

Max. Marks: 100

SOLUTIONS

Time allowed: 120 mins

PHYSICS

1. If work, force and time are represented by A, B and C respectively then the term $\left(\frac{A}{BC}\right)$ will present

- (1) displacement (2) velocity (3) acceleration (4) momentum

Ans. (2)

Sol. $\frac{A}{BC} = \frac{\text{work}}{\text{force} \times \text{time}} = \frac{\text{force} \times \text{displacement}}{\text{force} \times \text{time}} = \frac{\text{displacement}}{\text{time}}$

$\therefore \frac{A}{B} = \text{velocity}$

2. The initial velocity of a particle is 10 m/s. It is moving with an acceleration of 4 m/s². The distance covered by the particle after 2s is

- (1) 6 m (2) 18 m (3) 22 m (4) 28 m

Ans. (4)

Sol. $u = 10 \text{ m/s}$
 $a = 4 \text{ m/s}^2$
 $t = 2\text{s}$
 $s = ?$

Using $s = ut + \frac{1}{2}at^2$

$s = 10(2) + \frac{1}{2}(4)(2)^2$

$s = 28 \text{ m}$

3. Unit of universal gravitational constant is

- (1) N-m²/kg (2) N-m²/kg² (3) N-kg²/m² (4) N-m/kg²

Ans. (2)

Sol. $F = \frac{Gm_1m_2}{r^2}$

$\therefore G = \frac{Fr^2}{m_1m_2}$

\therefore S.I. unit of G is N-m²/kg²

4. If the speed of wave is 350 m/s and its wavelength is 100 cm then the frequency of the wave will be
 (1) 35 Hz (2) 350 Hz (3) 700 Hz (4) 3500 Hz

Ans. (2)

Sol. Wavespeed = wavelength \times frequency

$$v = \lambda \times \nu$$

$$350 = 1 \times \nu$$

$$\nu = 350 \text{ Hz}$$

5. The wave having compression and rarefaction is known as
 (1) transverse wave (2) longitudinal wave (3) light wave (4) ultraviolet wave

Ans. (2)

Sol. Longitudinal waves travel in form of compressions and rarefactions.

6. If the distance between two masses is doubled then the gravitational force between them will be
 (1) one-fourth (2) half (3) double (4) four times

Ans. (1)

Sol. $F = \frac{Gm_1m_2}{r^2}$

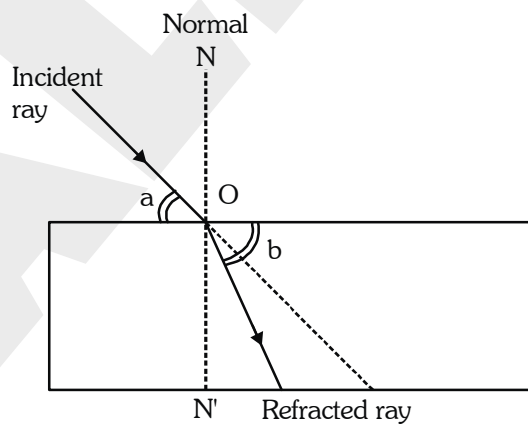
$$F' = \frac{Gm_1m_2}{(2r)^2} = \frac{F}{4}$$

7. Focal length of a lens is 25 cm. In diopetre power of lens will be
 (1) 0.04 (2) 0.4 (3) 4 (4) 2.5

Ans. (3)

Sol. $P = \frac{100}{f(\text{in cm})} = \frac{100}{25} = 4D$

8. In the given ray diagram correct relation for Snell's law is



(1) $\frac{\sin a}{\sin b} = \text{constant}$

(2) $\frac{\sin b}{\sin a} = \text{constant}$

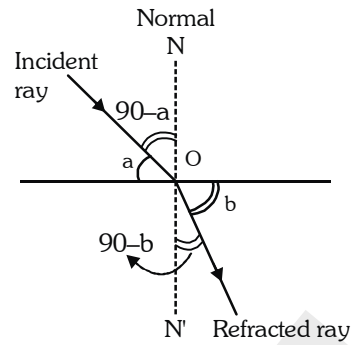
(3) $\frac{\sin(90 - a)}{\sin(90 - b)} = \text{constant}$

(4) $\frac{\sin(90 - a)}{\sin b} = \text{constant}$

Ans. (3)

Sol. by snell's law,

$$\frac{\sin(90 - a)}{\sin(90 - b)} = \text{constant}$$



9. Which term does not represent electric power ?

(1) $P = \frac{V}{I}$

(2) $P = VI$

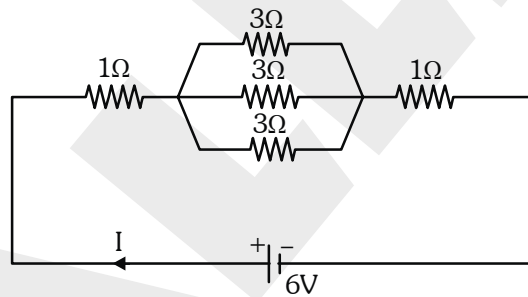
(3) $P = I^2R$

(4) $P = \frac{V^2}{R}$

Ans. (1)

