropy of vaporization is 75 J mol^{-1} . The boiling point of the liquid at 1 atm is :-
 (1) 250 K (2) 400 K (3) 450 K (4) 600 K
55. An LPG cylinder contains 15 kg of butane gas at 27°C and 10 atm pressure. It was leaking and its pressure fell down to 8 atm pressure. The gas leaked is :-
 (1) 2 kg (2) 1 kg (3) 4 kg (4) 3 kg
56. Ionisation energy of F^{-1} is -320 kJ/mol then electron affinity of F would be :-
 (1) -320 (2) -160
 (3) $+320$ (4) $+160 \text{ kJ/mol}$
57. Which one is not an element :-
 (1) Graphite (2) 22-K gold
 (3) S-rhombic (4) P-black
58. Which is not paramagnetic :-
 (1) NO (2) S^{-2} (3) O_2^{-1} (4) N_2^+
59. Which shows largest bond angle :-
 (1) I_3^{-1} (2) I_3^+ (3) NO_2^- (4) H_2O
60. Fenton reagent is :
 (1) $\text{SnCl}_2 + \text{H}_2\text{O}_2$ (2) $\text{CuSO}_4 + \text{H}_2\text{O}_2$
 (3) $\text{FeSO}_4 + \text{H}_2\text{O}_2$ (4) $\text{AgNO}_3 + \text{NH}_4\text{OH}$
61. Which of the following is most basic :-
 (1) $\text{Be}(\text{OH})_2$ (2) $\text{Al}(\text{OH})_3$
 (3) LiOH (4) $\text{Ba}(\text{OH})_2$
62. Dihedral bond angle of H_2O_2 in solid phase is :-
 (1) 60° (2) 111.5° (3) 90.2° (4) 95.3°

52. (1) $n = 6$ to $n = 4$ (2) $n = 4$ to $n = 2$
 (3) $n = 3$ to $n = 1$ (4) $n = 2$ to $n = 1$
53. $1s^7$
 $1s^2 2s^2 2p^3$
 :-
 (1)
 (2)
 (3)
 (4)
 30 kJ mol^{-1}
 75 J mol^{-1}
 :-
 (1) 250 K (2) 400 K
 (3) 450 K (4) 600 K
55. 27°C 10 atm LPG
 15 kg
 8 atm
 :-
 (1) 2 kg (2) 1 kg (3) 4 kg (4) 3 kg
56. F^{-1} -320 kJ/mol F
 (1) -320 (2) -160
 (3) $+320$ (4) $+160 \text{ kJ/mol}$
57. (1) (2) 22-K
 (3) S- (4) P-
58. (1) NO (2) S^{-2} (3) O_2^{-1} (4) N_2^+
59. (1) I_3^{-1} (2) I_3^+ (3) NO_2^- (4) H_2O
60. (1) $\text{SnCl}_2 + \text{H}_2\text{O}_2$ (2) $\text{CuSO}_4 + \text{H}_2\text{O}_2$
 (3) $\text{FeSO}_4 + \text{H}_2\text{O}_2$ (4) $\text{AgNO}_3 + \text{NH}_4\text{OH}$
61. (1) $\text{Be}(\text{OH})_2$ (2) $\text{Al}(\text{OH})_3$
 (3) LiOH (4) $\text{Ba}(\text{OH})_2$
62. H_2O_2 www.examrace.com
 (1) 60° (2) 111.5° (3) 90.2° (4) 95.3°



here B is :

- (1) C_2H_2 (2) C_3H_8 (3) C_2H_4 (4) C_6H_6

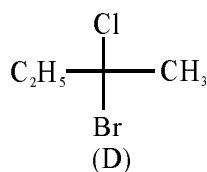
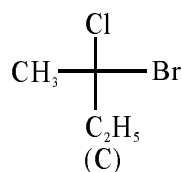
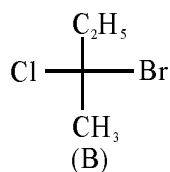
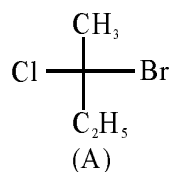
64. Number of bridging ligand and number of bromine atoms in compound decaammine- μ -hydroxo dichromium(III) bromide are respectively :-

- (1) 1, 5 (2) 2, 6 (3) 1, 4 (4) 1, 3

65. EAN of Mn in $\text{Mn}_2(\text{CO})_{10}$ is :

- (1) 35 (2) 34 (3) 36 (4) 33

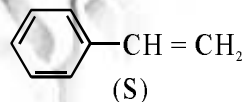
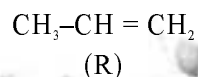
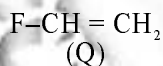
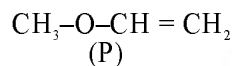
66. Consider the following structures (A), (B), (C) & (D)



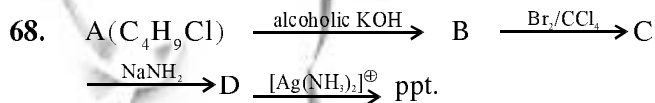
Incorrect statement is:-

- (1) B and C are identical
 (2) A and B are enantiomers
 (3) A and C are enantiomers
 (4) B and D are enantiomers

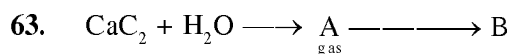
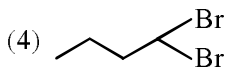
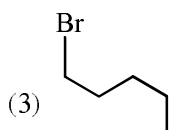
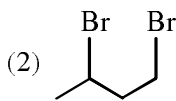
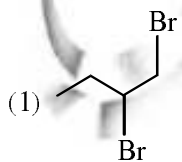
67. Rates of hydration of the following alkenes are :-



- (1) $\text{P} > \text{Q} > \text{R} > \text{S}$ (2) $\text{S} > \text{R} > \text{Q} > \text{P}$
 (3) $\text{P} > \text{S} > \text{R} > \text{Q}$ (4) $\text{R} > \text{S} > \text{P} > \text{Q}$



Find structure of 'C' :-



B

- (1) C_2H_2 (2) C_3H_8 (3) C_2H_4 (4) C_6H_6

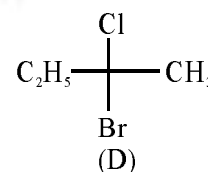
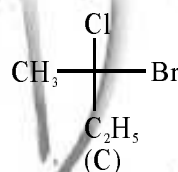
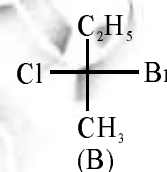
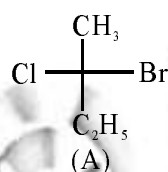
64. μ -Br (III)

- (1) 1, 5 (2) 2, 6 (3) 1, 4 (4) 1, 3

65. $\text{Mn}_2(\text{CO})_{10}$ Mn EAN

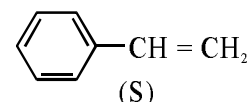
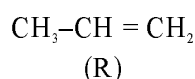
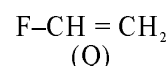
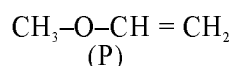
- (1) 35 (2) 34 (3) 36 (4) 33

66. (A), (B), (C) (D)

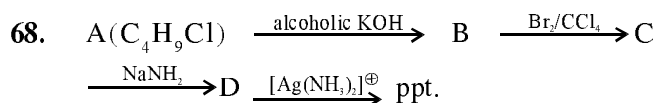


- (1) B C
 (2) A B
 (3) A C
 (4) B D

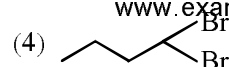
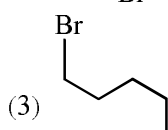
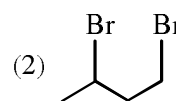
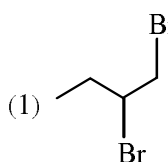
67.

