AIIMS BSc Nursing 2025 Question Paper

Question Paper (Memory-Based)

Conducted by All India Institute of Medical Sciences (AIIMS)

General Instructions

(i) The test is of 2 hours duration.

(ii) This test paper consists of 100 questions. The exam is worth 100 marks.

(iii) Physics, Chemistry, Biology, General Knowledge.

(iv) Each question carries +1 marks for correct answer and there's a penalty of -1/3 for each incorrect answer.

1. Which gas was absent in Miller experiment?

(A) O_2

(B) H_2

(C) NH_3

(D) CH_4

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2. Which disease is caused by a virus?

(1) Common cold

(2) Typhoid

(3) Malaria

(4) Pneumonia

---

3. Which of the following is an autoimmune disease?

(1) Alzheimer's disease

(2) Cystic fibrosis

(3) Sickle cell anemia

(4) Rheumatoid arthritis

4. First antibiotic is -

(A) Fungus

(B) Bacteria

(C) Virus

(D) Protozoa

---

5. Which hormone is secreted by ovary?

(A) HCG

(B) HPL

(C) Relaxin

(D) Oxytocin

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6. CO_2 Acceptor in C_4 Plants -

(A) PGA

(B) RuBP

(C) PEP

(D) PGAL

---

7. First product of C_4 cycle

(A) OAA

(B) PGA

(C) PEP

(D) RuBP

---

8. Which ion is known to suppress sperm motility?

(A) Copper

(B) Magnesium

(C) Mercury

(D) Calcium

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9. Antagonist of Gibberellin Hormone -

(A) Auxin

(B) Cytokinin

(C) Abscisic Acid (ABA)

(D) Ethylene

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10. Protonema is a characteristic of -

(A) Ulothrix

(B) Polytrichum

(C) Polysiphonia

(D) Marchantia

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11. What family does house fly belong to?

(A) Insecta

(B) Muscidae

(C) Diptera

(D) Formicidae

---

12. RNA without protein capsid -

(A) Viroid

(B) Lichen

(C) Prion

(D) Virus

---

13. Sex Determination in Human -

(A) XY

(B) XO

(C) ZW

(D) Haplodiploid

---

14. Which is not part of stomatal apparatus?

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(A) Guard cells

(B) Subsidiary cells

(C) Stomatal pore

(D) Cuticle

---

15. Which of the following statements about binomial nomenclature is incorrect?

(A) The genus name is written with a capital first letter.

(B) The species epithet is written in small letters.

(C) Both words are separately underlined when handwritten.

(D) When typed, both names are italicized.

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16. Which of the following statements about *Drosophila melanogaster* (fruit fly) is incorrect in the context of its use in genetic experiments?

(A) It has a short 2-week life cycle

(B) Grows in complex rare medium

(C) Shows clear sex differentiation

(D) A single mating produces a large population

---

17. Alternate phyllotaxy is found in which of the following plants?

(A) Calotropis

(B) Guava

(C) Alstonia

(D) China Rose

---

18. Absent in female frogs are:

(A) Trunk

(B) Copulatory pad

(C) Webbed feet

(D) Tympanum

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19. Which of the following statements about Kingdom Monera is not true?

(A) All bacteria are heterotrophs

(B) Cyanobacteria are photosynthetic

(C) Anabaena is a cyanobacterium

(D) Methanogens live in harsh habitats

20. Identify the missing region in the root tip sequence:

(A) Root cap

(B) Cortex

(C) Endodermis

(D) Pericycle

21. Which of the following statements about pollen grains is incorrect?

(A) Vegetative cell is bigger and generative cell is smaller

(B) The outer layer of pollen grain, called exine, is made up of sporopollenin

(C) Pollen grains lose their viability immediately after being released from the anther

(D) Pollen grains are produced in the ovule of a flower

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22. Which type of DNA is primarily used in DNA fingerprinting?