Sol. $P = VI = \frac{V^2}{R} = I^2R$

10. In the given circuit the value of current I will be



(1) $\frac{6}{11}A$

(2) $\frac{6}{5}A$

(3) 2A

(4) 1A

Ans. (3)

Sol. $R_{eq} = 1 + 1 + 1 = 3\Omega$

$\therefore I = \frac{V}{R_{eq}} = \frac{6}{3} = 2A$

11. Unit of magnetic flux is

- (1) volt (2) weber (3) hertz (4) ohm-metre

Ans. (2)

Sol. Unit of magnetic flux is weber

12. Spring constant of a spring is $K = 6 \times 10^3 \text{ N/m}$. Work done to stretch it 10^{-2} m from mean position is

- (1) 0.003 J (2) 0.03 J (3) 0.3 J (4) 3 J

Ans. (3)

Sol. $U = \frac{1}{2} kx^2 = \frac{1}{2} (6 \times 10^3)(10^{-2})^2 = 3 \times 10^{-1} = 0.3 \text{ J}$

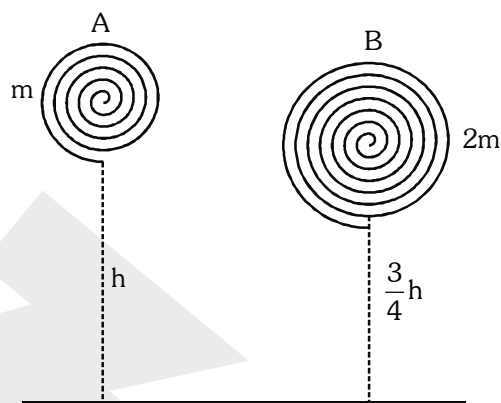
13. Ratio of potential energies of body A and body B will be

(1) $\frac{U_A}{U_B} = \frac{2}{3}$ (2) $\frac{U_A}{U_B} = \frac{3}{2}$

(3) $\frac{U_A}{U_B} = \frac{1}{3}$ (4) $\frac{U_A}{U_B} = \frac{3}{4}$

Ans. (1)

Sol. $\frac{U_A}{U_B} = \frac{mgh}{2mg\left(\frac{3h}{4}\right)} = \frac{2}{3}$



CHEMISTRY

14. Example of an element among the following is

- (1) Water (2) Ammonia (3) Salt (4) Iron

Ans. (4)

Sol. Iron is an example of element, where as all others are compound, made by combination of more than one elements.

15. Atomicity of oxygen in ozone molecule is

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

Ans. (3)

Sol. Atomicity = Number of atoms present in one molecule.

In Ozone (O_3), there are 3 atoms of oxygen.

Therefore atomicity is 3.

16. Number of moles present in 0.36 g of water is

- (1) 0.1 (2) 0.2 (3) 0.01 (4) 0.02

Ans. (4)

Sol. Mole of $\text{H}_2\text{O} = \frac{\text{Given mass of substance}}{\text{Molar mass of substance}}$

$$\text{Mole of } \text{H}_2\text{O} = \frac{0.36}{18} = 2 \times 10^{-2} = 0.02$$

17. Radioactive isotope used in the treatment of cancer disease is
 (1) Iodine – 131 (2) Cobalt – 60 (3) Sodium – 24 (4) Chlorine – 37

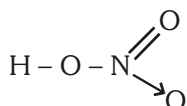
Ans. (2)

Sol. The radioactive element used in treatment of cancer disease is Co-60 (Cobalt-60).

18. The number of coordinate covalent bonds in the structure of nitric acid is
 (1) 0 (2) 1 (3) 2 (4) 3

Ans. (2)

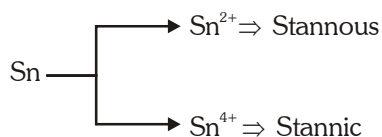
Sol. Number of Co-ordinate bonds in HNO_3 is 1.