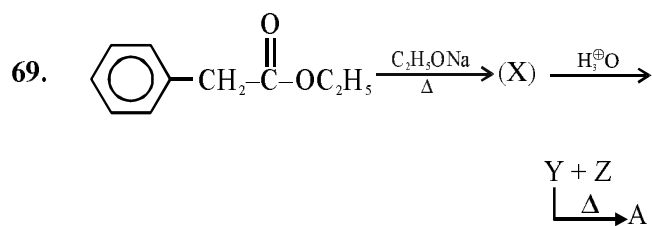


- (1) $\text{P} > \text{Q} > \text{R} > \text{S}$ (2) $\text{S} > \text{R} > \text{Q} > \text{P}$
 (3) $\text{P} > \text{S} > \text{R} > \text{Q}$ (4) $\text{R} > \text{S} > \text{P} > \text{Q}$

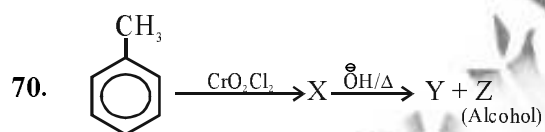
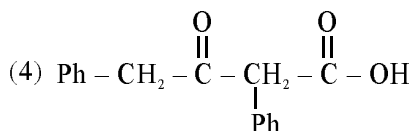
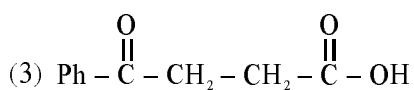
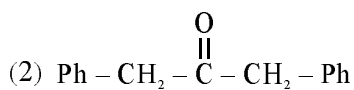
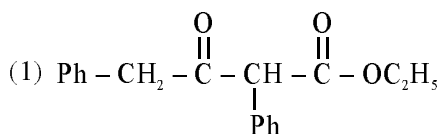


'C'

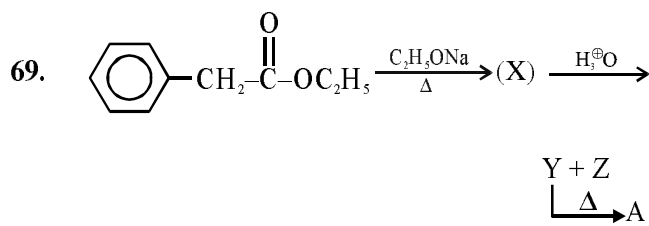
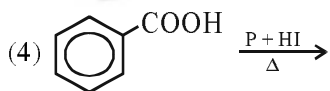
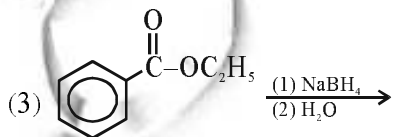
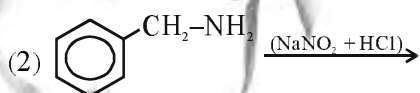
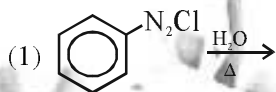




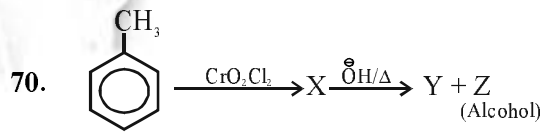
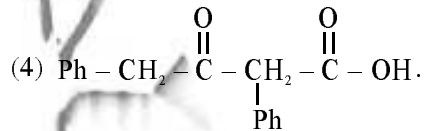
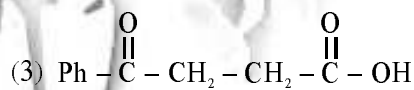
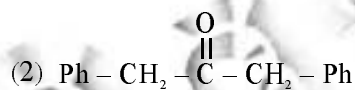
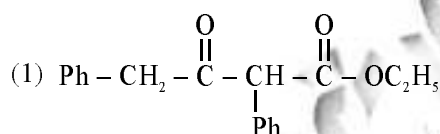
Find final product 'A' :-



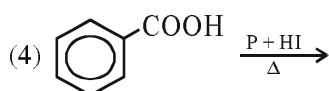
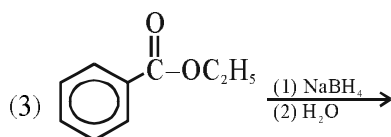
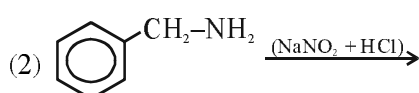
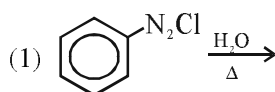
Z can also be obtained by

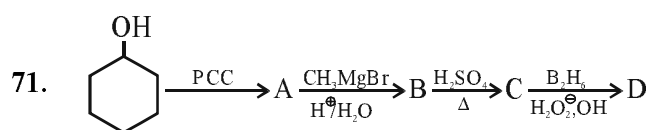


'A'

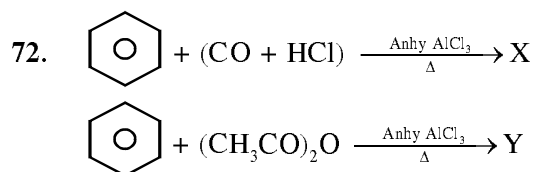
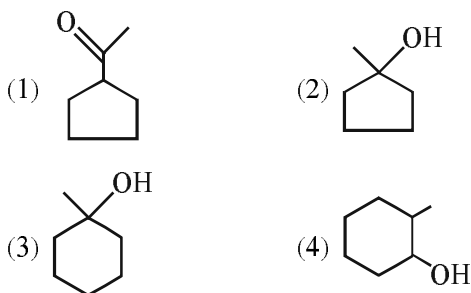


Z

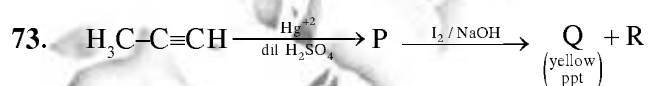
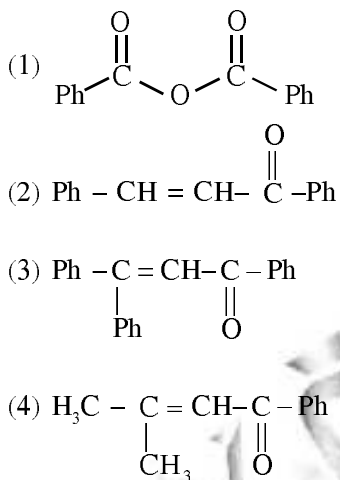




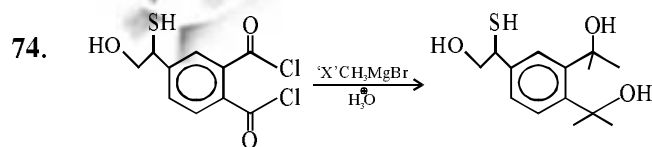
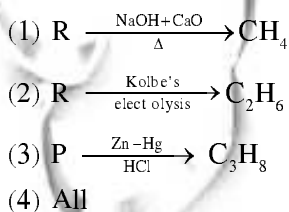
D is :-



X + Y $\xrightarrow[\Delta]{\text{OH}^-}$ Z ; Z is

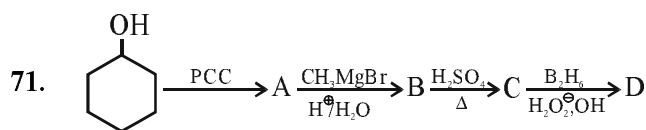


Which is correct

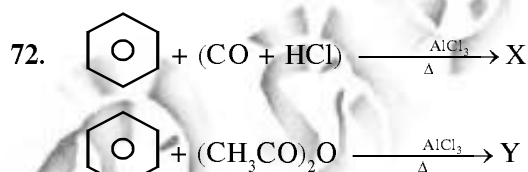
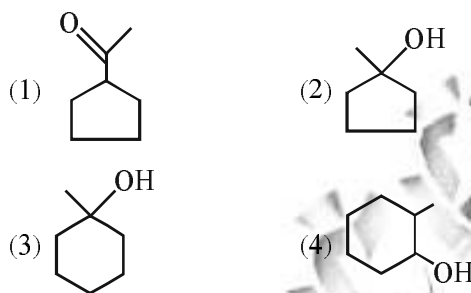