(A) Coding DNA

(B) Mitochondrial DNA

(C) Satellite DNA / Non-coding repetitive DNA

(D) Ribosomal DNA

---

23. What is the function of the tapetum?

(A) Provide protection

(B) Produce pollen grains

(C) Provide nourishment to the developing pollen grains

(D) Store and protect pollen grains

---

24. Which of the following fishes has four pairs of gills covered by an operculum?

(A) Petromyzon

(B) Pristis

(C) Trygon

(D) Labeo (Rohu), Catla, Clarias (Magur)

---

25. Which of the following statements is true regarding open vascular bundles?

(A) They are present in dicot stem

(B) Secondary growth is absent

(C) They are found in monocot root

(D) Xylem and phloem are not separated by cambium

---

26. Open vascular bundle and secondary growth are present in:

(A) Monocot stem

(B) Monocot root

(C) Dicot stem

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(D) Dicot leaf

---

27. Match the following:

Column A	-	Column B
1. Delivery of baby	-	a. Parturition
2. Embryo development in female body	-	b. Gestation
3. Introducing sperm into female tract	-	c. Insemination

(A) 1-a, 2-b, 3-c

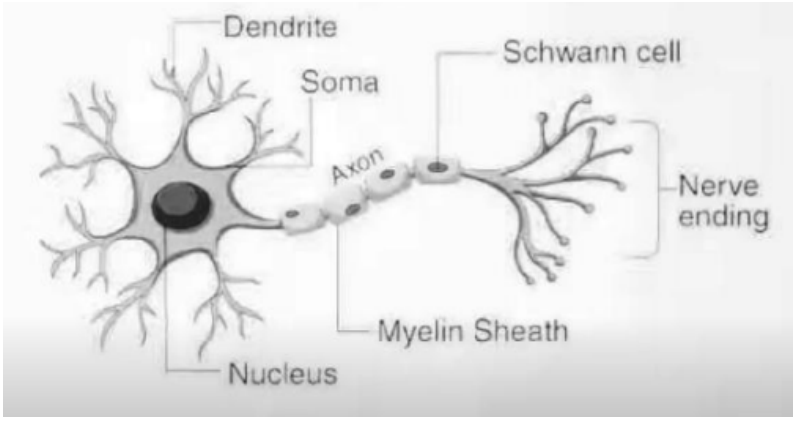
(B) 1-b, 2-a, 3-c

(C) 1-c, 2-b, 3-a

(D) 1-a, 2-c, 3-b

---

28. Identify the labels a, b and c in the neuron diagram.



(A) Dendrite

(B) Schwann Cell

(C) Synaptic Knob

(D) Diagram Based Question

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29. Why is the activity of juxtaglomerular (JG) cells required?

(A) To increase blood glucose levels

(B) To regulate blood pressure and blood volume

(C) To reabsorb urea from urine

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(D) To digest proteins in the stomach

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30. What is the function of renin secreted by juxtaglomerular (JG) cells?