19. The pair of valencies exhibited by tin (Sn) is
 (1) 1, 4 (2) 1, 2 (3) 2, 3 (4) 2, 4

Ans. (4)

Sol. The valencies exhibited by tin are 2 and 4

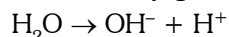


20. The conjugate bases of Bronsted acids H_2O and HCl are respectively :
 (1) OH^- , Cl^- (2) H_3O^+ , Cl^- (3) H_3O^+ , Cl^+ (4) OH^- , Cl^+

Ans. (1)

Sol. As per theory of Bronsted acid and base :

Conjugate Acid \rightarrow Conjugate Base + H^+



Conjugate Base of $\text{H}_2\text{O} \rightarrow \text{OH}^-$



Conjugate Base of $\text{HCl} \rightarrow \text{Cl}^-$

21. The chemical formula of 'Plaster of Paris' is
 (1) $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$ (2) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ (3) $\text{CaSO}_4 \cdot \text{H}_2\text{O}$ (4) $\text{CaSO}_4 \cdot \frac{3}{2} \text{H}_2\text{O}$

Ans. (1)

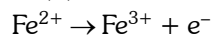
Sol. Chemical formula of 'Plaster of Paris' is $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$ or $2\text{CaSO}_4 \cdot \text{H}_2\text{O}$

22. The oxidation reaction in the following chemical changes is
 (1) $\text{Cl} + e^- \rightarrow \text{Cl}^-$ (2) $\text{Mg}^{2+} + 2e^- \rightarrow \text{Mg}$
 (3) $\text{MnO}_4^- + e^- \rightarrow \text{MnO}_4^{2-}$ (4) $\text{Fe}^{2+} \rightarrow \text{Fe}^{3+} + e^-$

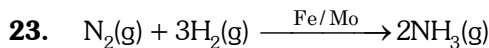
Ans. (4)

Sol. Oxidation process can be explained by loss of e^- .

In option (4)



Fe^{2+} ion loses one more e^- to get converted into Fe^{3+} ion.



Mo in the above reaction is

(1) Catalyst promoter

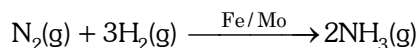
(2) Catalyst poison (inhibitor)

(3) Bio-catalyst

(4) Auto-catalyst

Ans. (1)

Sol. In the following reaction :



Mo behaves as catalyst promoter, which enhances activity of Fe catalyst.

24. Element having highest electronegativity in the periodic table is

(1) F

(2) Cl

(3) Br

(4) I

Ans. (1)

Sol. Fluorine [F] element is having highest electronegativity in the periodic table.

25. The molecular formula of 'Freon-12' is

(1) CFCl_3

(2) CF_2Cl_2

(3) $\text{C}_2\text{F}_2\text{Cl}_4$

(4) $\text{C}_2\text{F}_3\text{Cl}_3$

Ans. (2)

Sol. The molecular formula of 'Freon-12' is CF_2Cl_2 .

26. The monomer units of terylene polymer are

(1) Terephthalic acid and ethylene glycol

(2) Adipic acid and ethylene glycol

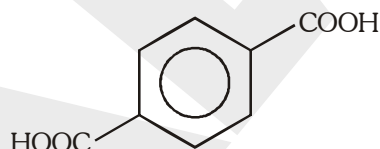
(3) Terephthalic acid and hexamethylene diamine

(4) Adipic acid and hexamethylene diamine

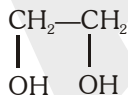
Ans. (1)

Sol. Terylene has two monomers :

(i) Terephthalic acid :



(ii) Ethylene glycol :



BIOLOGY

27. The habitat related with presence of sunken stomata in leaves is

- (1) Hydrophytic (2) Mesophytic (3) Xerophytic (4) Cryophytic

Ans. (3)

Sol. The habitat related with presence of sunken stomata in leaves is Xerophytic to reduce transpiration.

28. Micronutrient element is

- (1) Nitrogen (2) Zinc (3) Magnesium (4) Potassium

Ans. (2)

Sol. Micronutrient element is zinc, all other are macronutrient.

29. Coralloid root is found in

- (1) Cycas (2) Pinus (3) Marsilia (4) Azolla

Ans. (1)

Sol. Coralloid root is found in cycas which has symbiotic association with blue green algae.

30. The root of which plant is used as medicine?

- (1) *Curcuma longa* (2) *Aloe vera* (3) *Rauwolfia serpentina* (4) *Papaver Somniferum*

Ans. (3)

Sol. The root of *Rauwolfia serpentina* plant is used as medicine.

31. Phenotypic ratio of F_2 generation in dihybrid cross is

- (1) 3 : 1 (2) 9 : 3 : 3 : 1 (3) 1 : 2 : 1 (4) 2 : 1

Ans. (2)

Sol. Phenotypic ratio of F_2 generation in dihybrid cross is 9 : 3 : 3 : 1

32. How many biodiversity hotspots are there in the world?

- (1) 25 (2) 33 (3) 20 (4) 34

Ans. (4)

Sol. 34 biodiversity hotspots are there in the world?

33. From which district of Rajasthan did Chipko movement begin?

- (1) Jodhpur (2) Jaipur (3) Ajmer (4) Jaisalmer

Ans. (1)

Sol. From Jodhpur district of Rajasthan Chipko movement begin for protecting Khejri tree.