Find out the value of 'X' :

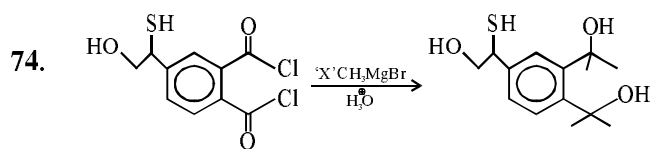
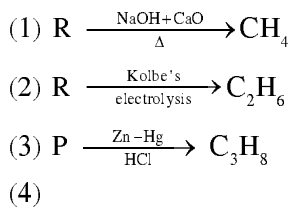
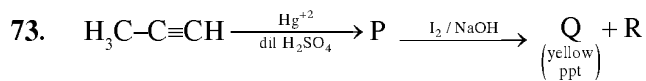
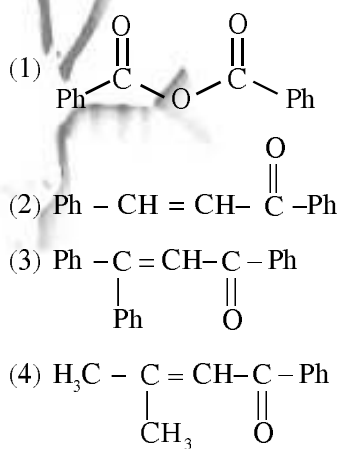
- (1) 6 (2) 4 (3) 3 (4) 2



D :-



X + Y $\xrightarrow[\Delta]{\text{OH}^-}$ Z ; Z

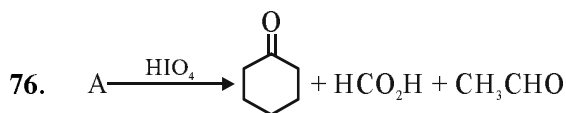


'X' :

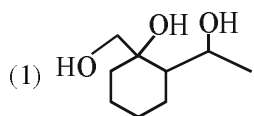
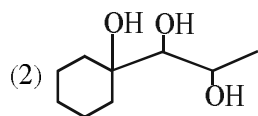
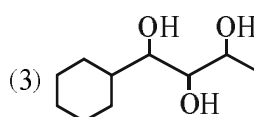
- (1) 6 (2) 4 (3) 3 (4) 2

75. Which of the following have highest dissociation constant :-

- (1) C_6H_5OH (2) $C_6H_5CH_2OH$
 (3) $CH_3C\equiv CH$ (4) $CH_3NH_3^+\overset{\ominus}{Cl}$



The structure of A is :-

- (1)  (2) 
 (3)  (4) All

77. Match the column :-

- | Polymer | Use |
|--------------|-------------------------|
| (I) Melmac | A- Eye contact lenses |
| (II) Glyptal | B - Fuel tanks |
| (III) PMMA | C - Crockery items |
| (IV) BuNa-N | D- Paints and varnishes |
- (1) I-C, II-D, III-A, IV-B
 (2) I-C, II-D, III-B, IV-A
 (3) I-C, II-B, III-D, IV-A
 (4) I-D, II-B, III-C, IV-A

78. The geometry with respect to the central atom of the following molecules are :

- $N(SiH_3)_3$; Me_3N ; $(SiH_3)_3P$
- (1) Planar, pyramidal, planar
 (2) Tetrahedral, pyramidal, pyramidal
 (3) Pyramidal, pyramidal, pyramidal
 (4) Pyramidal, planar, pyramidal

79. The hydrisatation of central metal ion in the complex ion $[CrCl_2(NO_2)_2(NH_3)_2]^-$ is :-

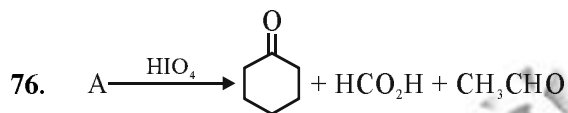
- (1) sp^3d^2 (2) d^2sp^3
 (3) sp^3d (4) None of these

80. The products formed by complete hydrolysis of PCl_3 are :-

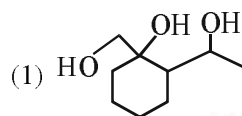
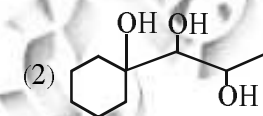
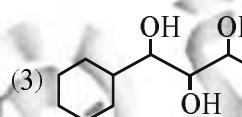
- (1) H_3PO_3 and HCl
 (2) $POCl_3$ and HCl
 (3) H_3PO_4 and HCl
 (4) $H_4P_2O_7$ and HCl

75.

- (1) C_6H_5OH (2) $C_6H_5CH_2OH$
 (3) $CH_3C\equiv CH$ (4) $CH_3NH_3^+\overset{\ominus}{Cl}$



A

- (1)  (2) 
 (3)  (4)

77.

- | | |
|------------|-----|
| (I) | A- |
| (II) | B - |
| (III) PMMA | C - |
| (IV) -N | D- |
- (1) I-C, II-D, III-A, IV-B
 (2) I-C, II-D, III-B, IV-A
 (3) I-C, II-B, III-D, IV-A
 (4) I-D, II-B, III-C, IV-A

78.

$N(SiH_3)_3$; Me_3N ; $(SiH_3)_3P$

- (1)
 (2)
 (3)
 (4)

79.

$[CrCl_2(NO_2)_2(NH_3)_2]^-$
 :-

- (1) sp^3d^2 (2) d^2sp^3
 (3) sp^3d (4)

80.

PCl_3

:-

- (1) H_3PO_3 HCl
 (2) $POCl_3$ HCl
 (3) H_3PO_4 HCl
 (4) $H_4P_2O_7$ HCl

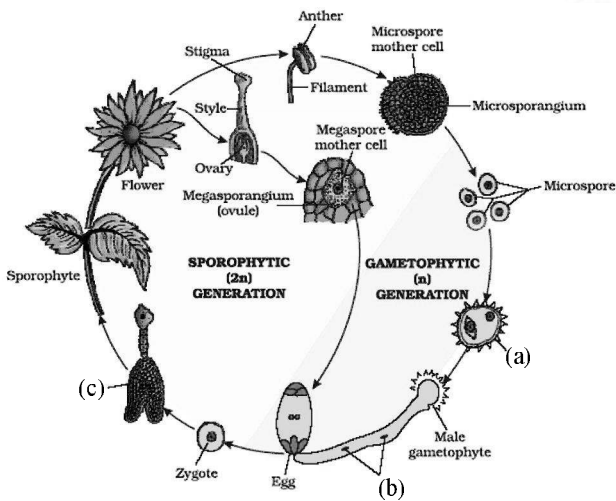
81. Study the given statements carefully and give the answer :-

- (A) Both Phaeophyceae and Rhodophyceae are primarily found in marine habitats.
- (B) Gemmae are green and multicellular buds, produced on ventral surface of thallus for sexual reproduction.
- (C) In pteridophytes spores germinate to give rise to inconspicuous, small but multicellular and free living nonvascular gametophyte.
- (D) In gymnosperms formation of pollen tube is there for carrying male gametes i.e. siphonogamy.