34. The part of human brain, which controls involuntary actions is

- (1) Cerebrum (2) Cerebellum (3) Medulla oblongata (4) Optic lobe

Ans. (3)

Sol. The part of human brain which controls involuntary actions like sneezing, coughing, peristalsis, etc. is medulla oblongata

35. The disease caused by protein deficiency in food is

- (1) Kwashiorkor (2) Scurvy (3) Pellagra (4) Rickets

Ans. (1)

Sol. The disease caused by protein deficiency in food is kwashiorkor.

36. The part of large intestine are

(1) Duodenum, Ileum, Colon

(2) Caecum, Colon, Rectum

(3) Duodenum, Jejunum, Ileum

(4) Jejunum, Ileum, Caecum

Ans. (2)

Sol. The part of large intestine are Caecum, Colon, Rectum.

37. The hormone, not secreted by ovary is

(1) Testosterone

(2) Estrogen

(3) Progesterone

(4) Relaxin

Ans. (1)

Sol. The hormone, not secreted by ovary is testosterone others are secreted by ovary.

38. Pseudocoelomate animals are

(1) Aschelminthes

(2) Annelids

(3) Arthropods

(4) Molluscs

Ans. (1)

Sol. Pseudocoelomate animals are aschelminthes.

39. Protozoan disease is

(1) AIDS

(2) Leprosy

(3) Jaundice

(4) Malaria

Ans. (4)

Sol. Protozoan disease is malaria, caused by plasmodium.

40. The disease caused by deficiency of Vitamin K is

(1) Haemorrhage

(2) Sterility

(3) Rickets

(4) Scurvy

Ans. (1)

Sol. The disease caused by deficiency of Vitamin K is haemorrhage.

MATHEMATICS

41. If one's digit and ten's digit of a number are a and b respectively, then the number will be

(1) $10b + a$

(2) $10a + b$

(3) $a + b$

(4) ab

Ans. (1)

Sol. $10b + a$

42. If ABC is a straight line then value of x, in the given diagram will be

(1) 15°

(2) 20°

(3) 25°

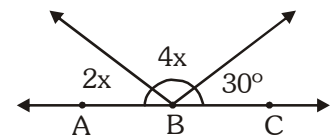
(4) 30°

Ans. (3)

Sol. $2x + 4x + 30^\circ = 180^\circ$

$6x = 150^\circ$

$x = 25^\circ$



43. The sum of all interior angles of a Heptagon is

(1) 360°

(2) 540°

(3) 720°

(4) 900°

Ans. (4)

Sol. Number of side $n = 7$

$$\begin{aligned}\text{Sum of all interior angles} &= (7 - 2) \times 180^\circ \\ &= 5 \times 180^\circ \\ &= 900^\circ\end{aligned}$$

44. If in a $\triangle ABC$, $AB = AC$ and $\angle A = 70^\circ$ then $\angle B$ is equal to

- (1) 50° (2) 55° (3) 60° (4) 65°

Ans. (2)

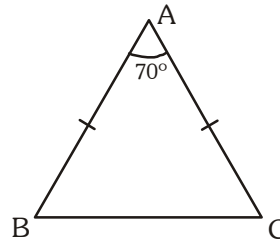
Sol.

$$\angle B = \angle C$$

$$\angle B + \angle C + 70^\circ = 180^\circ$$

$$2\angle B = 110^\circ$$

$$\angle B = 55^\circ$$



45. If the perimeter of an equilateral triangle is 24 cm, then its area will be

- (1) $16\sqrt{3}$ sq. cm (2) $32\sqrt{3}$ sq. cm (3) $48\sqrt{3}$ sq. cm (4) $64\sqrt{3}$ sq. cm

Ans. (1)

Sol. $3a = 24$, $a = 8$

$$\begin{aligned}\text{Area of equilateral } \Delta &= \frac{\sqrt{3}}{4} a^2 \\ &= \frac{\sqrt{3}}{4} \times 64 \\ &= 16\sqrt{3} \text{ sq. cm}\end{aligned}$$

46. If the volume of a cuboid is 3000 cm^3 and area of its base is 150 cm^2 , then the height of the cuboid is

- (1) 10 cm (2) 15 cm (3) 20 cm (4) 25 cm

Ans. (3)

Sol. Volume of Cuboid = $l bh$

$$3000 = 150 \times h$$

$$h = 20 \text{ cm}$$

47. If $\sin \theta = \frac{4}{5}$ then the value of $\frac{4 \tan \theta - 5 \cos \theta}{\sec \theta + 4 \cot \theta}$ will be

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

Ans. (4)