Which of the following options is most correct form the following :

- (1) A,B - correct & C,D - incorrect
- (2) C,D - correct & A,B - correct
- (3) A,C,D - correct & B - incorrect
- (4) A,B,C - correct & D - incorrect

82. Identify the (a), (b) & (c) :-



	a	b	c
(1)	Megaspore	Egg	Embryo
(2)	Male gametes	Pollen tube	Female gametophyte
(3)	Male gametophyte	mega sporangium	pollen grain
(4)	Microspore (pollen grain)	Male gametes	Embryo

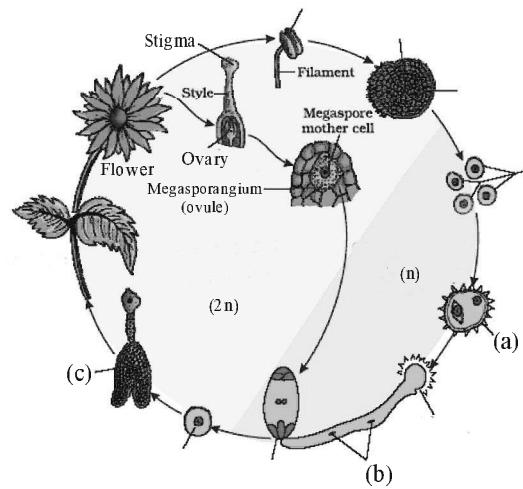
81.

:-

- (A)
- (B)
- (C)
- (D)

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

82. (a), (b) (c) :-



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

83.	Character	Monera	Protista	Fungi
	Body organisation	Cellular	Cellular	(A)
	Cell wall	Present	(B)	Present
	Sexual reproduction	(C)	Present	Present

What are (A) (B) & (C) in the give table

	(A)	(B)	(C)
(1)	Unicellular or multicellular	Absent	Absent
(2)	Multicellular or loose tissue	Present in some members	Absent
(3)	Multicellular or loose tissue	Present in all members	Absent
(4)	only unicellular	Absent in all members	Present in some members

84. Match list-I with list-II and select the correct answer using the codes given below the lists :-

List-I (Name of Animal)		List-II (The group to which they belong)	
A	<i>Clarias</i>	i	Chondrichthytes
B	<i>Torpedo</i>	ii	coelenterates
C	<i>Chelone</i>	iii	Sponge
D	<i>Jelly fish</i>	iv	Osteichthyes
E	<i>Cliona</i>	v	Reptiles

	A	B	C	D	E
(1)	iv	ii	i	v	iii
(2)	iii	ii	iv	v	i
(3)	iv	i	ii	iii	v
(4)	iv	i	v	ii	iii

83.				
				(A)
			(B)	
	(C)			

(A) (B) (C)

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

84. Match list-I with list-II and select the correct answer using the codes given below the lists :-

-I ()		-II ()	
A	<i>Clarias</i>	i	Chondrichthytes
B	<i>Torpedo</i>	ii	coelenterates
C	<i>Chelone</i>	iii	Sponge
D	Jelly fish	iv	Osteichthyes
E	<i>Cliona</i>	v	Reptiles

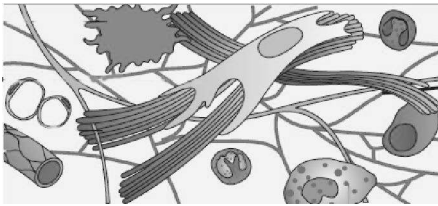
	A	B	C	D	E
(1)	iv	ii	i	v	iii
(2)	iii	ii	iv	v	i
(3)	iv	i	ii	iii	v
(4)	iv	i	v	ii	iii

85. *Pterophylum & labeo* are the members of class osteichthyes bearing following characters :-
 (A) Contain terminal mouth
 (B) gills are covered by operculum
 (C) Male bears claspers
 (D) Both animals can not sink in water in absence of swimming
 (E) fertilisation is internal and development is indirect.

Select the correct characters

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

86. Identify the figure of animal tissue given below, along with it's correct location :-



	Tissue	Location
(1)	Dense regular Connective tissue	Heart
(2)	Dense irregular Connective tissue	At bone joints
(3)	Adipose tissue	Beneath skin
(4)	Areolar connective tissue	Beneath skin

87. Which of the following statements are correct about the forewings in cockroach :-
 (1) They are mesothoracic
 (2) They are opaque, dark and leathery
 (3) They are not used in flight
 (4) All of these

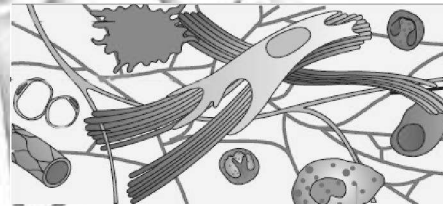
88. Consider the following statements. Out of them how many statements are true ?
 (a) Intra fascicular cambium is an example of primary lateral meristem
 (b) Vessels are multicellular whereas tracheids are unicellular
 (c) Secondary phloem and periderm are included in wood
 (d) Lenticels occur in most woody trees
 (1) Three (2) Four

85. *Pterophylum labeo* :-

- (A)
 (B)
 (C)
 (D)
 (E)

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

- 86.



(1)		
(2)		
(3)		
(4)		

- 87.

- :-
 (1)
 (2)
 (3)
 (4)

- 88.

- ?
 (a)
 (b)
 (c)
 (d)
 (1)

- (2)

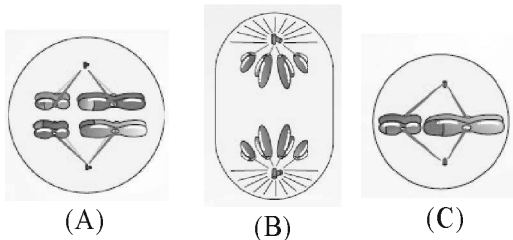
89. The mode of arrangement of sepals or petals in a floral bud is known as :-

- (1) Venation (2) Placentation
(3) Aestivation (4) Phyllotaxy

90. Which one of the following pairs is wrongly matched while the remaining three are correct?

- (1) Offset-Pistia
(2) Castor-Monoclinous
(3) Valvate aestivation-Calotropis
(4) Parietal placentation-Argemone

91. Carefully observe the diagram given below and read the statement.



- (a) Spindle fibres get attach to kinetochores of chromosome
(b) Chromosomes are moved to spindle equator
(c) Condensation of chromosome is completed and they can be observed clearly under microscope
(d) Chromosome is made up of two chromatids
(e) Centromere split and chromatid separates
(f) Chromatids move to opposite poles
(g) Chromosome have reached their respective pole decondense and lost their individuality it

Out of these statement how many are correct for diagram B :-

- (1) 5 (2) 4 (3) 2 (4) 6

92. Find the incorrect statement :-

- (1) Stroma lamellae membranes lack PS-II as well as NADP reductase enzyme
(2) Cytochrome C is a small protein attached to the outer surface of the inner mitochondrial membrane and transfers electrons from complex IV to complex V
(3) The critical duration of light that initiates flowering in several plants differs from plant to plant
(4) Most of the water flow in the root occurs via the apoplast since the cortical cells are loosely packed, and hence offer no

89.

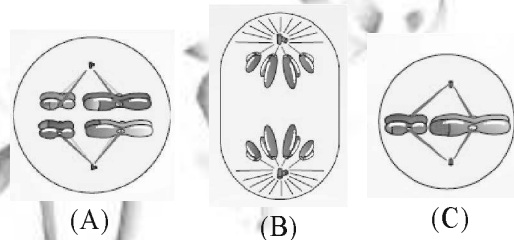
:-

- (1) (2)
(3) (4)

90.

- (1) -
(2) -
(3) -
(4) - ()

91.



- (a)
(b)
(c)
(d)
(e)
(f)
(g)

B :-

- (1) 5 (2) 4 (3) 2 (4) 6

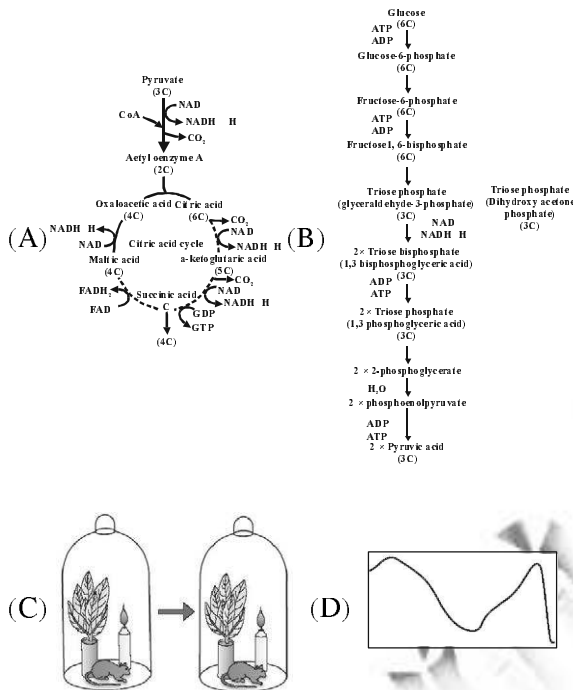
92.

- (1) PS-II NADP
(2) C
(3) IV V
(4)

93. Transpiration is responsible for all except :-

- (1) Ascent of sap
- (2) Water absorption from soil
- (3) Build up of root pressure
- (4) Decreasing Ψ_w in mesophyll cells.

94. The four sketches (A, B, C and D) given below are related to different scientists. Which of these is correctly identified in the option given ?

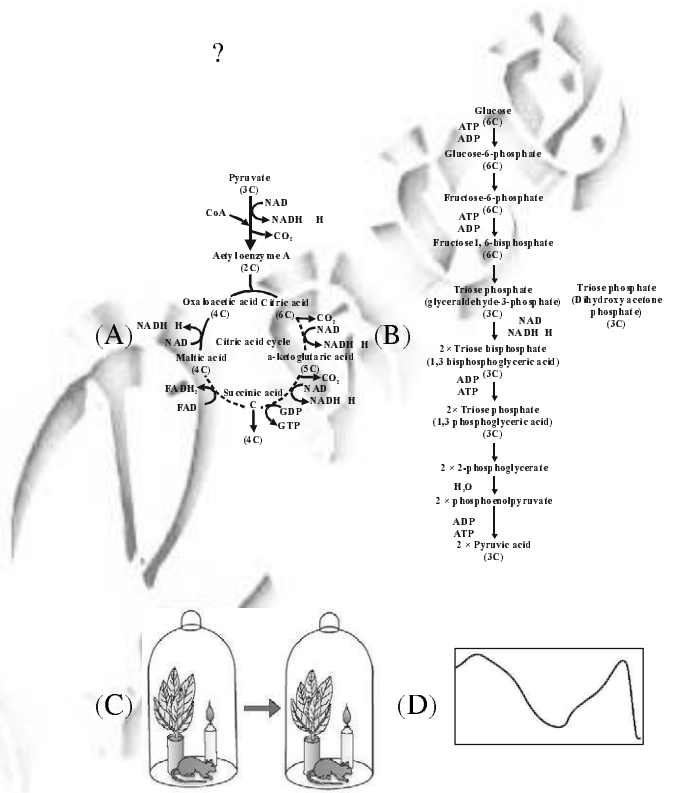


93.

- (1)
- (2)
- (3)
- (4)

94.

Ψ_w
(A, B, C, D)



	A	B	C	D
(1)	Robert Hill	Calvin, Bensen	Blakman	Joseph Priestley
(2)	Hans Krebs	Emdben, Meyerhof, Parnas	Joseph Priestley	T.W. Engelmann
(3)	Hans Krebs	Calvin, Bensen	Joseph Priestley	T.W. Engelmann
(4)	Calvin, Bensen	Hatch and Slack	Robert Hill	Julius von Shaks

95. Which of the following statement is false regarding fermentation ?

- (1) *Propionobacterium* is used to ferment the cheese
- (2) The puffed-up appearance of dough is due to production of CO_2 gas
- (3) Fermentation in muscle produces ethanol
- (4) Toddy is made up by fermenting sap from

95.

- (1)
- (2)
- (3)

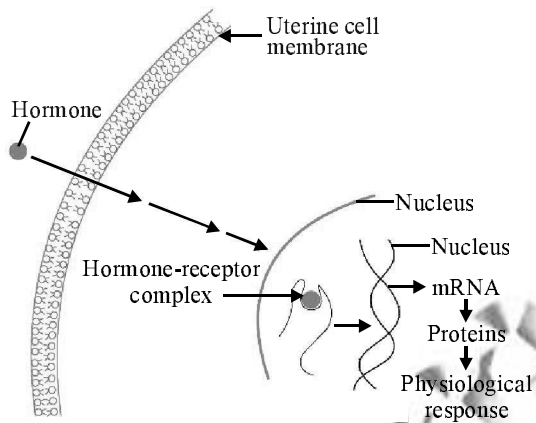
CO_2

96. Read the following four statements (a-d) :-
- (a) A single out cross often helps to overcome inbreeding depression
 - (b) Artificial insemination helps to overcome all problems of normal matings
 - (c) Bee keeping is easy and require some specialised knowledge
 - (d) Hilsa, common carp, mackerl are edible marine fishes

How many of the above statements are correct?

- (1) One
- (2) Two
- (3) Three
- (4) Four

97. Following is a diagrammatic representation of the mechanism of hormone action.



Which of the following statement does not support the hormone action depicted.

- (1) It explains the action of a hormone which interacts with membrane bound receptors.
- (2) It explains the action of a hormone which interacts with intracellular receptors in nucleus.
- (3) The hormone regulates chromosome function by the interaction of hormone receptor complex with genome.
- (4) This hormone does not generate a second messenger

98. The specific receptors of the vertibular apparatus responsible for maintenance of balance of the body and posture are :

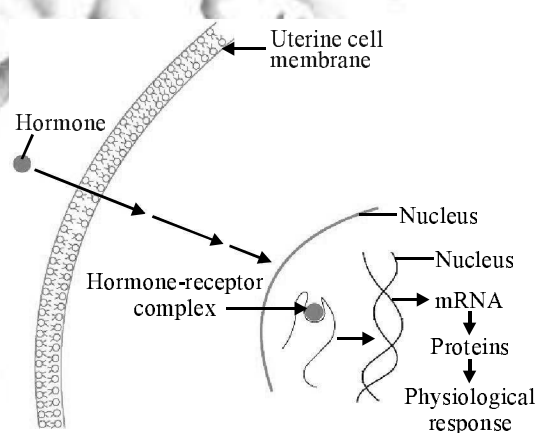
- (a) Organ of corti
 - (b) Crista
 - (c) Macula
 - (d) Cochlea
- (1) a & d
 - (2) b & c
 - (3) a & c
 - (4) c & d

96. (a-d)

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

- (1)
- (2)
- (3)
- (4)

- 97.



- (1)
- (2)
- (3)
- (4)

- 98.