Sol. $\sin \theta = \frac{4}{5}$, $\cos \theta = \frac{3}{5}$, $\tan \theta = \frac{4}{3}$, $\sec \theta = \frac{5}{3}$, $\cot \theta = \frac{3}{4}$

$$\frac{4 \tan \theta - 5 \cos \theta}{\sec \theta + 4 \cot \theta} = \frac{4 \times \frac{4}{3} - 5 \times \frac{3}{5}}{\frac{5}{3} + 4 \times \frac{3}{4}} = \frac{\frac{16}{3} - 3}{\frac{5}{3} + 3}$$

$$\Rightarrow \frac{16 - 9}{5 + 9} = \frac{7}{14} = \frac{1}{2}$$

48. How much time the minute hand of a clock will take to describe an angle of $\frac{2\pi}{3}$ radians ?

- (1) 15 minutes (2) 20 minutes (3) 10 minutes (4) 25 minutes

Ans. (2)

Sol. $\frac{2\pi}{3}$ radians = $\frac{2}{3} \times 180^\circ = 120^\circ$

Minute hand describes 6° angle in 1 min

Now $120^\circ \Rightarrow \frac{1}{6^\circ} \times 120^\circ$

$\Rightarrow 20$ min

49. If Least Common Multiple (LCM) of a and 510 is 23460 and Highest Common Factor (HCF) of a and 510 is 2 then value of a is

- (1) 92 (2) 910 (3) 52 (4) 500

Ans. (1)

Sol. Product of two numbers = Product of their L.C.M and H.C.F.

$$a \times 510 = 23460 \times 2$$

$$a = \frac{23460 \times 2}{510} = 92$$

50. Discriminant of quadratic equation $2\sqrt{2}x^2 + 4x + \sqrt{2} = 0$ will be

- (1) 0 (2) 1 (3) 2 (4) 3

Ans. (1)

Sol. $2\sqrt{2}x^2 + 4x + \sqrt{2} = 0$

$a = 2\sqrt{2}$, $b = 4$ and $c = \sqrt{2}$

$D = b^2 - 4ac$

$= (4)^2 - 4 \times 2\sqrt{2} \times \sqrt{2}$

$= 16 - 16 = 0$

51. How many multiples of 3 are there in between 20 and 200?

- (1) 50 (2) 55 (3) 60 (4) 65

Ans. (3)

Sol. Multiples of 3 are
21, 24, 27, 198
Total 60

52. The value of $(\cos 0^\circ + \sin 45^\circ + \sin 30^\circ)(\sin 90^\circ - \cos 45^\circ + \cos 60^\circ)$ will be

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

Ans. (4)

Sol. $(\cos 0^\circ + \sin 45^\circ + \sin 30^\circ)(\sin 90^\circ - \cos 45^\circ + \cos 60^\circ)$

$$\Rightarrow \left(1 + \frac{1}{\sqrt{2}} + \frac{1}{2}\right) \left(1 - \frac{1}{\sqrt{2}} + \frac{1}{2}\right)$$

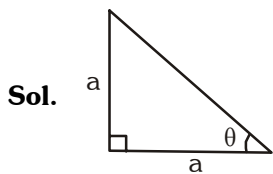
$$\Rightarrow \left(\frac{3}{2} + \frac{1}{\sqrt{2}}\right) \left(\frac{3}{2} - \frac{1}{\sqrt{2}}\right)$$

$$\Rightarrow \frac{9}{4} - \frac{1}{2} = \frac{9-2}{4} \Rightarrow \frac{7}{4}$$

53. If the ratio of the length of a vertical rod and the length of its shadow is 1 : 1 then angle of elevation of sun is

- (1) 30° (2) 45° (3) 60° (4) 90°

Ans. (2)



\Rightarrow angle of elevation of sun is 45° .

54. Quadrilateral formed by the vertices $(1, 4)$, $(-5, 4)$, $(-5, -3)$ and $(1, -3)$ will be

- (1) Square (2) Rectangle (3) Rhombus (4) None of these

Ans. (2)

Sol. $A(1, 4)$, $B(-5, 4)$, $C(-5, -3)$ and $D(1, -3)$

$$AB = \sqrt{6^2 + 0^2} = 6$$

$$BC = \sqrt{0^2 + 7^2} = 7$$

$$CD = \sqrt{6^2 + 0^2} = 6$$

$$DA = \sqrt{0^2 + 7^2} = 7$$

$$AC = \sqrt{6^2 + 7^2} = \sqrt{36 + 49} = \sqrt{85}$$

$$BD = \sqrt{6^2 + 7^2} = \sqrt{36 + 49} = \sqrt{85}$$

therefore ABCD is a rectangle.

55. The point of concurrence of three interior angle bisectors of a triangle is called
 (1) Centre of gravity (2) Circumcentre (3) Orthocentre (4) Incentre

Ans. (4)

Sol. The point of concurrence of three interior angle bisector of a triangle is called incentre.