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

103. Mendel's F₂-Generation one out of four plants had white flowers because :-

- (1) All trait is sex linked
- (2) Both parents were heterozygous purple
- (3) One parent was homozygous
- (4) Both parents were heterozygous white

104. Linked genes :-

- (1) Can cross over and recombine
- (2) are non allelic
- (3) can Co-segregate
- (4) All

105. If two pea plants having red (dominant) coloured flowers with unknown genotypes are crossed, 75% of the flowers are red and 25% are white. The genotypic constitution of the parents having red coloured flowers will be :-

- (1) Both heterozygous
- (2) Both homozygous
- (3) One homozygous and other heterozygous
- (4) Both hemizygous

106. There are 3 types of squirrel in a population-large, medium and small sized, large sized squirrel can protect themselves by fighting against vultures, small-sized can escape by entering into burrows rapidly but medium sized squirrels can neither fight nor enter into the burrows, this is an example of :-

- (1) Stabilising selection
- (2) Directional selection
- (3) Disruptive selection
- (4) All of the above

107. Character which is closely related to human evolution :-

- (1) Disappearance of tail
- (2) Reduction in size of jaws
- (3) monocular vision
- (4) Flat nails

108. The ultimate source of continuous variation in organic evolution is :-

- (1) Mutation
- (2) Gene recombination
- (3) Migration
- (4) Genetic drift

103. F₂-
:-

- (1)
- (2)
- (3)
- (4)

104. :-

- (1)
- (2)
- (3)
- (4)

105.

- 25%
- (1)
- (2)
- (3)
- (4)

106.

- (1)
- (2)
- (3)
- (4)

107.

- (1)
- (2)
- (3)
- (4)

108.

- (1)
- (2)
- (3)
- (4)

109. Which of the following statement is false :-

- (1) Androgens produce anabolic effects on protein and carbohydrate metabolism
- (2) Androgens act on central neural system and influence the male sexual behaviour (libido)
- (3) Androgens play a major stimulatory role in the process of spermatogenesis
- (4) Secretin acts on gastric glands and stimulates secretion of hydrochloric acid

110. The thick filaments in the 'A' band are also held together in the middle of this band by a thin fibrous membrane termed as :-

- (1) Z-line
- (2) H-Zone
- (3) M-line
- (4) None of the above

111. At the __ A __ of cochlea, the scala vestibuli ends at the __ B __ window, while the scala tympani terminates at the __ C __ window. Choose A, B, C from given options :-

- | A | B | C |
|----------|-------|-------|
| (1) Apex | Oval | Round |
| (2) Base | Oval | Round |
| (3) Apex | Round | Oval |
| (4) Base | Round | Oval |

112. In the Meselson and Stahl experiment, *E. coli* cells grown on heavy nitrogen were transferred to light nitrogen. What % of DNA can be constituted of light nitrogen after 3-generation of multiplication :-

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

113. In B-DNA molecule length of one complete turn is :-

- (1) 34Å
- (2) 22Å
- (3) 45 Å
- (4) 3.4Å

114. A person is eating germinated seeds, for this food intake in a food chain he should be considered as occupying :-

- (1) First trophic level
- (2) Second trophic level
- (3) Third trophic level
- (4) Fourth trophic level

109. :-

- (1)
- (2)
- (3)
- (4)

110. 'A' 'A' :-

- (1) Z-
- (2) H-
- (3) M-
- (4)

111. __ A __ __ B __
__ C __

A, B, C :-

- (1)
- (2)
- (3)
- (4)

112.

DNA

:-

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

113. B-DNA :-

- (1) 34Å
- (2) 22Å
- (3) 45Å
- (4) 3.4Å

114.

- (1)
- (2)
- (3)
- (4)

115. The number of individuals in each trophic level depends upon :-

- (1) The number of individuals at the higher trophic level
- (2) The number of individuals at the lower trophic level
- (3) The number of food chains present
- (4) The amount of sunlight available

116. Mating, aggregation and altruism are –

- (1) Cooperative interaction in between different species
- (2) Competitive interaction between same species
- (3) Neutral interaction in between different species
- (4) Cooperative interaction between same species

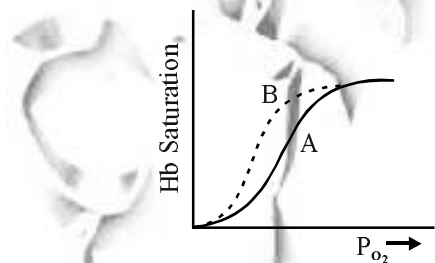
117. Orchids, known for their beauty are mostly found in :-

- (1) Dry deciduous forest
- (2) Temperate forest
- (3) Mangroves
- (4) Wet evergreen forest

118. What will be effect of addition of organic materials in water ?

- (1) C.O.D. remain unaffected
- (2) B.O.D. remain unaffected
- (3) Increase B.O.D.
- (4) Reduce B.O.D.

119. On the accompanying graph, the shift from curve-A to curve-B could be caused by :-



- a. Foetal haemoglobin (HbF)
 - b. CO poisoning
 - c. Increased P_{CO_2}
 - d. Increased temperature
 - e. Decreased pH
- (1) a only (2) a and b
 (3) a, b and c (4) a, b, c and e

115. (individuals)

- (1)
- (2)
- (3)
- (4)

116. –

- (1)
- (2)
- (3)
- (4)

117.

- (1)
- (2)
- (3)
- (4)

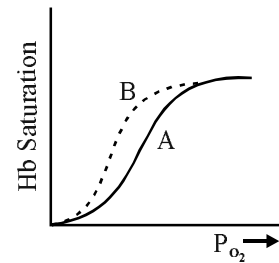
118.

- (1) C.O.D.
- (2) B.O.D.
- (3) B.O.D.
- (4) B.O.D.

119.

-A -B

:-



- a. (HbF)
 - b. CO
 - c. P_{CO_2}
 - d.
 - e. pH
- (1) a (2) a b
 (3) a, b c (4) a, b, c e

120. Mark the correct sequence of events involved in a cardiac cycle :-
- (1) Joint diastole-Ventricular systole-Auricular systole
 - (2) Auricular systole-Ventricular systole-Complete cardiac diastole
 - (3) Auricular systole-Ventricular diastole-Joint diastole
 - (4) Auricular systole-Joint diastole-Ventricular systole

120.

:-

- (1) - -
- (2) - -
- (3) - -
- (4) - -

DIRECTIONS FOR Q. NO. 121 TO 180

121 180

These questions consist of two statements each, printed as Assertion and Reason. While answering these Questions you are required to choose any one of the following four responses.

- A. If both Assertion & Reason are True & the Reason is a correct explanation of the Assertion.
- B. If both Assertion & Reason are True but Reason. is not a correct explanation of the Assertion.
- C. If Assertion is True but the Reason is False
- D. If both Assertion & Reason are false.

A.

B.

C.

D.

121. **Assertion** :- For motion starts from rest with constant acceleration displacement time graph is parabola, always with increasing slope.

Reason :- Speed of body starts from rest with constant acceleration always increases linearly.

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

121.

:-

:-

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

122. **Assertion** :- Horizontal velocity in projectile motion remains constant.

Reason :- Acceleration due to gravity is vertical.

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

122.

:-

:-

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

123. **Assertion** :- The length of a second pendulum is about 1 meter.

Reason :- The length (L) of a pendulum with time period (T) is given by $L = gT^2/4\pi^2$.

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

123.

:-

:-

$$L = gT^2/4\pi^2$$

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

124. **Assertion** :- Force of action and reaction do not cancel each other.

Reason :- Force of action and reaction are equal in magnitude and opposite in direction.

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

124.

:-

:-

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

125. **Assertion** :- A light body and heavy body have same momentum. Then light body has more kinetic energy.

Reason :- Kinetic energy does not depend on mass of the body.

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

126. **Assertion** :- The radius of gyration is root mean square distance of the particles of the body from the axis of rotation.

Reason :- Radius of gyration does not depend upon distribution of mass of the body relative to the axis of rotation.

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

127. **Assertion** :- Two electrons having equal momentum must have equal wavelength.

Reason :- Two electrons having equal wavelength must have equal momentum

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

128. **Assertion** :- Wavelength of characteristic X-rays is independent of applied potential across the Coolidge tube.