56. The areas of two similar triangles are 36 cm^2 and 81 cm^2 respectively. If the median of smaller triangle is 12 cm then the corresponding median of the larger triangle is :

- (1) 12 cm (2) 18 cm (3) 24 cm (4) 10 cm

Ans. (2)

Sol. For similar triangle ABC, DEF

$$\frac{\text{ar ABC}}{\text{ar DEF}} = \left(\frac{m_a}{m_b}\right)^2$$

$$\frac{36}{81} = \left(\frac{12}{m_b}\right)^2$$

$$\frac{6}{9} = \frac{12}{m_b}$$

$$\Rightarrow m_b = \frac{12 \times 9}{6} = 18$$

\therefore median of second triangle = 18

57. In the given figure, BC is the diameter of a circle and $\angle BAO = 60^\circ$ then $\angle ADC$ is equal to :

- (1) 30° (2) 45° (3) 60° (4) 90°

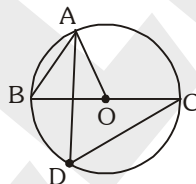
Ans. (3)

Sol. $\angle BAO = 60^\circ$

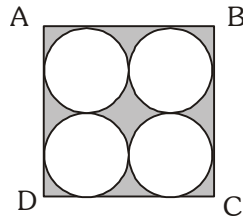
$\therefore AO = OB$

$\therefore \angle BAO = \angle ABO = 60^\circ$

$\therefore \angle ADC = \angle ABC$ (angle in same segment)
 $= 60^\circ$



58. Find the area of shaded portion in the figure given below, where ABCD is a square of side 28 cm.



- (1) 784 cm² (2) 616 cm² (3) 668 cm² (4) 168 cm²

Ans. (4)

Sol. ABCD is a square and side = 28 cm
 \therefore Radius of circle = 7 cm
 Required area = area of square – area of circles
 $= 28^2 - \pi(7)^2 \times 4$
 $= 168 \text{ cm}^2$

59. The mean of first eight prime numbers is :

- (1) 9.625 (2) 8.375 (3) 9.375 (4) 8.534

Ans. (1)

Sol. Mean = $\frac{2+3+5+7+11+13+17+19}{8} = 9.625$

60. A die is thrown one. The probability of getting an even number on the die is :

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

Ans. (3)

Sol. E = getting an even number
 \therefore Favourable outcome = {2, 4, 6}
 Total outcome = {1, 2, 3, 4, 5, 6}
 $P(E) = \frac{3}{6} = \frac{1}{2}$

SOCIAL SCIENCE

61. Who of the following was not the courtier of Kanishka ?

- (1) Charaka (2) Megasthenes (3) Nagarjuna (4) Ashwaghosha

Ans. (2)

Sol. Megasthenes was in the court of Chandra Gupta Maurya.

62. Who was the writer of 'Mudrarakshasa' ?

- (1) Kalidasa (2) Vishakhadatta (3) Amar Singh (4) Sudraka

Ans. (2)

Sol. Vishakhadatta was the writer of 'Mudrarakshasa'.

63. The fourth Buddhist conference was organized during the reign of which ruler ?
(1) Kanishka (2) Rudradaman (3) Ashoka (4) Chandragupta Maurya

Ans. (1)

Sol. The fourth Buddhist conference was organized by Kaniska.

64. Where is the 'Jantar-Mantar' situated?
(1) Sikar (2) Ajmer (3) Jaipur (4) Bikaner

Ans. (3)

Sol. The 'Jantar-Mantar' is situated in Jaipur.

65. Which one of the following incident happened first ?
(1) Non-cooperation movement (2) Quit India movement
(3) Simon Commission (4) Personal Satyagraha

Ans. (1)

Sol. There is an error in translation according to Hindi question answer would be (3). According to English question answer would be (1).

66. Which one of the following was not related to the Sikar Peasant Movement ?
(1) Chetram (2) Tulchharam (3) Tikuram (4) Devlal

Ans. (4)

Sol. Devlal was related to Bundi Peasant Movement.

67. Match List-I with List-II and select the correct answer by choosing from the given codes :

List -I

- (A) Flying Shuttle Loom
- (B) Spinning Jenny
- (C) Water frame
- (D) Mule

List -II

- (i) Samuel Crompton
- (ii) Recharad Arkwright
- (iii) James Hargreaves
- (iv) John Kay

Codes :

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

Ans. (4)

Sol. (A) Flying Shuttle Loom (iv) John Kay
(B) Spinning Jenny (iii) James Hargreaves
(C) Water frame (ii) Recharad Arkwright
(D) Mule (i) Samuel Crompton

68. Which one of the following is not correctly matched?
(1) Ropar – Punjab (2) Lothal – Haryana (3) Rangpur – Gujarat (4) Kalibanga – Rajasthan

Ans. (2)

Sol. Lothal is located in Gujarat.