Reason :- Energy of characteristic X-ray photon is equal to energy gap between energy states in the atom of target metal.

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

129. **Assertion** :- The specific heat of a gas in an adiabatic process is zero and in an isothermal process is infinite.

Reason :- Specific heat of gas is directly proportional to change of heat in system and inversely proportional to change in temperature.

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

130. **Assertion** :- Mean free path of gas molecules, varies inversely as density of the gas.

Reason :- Mean free path of gas molecules is defined as the average distance travelled by a molecule between two successive collisions.

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

131. **Assertion** :- Sound waves cannot be polarised.

Reason :- Only transverse waves can be polarised.

125. :-

:-

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

126. :-

:-

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

127. :-

:-

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

128. :-

X-

:-

X-

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

129. :-

:-

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

130. :-

:-

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

131. :-

:-

132. **Assertion** :- If oil of density higher than of water is used in place of water in a resonance tube, the frequency decreases.

Reason :- Sound travels faster in water than oil.

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

133. **Assertion** :- Simple harmonic motion is not a uniform motion.

Reason :- Simple harmonic motion may be defined as the projection of uniform circular motion along any one or two mutually perpendicular diameters of the circle.

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

134. **Assertion** :- An astronaut in an orbiting space station above the earth experiences weightlessness.

Reason :- An object moving around the earth under the influence of the earth's gravitational force is in a state of free fall.

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

135. **Assertion** :- If the ice on the polar caps of the earth melts, then length of day will increase

Reason :- Moment of inertia of earth increases as ice on polar caps melts.

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

136. **Assertion** :- Conductors having equal positive charge and volume must also have same potential.

Reason :- Potential depends only on the charge and volume and shape of conductor.

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

137. **Assertion** :- Lenz's law violates the principle of conservation of energy.

Reason :- Induced emf always opposes the change in magnetic flux responsible for its production.

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

138. **Assertion** :- A solenoid tend to expand, when a current passes through it.

Reason :- Two straight parallel metallic wires carrying current in same direction repel to each other.

132. :-

:-

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

133. :-

:-

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

134. :-

(space station)

:-

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

135. :-

:-

(polar caps)

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

136. :-

:-

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

137. :-

:-

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

138. :-

:-

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

139. **Assertion** :- In RLC series ac circuit at resonance power is maximum.

Reason :- At resonance impedance of ac circuit is maximum.

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

140. **Assertion** : A point object is placed at a distance of 26 cm from a convex mirror of focal length 26 cm. The image will form at infinity.

Reason : For above given system the equation

$$\frac{1}{v} + \frac{1}{-26} = \frac{1}{26} \text{ gives } v = \infty$$

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

141. **Assertion** :- Gold sol is multimolecular and hydrophobic in nature.

Reason :- Gold sol is prepared by Bredig's arc method.

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

142. **Assertion** :- Osmotic pressure is a colligative property.

Reason :- Osmotic pressure developed in a column due to osmosis.

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

143. **Assertion** :- E_{cell}° is negative for electrolytic cell.

Reason :- ΔG° is +ve for electrolytic cell.

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

144. **Assertion** :- Molarity of pure water is 55.55 M at 298 K.

Reason :- Molarity is temperature dependent.

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

145. **Assertion** :- Heat of neutralisation of CH_3COOH versus NaOH numerically less than 57.1 kJ/eq.

Reason :- Some heat is use to ionize weak acetic acid.

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

146. **Assertion** :- On increasing temperature rate of reaction increase.

Reason :- On increasing temperatue number of activated molecules increases.

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

139. :- RLC

:-

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

140. : 26

26

:

$$v = \infty$$

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

141. :-

:-

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

142. :-

:-

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

143. :-

$$E_{\text{cell}}^{\circ}$$

:-

$$\Delta G^{\circ}$$

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

144. :- 298 K

55.5M

:-

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

145. :- CH_3COOH NaOH
57.1 kJ/eq

:-

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

146. :-

:-

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

147. **Assertion** :- In rock salt structure, all the octahedral voids in the close packing of anions are occupied by cations.

Reason :- In rock salt structure, the distance of closest approach between two anions equal to half the face diagonal of the unit cell.

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

148. **Assertion** :- $[\text{Co}(\text{NO}_2)_3(\text{NH}_3)_3]$ not shows optical isomerism

Reason :- It has plane of symmetry

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

149. **Assertion** :- Chemical reaction of H_2O and D_2O are same

Reason :- H_2O and D_2O are allotropes

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

150. **Assertion** :- CrO_3 is acidic oxide

Reason :- In CrO_3 Cr-O bond is purely ionic

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

151. **Assertion** :- Borazine and benzene are isoelectronic

Reason :- Both are heterocyclic compound

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

152. **Assertion** :- O_2^{-2} is diamagnetic in nature

Reason :- O_2^{-2} have all electrons in paired form

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

153. **Assertion** :- Fructose is ketonic sugar but still reduces fehling's solution and Tollen's reagent.

Reason :- Under acidic condition fructose convert in to a mixture of glucose and mannose called ekenstein rearrangement.

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

154. **Assertion** :- Norethindrone is a estrogen derivative antifertility drug.

Reason :- Alitame is also an important antifertility drug.

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

155. **Assertion** :- Ethers form oxonium salt with cold conc. mineral acids.

Reason :- Ethers behave as lewis acid due to presence of lone pair on oxygen atom.

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

147. :-

:-

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

148. :- $[\text{Co}(\text{NO}_2)_3(\text{NH}_3)_3]$

:-

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

149. :- H_2O D_2O

:- H_2O D_2O

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

150. :- CrO_3

:- CrO_3 Cr-O

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

151. :-

:-

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

152. :- O_2^{-2}

:- O_2^{-2}

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

153. :-

:-

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

154. :-

:-

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

155. :-

:-

lone pair

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

156. **Assertion** :- Formic acid gives positive tollen test while benzoic acid is not.

Reason :- Formic acid is more acidic than benzoic acid.

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

157. **Assertion** :- Benzene react with Cl_2 in presence of light to form DDT.

Reason :- Gammexane is another name of DDT

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

158. **Assertion** :- Ethyne react with CH_3OH gives methylal.

Reason :- Reaction undergoes nucleophilic addition reaction.

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

159. **Assertion** :- Cis-alkene gives racemic mixture when treated with baeyer reagent.

Reason :- Hydroxylation by baeyer reagent is anti-addition reaction.

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

160. **Assertion** :- BeSO_4 is more soluble in water than BaSO_4 .

Reason :- In BeSO_4 H.E. exceeds its L.E.

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

161. **Assertion** :- Genera like *Selaginella* and *Salvinia* of pteridophyta are heterosporous.

Reason :- They produce male and female gametes from their megaspores and micropores respectively.

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

162. **Assertion** :- Higher the taxa, more are the characteristics that the members within the taxon share

Reason :- As we go higher from species to kingdom, number of members goes on decreasing.

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

163. **Assertion** :- *Bombyx*, *apis* & *locust* are included in class insecta of phylum arthropoda.

Reason :- In all of them body is covered by chitinous sclerites i.e. Tergite, sternite & pleurites

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

164. **Assertion** :- The embryo-sacs of an angiosperm is made up of 7 cells & 8 nuclei.

Reason :- It is formed as a result of syngamy.

156. :-

:-

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

157. :- Cl_2
DDT

:- DDT

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

158. :- CH_3OH

:-

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

159. :-

:-

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

160. :- BeSO_4 BaSO_4

:- BeSO_4

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

161. :-

:-

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

162. :-

:-

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

163. :- *Bombyx*, *apis* & *locust*

:-

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

164. :-

:-

165. **Assertion** :- Mitochondria is a semi autonomers organells.

Reason :- Matrix of mitochondria have single, circular DNA molucle, a few RNA molecules ribosome and components required for the synthesis of certain protin.

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

166. **Assertion** :- Under normal condition RuBisCO performs CO₂ fixation.

Reason :- RuBisCO has a much greater affinity for CO₂ than for O₂

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

167. **Assertion** :- Two leaves of different size may have same absolute growth rate.

Reason :- The same two leaves may or may not have different relative growth rate.

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

168. **Assertion** :- If we want to develop the pure pedigree for an animal, it is necessary to go through inbreeding process.

Reason :- Inbreeding increases homozygosity.

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

169. **Assertion** :- Reflex arch contains atleast one afferent neuron and atleast one efferent neuron.

Reason :- Knee-Jerk reflex is a monosynaptic reflex.

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

170. **Assertion** :- The FSH & LH surge induces rupturing of Graafian follicle that is called ovulation.

Reason :- The Graafian follicles ruptures to release the primary oocyte from the ovary by the process called ovulation.

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

171. **Assertion** :- A stationary population has stable size.

Reason :- The difference between CBR and CDR is zero in a stationary population.

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

172. **Assertion** :- In co-dominance F₁-generation resembled either of the two parents.

Reason :- In dominance F₁-generation resembles both parents.

165. :-

:- RNA DNA

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

166. :-

:- RuBisCO O₂ CO₂

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

167. :-

:-

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

168. :-

(inbreeding)

:-

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

169. :-

:-

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

170. :- FSH LH

:-

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

171. :-

:- CBR CDR

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

172. :- F₁-

:- F₁- www.examrace.com

173. **Assertion** :- Mendel's work remained unrecognised.
Reason :- Mendel's work could not be widely publicised.
 (1) A (2) B (3) C (4) D
174. **Assertion** :- Conditions were favourable for origin of life in water.
Reason :- First life originate in water.
 (1) A (2) B (3) C (4) D
175. **Assertion** :- During industrialisation dark-winged or melanised moths were more abundant.
Reason :- They were able to camouflage themselves, hide in the backward and survived.
 (1) A (2) B (3) C (4) D
176. **Assertion** :- Cannabinoids are the drugs, which bind to specific cannabinoid receptors present in our central nervous system and gastrointestinal tract.
Reason :- Smack is a stimulant and increases body functions.
 (1) A (2) B (3) C (4) D
177. **Assertion** :- In electric field DNA moves towards anode
Reason :- DNA molecule is (-)vely charged.
 (1) A (2) B (3) C (4) D
178. **Assertion** :- In most favourable environmental condition organism have maximum biotic potential,
Reason :- Biotic potential is a maximum reproduction capacity of organism.
 (1) A (2) B (3) C (4) D
179. **Assersion** :- In an ecosystem movement of energy is unidirectional.
Reason :- Ecosystem is the smallest structure of and functional unit of environment.
 (1) A (2) B (3) C (4) D
180. **Assertion** :- Human beings can breath with the mouth open.
Reason :- Negative pressure lungs are present in human beings
 (1) A (2) B (3) C (4) D
181. Which only Indian President won the Presidential election without any contest ?
 (1) Neelam Sanjeeva Reddy
 (2) Prathibha Patil
 (3) APJ Abdul Kalam

173. :-
 :-
 (1) A (2) B (3) C (4) D
174. :-
 :-
 (1) A (2) B (3) C (4) D
175. :-
 :-
 (1) A (2) B (3) C (4) D
176. :-
 :-
 (1) A (2) B (3) C (4) D
177. :- DNA
 :- DNA
 (1) A (2) B (3) C (4) D
178. :-
 :-
 (1) A (2) B (3) C (4) D
179. :-
 :-
 (1) A (2) B (3) C (4) D
180. :-
 :-
 (1) A (2) B (3) C (4) D
181. ?
 (1)
 (2)
 (3)

182. Tezpur in North-East is famous for :-
 (1) Largest producer of gold
 (2) Largest producer of coal
 (3) Sweetest apple
 (4) Hottest chilli in the world
183. 'Cox's Bazar' is situated in :-
 (1) Pakistan (2) Bangladesh
 (3) Sri Lanka (4) Indonesia
184. Which of the following languages are not based on Devanagari script ?
 (1) Bengali (2) Sanskrit
 (3) Prakrit (4) Tamil
185. Which Union Territory has its name on the basis of a temple in the village Manimajra ?
 (1) Chandigarh
 (2) Lakshdweep
 (3) Puducherry
 (4) Daman and Div
186. Belt-and-Jacket, catch-hold and loose styles are the basic types of which sport ?
 (1) Kabaddi (2) Kho-Kho
 (3) Boxing (4) Wrestling
187. Which of the following person founded National Orchestra of India ?
 (1) Zubin Mehta
 (2) Ravi Shankar
 (3) A. R. Rehman
 (4) Shankar Mahadevan
188. Which of the following is the deadliest toxic fish ?
 (1) Eel fish (2) Puffer fish
 (3) Clown fish (4) Sword fish
189. Most of the Ajanta paintings were completed during the rule of the :-
 (1) Sakas (2) Guptas
 (3) Vardhans (4) Satvahanas
190. Who wrote "Sare Jahan Se Achchha Hindustan Hamara" ?
 (1) Iqbal (2) Azad
 (3) Nehru (4) Ghalib
191. Which country is honoured by having all the three international beauty crowns in the same year ?
 (1) Venezuela (2) India
 (3) South America (4) Italy

182. :-
 (1)
 (2)
 (3)
 (4)
183. ' ' :-
 (1) (2)
 (3) (4)
184. ?
 (1) (2)
 (3) (4)
185. ?
 (1)
 (2)
 (3)
 (4)
186. ?
 (1) (2) -
 (3) (4)
187. ?
 (1)
 (2)
 (3)
 (4)
188. ?
 (1) (2)
 (3) (4)
189. ?
 (1) (2)
 (3) (4)
190. " " "
 ?
 (1) (2)
 (3) (4)
191. ?
 (1) (2) www.examrace.com
 (3) (4)

192. The most important and the main musical instrument in "Nautanki" form of folk theatre is:-

- (1) Tabla (2) Flute
(3) Nagara (4) Mohuri

193. 'Rambola' is the original name of poet :-

- (1) Tulsidas (2) Ramdas
(3) Soordas (4) Kabir

194. What does a bibliophilist collect ?

- (1) Coins (2) Stamps
(3) Books (4) Pens

195. Who is the author of Business @ speed of thought ?

- (1) Dick Francis (2) John Gray
(3) Bill Gates (4) David Baldacci

196. Anglo-Nubian is a breed of :-

- (1) Sheep (2) Goat
(3) Cattle (4) Poultry

197. Which one of the following is not an example of indirect tax ?

- (1) Sales tax (2) Excise duty
(3) Custom duty (4) Expenditure tax

198. The first Indian woman to win an Olympic medal is :-

- (1) P. T. Usha
(2) Ashwani Nachappa
(3) Karnam Malleshwari
(4) M.C. Mary Kom

199. The United Nations Day is observed on :-

- (1) 24th October (2) 24th January
(3) 24th September (4) 24th June

200. The instrument of music in which Ustad Amjad Ali Khan has distinguished himself is :-

- (1) Sitar (2) Shehnai
(3) Sarod (4) Violin

192. " "

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- (1) (2)
(3) (4)

193. ' '

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- (1) (2)
(3) (4)

194.

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- (1) (2)
(3) (4)

195. @

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- (1) (2)
(3) (4)

196.

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- (1) (2)
(3) (4)

197.

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- (1) (2)
(3) (4)

198.

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- (1)
(2)
(3)
(4)

199.

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- (1) 24 (2) 24
(3) 24 (4) 24

200.

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- (1) (2)
(3) (4)