69. Which ruler of Bharatpur is called 'The Plato of the Jat Caste'?

- (1) Rajaram (2) Surajmal (3) Badan Singh (4) Chudaman

Ans. (2)

Sol. Surajmal of Bharatpur is called 'The Plato of the Jat Caste'.

70. After the end of First World War, which treaty was made with Germany?

- (1) Treaty of Versailles (2) Treaty of Triyana (3) Treaty of Newly (4) Treaty of Berlin

Ans. (1)

Sol. After the end of First World War, Treaty of Versailles was made with Germany.

71. Who was the publisher of 'Samvad Kourmudi'?

- (1) Bal Gangadhar Tilak (2) Raja Rammohan Roy (3) Dayanand Saraswati (4) Mahatma Gandhi

Ans. (2)

Sol. Raja Rammohan Roy was the publisher of 'Samvad Kourmudi'.

72. Which Prime Minister of India called multipurpose water projects as "The Temple of Modern India"?

- (1) Pandit Jawaharlal Nehru (2) Rajiv Gandhi
(3) Indira Gandhi (4) Atal Bihari Vajpayee

Ans. (1)

Sol. Pandit Jawaharlal Nehru called multipurpose water projects as "The Temple of Modern India".

73. Rabi crop is—

- (1) Rice (2) Gram (3) Maize (4) Soyabean

Ans. (2)

Sol. Gram is a Rabi crop.

74. Which one of the following is the copper mine situated in Rajasthan?

- (1) Moriija – Banol (2) Degana – Bhakri (3) Zawar (4) Khetri – Singhana

Ans. (4)

Sol. Khetri – Singhana is the copper mine situated in Rajasthan.

75. Match List-I with List-II and select the correct answer using the codes given below :

List-I

(Iron and Steel Industries)

- (A) Durgapur
(B) Rourkela
(C) Bhilai
(D) Bokaro

List-II

(State)

- (i) Jharkhand
(ii) Chattisgarh
(iii) Orissa
(iv) West Bengal

Codes :

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

Ans. (1)

Sol. (A) Durgapur (iv) West Bengal
(B) Rourkela (iii) Orissa
(C) Bhilai (ii) Chattisgarh
(D) Bokaro (i) Jharkhand

76. Which of the following is the highest population density district of Rajasthan?

- (1) Jaipur (2) Bharatpur (3) Alwar (4) Dausa

Ans. (1)

Sol. The highest population density district of Rajasthan is Jaipur.

77. "New Mangalore" seaport is located in which state of India?

- (1) Karnataka (2) Tamil Nadu (3) West Bengal (4) Maharashtra

Ans. (1)

Sol. "New Mangalore" seaport is located in Karnataka state of India.

78. Which of the following is an atomic energy mineral?

- (1) Coal (2) Petroleum (3) Beryllium (4) natural Gas

Ans. (3)

Sol. Beryllium is an atomic energy mineral.

79. Among the following the latitudinal extension of Rajasthan is—

- (1) 23° 3' East Latitude to 30° 12' East Latitude (2) 23° 3' West Latitude to 30° 12' West Latitude
(3) 23° 3' North Latitude to 30° 12' North Latitude (4) 23° 3' South Latitude to 30° 12' South Latitude

Ans. (3)

Sol. The latitudinal extension of Rajasthan is 23° 3' North Latitude to 30° 12' North Latitude.

80. Which of the following river falls in the Arabian Sea?

- (1) Tapti (2) Krishna (3) Kaveri (4) Mahanadi

Ans. (1)

Sol. Tapti river falls in the Arabian Sea.

81. What is 'Mavath'?

- (1) Rainfall near the Malabar Coast in summer season
- (2) Warm winds which blow in Rajasthan in summer season
- (3) Rainfall due to Mediterranean cyclones in winter season
- (4) Cyclones of the Arabian sea

Ans. (3)

Sol. Rainfall due to Mediterranean cyclones in winter season is known as Mavath.

82. Which tree is known as 'Kalpa Vriksha' in Rajasthan?

- (1) Rohira
- (2) Kair
- (3) Bair
- (4) Khejari

Ans. (4)

Sol. Khejari is known as 'Kalpa Vriksha' in Rajasthan.

83. Among the following who is a supporter of the Pluralistic Theory of Democracy ?

- (1) J. S. Mill
- (2) T. H. Green
- (3) Hobbes
- (4) H. J. Laski.

Ans. (4)

Sol. H. J. Laski is a supporter of the Pluralistic Theory of Democracy.

84. Who decides whether a bill is a Money Bill or not ?

- (1) Prime Minister
- (2) President
- (3) Speaker of Lok Sabha
- (4) Vice-President.

Ans. (3)

Sol. Speaker of Lok Sabha decides whether a bill is a Money Bill or not.

85. Who has the right to declare a subject of the state list of national importance ?

- (1) Rajya Sabha
- (2) Lok Sabha
- (3) State Legislative Assembly
- (4) State Legislative Council.

Ans. (1)

Sol. Rajya Sabha has the right to declare a subject of the state list of national importance.

86. At present how many high courts are there in India ?

- (1) 22
- (2) 24
- (3) 26
- (4) 29

Ans. (2)

Sol. At present there are 24 high courts are there in India.

87. Which of the following are included in the State Government ?

- (1) Governor, Cabinet, Chief Minister
- (2) Judiciary, Executive, Chief Minister
- (3) State Legislature, Executive, Judiciary
- (4) Cabinet, State Legislature, Governor.

Ans. (3)

Sol. State Legislature, Executive, Judiciary are included in the State Government.

88. Under which Article of the Constitution each high court has been established as a court of records ?
(1) Article 215 (2) Article 216 (3) Article 221 (4) Article 222.

Ans. (1)

Sol. According to Article 215 of the Constitution each high court has been established as a court of records.

89. Which Fundamental Right is given by the Constitution of India to protect all fundamental rights ?
(1) Right to Liberty (2) Right to Constitutional Remedies
(3) Right against Exploitation (4) Right to Equality.

Ans. (2)

Sol. Right to Constitutional Remedies is given by the Constitution of India to protect all fundamental rights.

90. The highest unit of Panchayati Raj system is
(1) Zilla Parishad (2) Panchayat Samiti (3) Gram Panchayat (4) Gram Sabha.

Ans. (1)

Sol. Zilla Parishad is the highest unit of Panchayati Raj system.

91. When was the minimum age of 18 years for Franchise implemented in India ?
(1) 1947 (2) 1955 (3) 1987 (4) 1989

Ans. (4)

Sol. In 1989, the minimum age of 18 years for Franchise implemented in India

92. Which Indian politician played an important role to make Non-alignment as a movement ?
(1) Pandit Jawaharlal Nehru (2) Mahatma Gandhi
(3) Lal Bahadur Shastri (4) Sardar Vallabhbhai Patel.

Ans. (1)

Sol. Pandit Jawaharlal Nehru played an important role to make Non-alignment as a movement.

93. Match List-I with List-II and choose the correct code from the given codes :

List-I

- (A) Permanent Chairman of the Constituent Assembly
- (B) Legal Adviser of the Constituent Assembly
- (C) Chairman of the Drafting Committee
- (D) Temporary Chairman of the Constituent Assembly

List-II

- (i) B. N. Rao
- (ii) Dr. Rajendra Prasad
- (iii) Sachchidanand Sinha
- (iv) Dr. Bhim Rao Ambedkar

Codes :

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

Ans. (2)

Sol. (A) Permanent Chairman of the Constituent Assembly - Dr. Rajendra Prasad
(B) Legal Adviser of the Constituent Assembly - B. N. Rao
(C) Chairman of the Drafting Committee - Dr. Bhim Rao Ambedkar
(D) Temporary Chairman of the Constituent Assembly - Sachchidanand Sinha.

94. The nation with a capitalist economy is

- (1) Russia (2) China (3) Japan (4) Bulgaria

Ans. (3)

Sol. Japan has capitalist economy.

95. The White Revolution is related to

- (1) Production of eggs (2) Production of milk (3) Production of sugar (4) Production of rice.

Ans. (2)

Sol. The White Revolution is related to production of milk.

96. The institution calculating National Income in India is

- (1) Central Statistical Organization
(2) Finance Commission
(3) Central Bank
(4) NITI Aayog

Ans. (1)

Sol. Central Statistical Organization calculate National Income in India.

97. The World Trade Organization was established on

- (1) 1st January, 1935 (2) 1st April, 1935 (3) 1st January, 1995 (4) 1st April, 1995.

Ans. (3)

Sol. The World Trade Organization was established on 1st January, 1995.

98. The reason of inflation in India is

- (1) Rapid growth in agricultural production
(2) Rapid growth in industrial production
(3) Low level of public expenditure
(4) High level of public expenditure.

Ans. (4)

Sol. The reason of inflation in India is High level of public expenditure.

99. The institutional source of credit is

- (1) Money lender (2) Self help group (3) Commercial bank (4) Trader.

Ans. (3)

Sol. The institutional source of credit is Commercial bank.

100. In India, cases of goods more than one crore of rupees can be filed by the consumer in

- (1) Block Forum
(2) District Forum
(3) State Commission
(4) National Consumer Protection Commission.

Ans. (4)

Sol. In India, cases of goods more than one crore of rupees can be filed by the consumer in National Consumer Protection Commission.

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