(A) Increase blood pressure

(B) Increase blood volume

(C) Decrease blood volume

(D) A and B

---

31. What will be the oxidation number of the elements in O_3, P_4 and S_8?

(a) $-1, 0, +1$

(b) $1, +1, -2$

(c) $0, 0, 0$

(d) $-2, 1, 0$

---

32. Which of the following is true for an adiabatic process?

(1) $\Delta H = 0$

(2) $\Delta W = 0$

(3) $\Delta Q = 0$

(4) $\Delta V = 0$

---

33. What products are obtained from the hydrolysis of lactose?

(a) Lactose + Glucose

(b) Glucose + Glucose

(c) Glucose + Fructose

(d) Galactose + Glucose

---

34. What is the electronic configuration of palladium?

(A) $[Kr]5s^2\,4d^8$

(B) $[Kr]5s^1\,4d^9$

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(C) $[Kr]4d^{10}$

(D) $[Kr]5s^2\,4d^{10}$

---

35. If 200 mL aqueous solution of 10 g NaOH is prepared, find the molarity of the resulting solution.

(a) $1.25\,M$

(b) $1.5\,M$

(c) $1.66\,M$

(d) $12.5\,M$

---

36. Atomic radii and ionic radius of lanthanoid series increases from La to Lu due to?

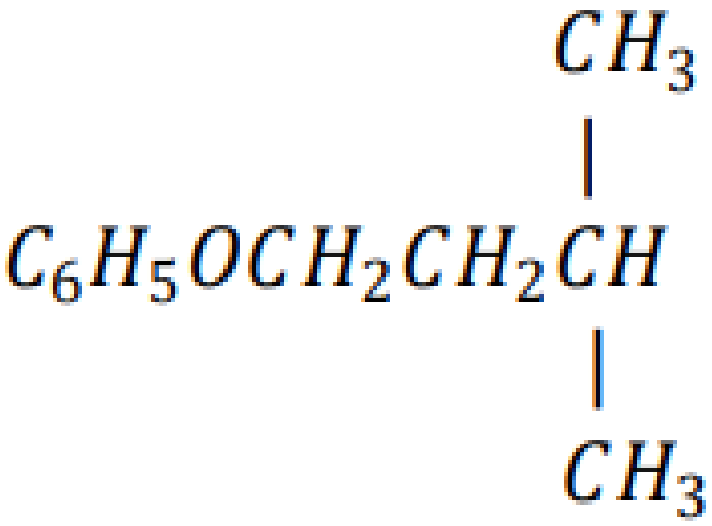
(1) Lanthanoid contraction

(2) Actinoid contraction

(3) Intermolecular bonding

(4) None

37.



Find the IUPAC name of the compound

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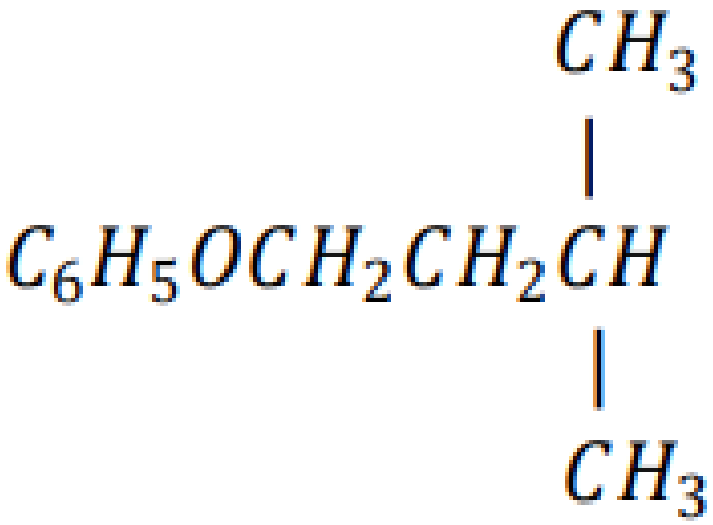

(A) 1-Methylethyl 2-phenoxyethyl ether

(B) 3-Methylbutyl phenyl ether

(C) 1-Phenoxy-3-methylbutane

(D) 4-Phenoxy-2-methylbutane

---

38. Which of the following compounds does not give Friedel-Crafts reaction?

(A) Benzene

(B) Chloro Benzene

(C) Benzoic Acid

(D) Phenol

---

39. The number of unpaired electrons in the paramagnetic complex ion $[FeF_6]^{3-}$ is

(1) 2

(2) 3

(3) 5

(4) 4

---

40. Which of the following is not a nucleophile?

(A) BF_3

(B) NH_3

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(C) $C_2H_5O^-$

(D) All of these

---

41. Which of the following statements is/are correct?

I. Atomic radius increases as we go from left to right in a period

II. Atomic size increases as we go down a group.

1. Both I and II

2. Neither I nor II

3. Only II

4. Only I

---

42. Write the highest oxidation state of Cr and Mn.

1. $+2, +3$

2. $+6, +7$

3. $+4, -4$

4. $+3, -5$

---

43. By which bond are amino acids joined together?

1. Dipole-Dipole

2. Ionic

3. Hydrogen

4. Amide

---

44. Match the following.

(I) Homohaptic / होमोहैप्टिक	-	A) EDTA
(ii) Heterohaptic / हेटरोहैप्टिक	-	B) $[Fe(CNH_3)]^{3+}$
(iii) Polydentate / पॉलीडेंटेट	-	C) $[Re(H_2O)_2(NH_3)_2]$
(iv) Bidentate / बाइडेंटेट	-	D) $C_2O_4^{2-}$

(A) I-B, II-C, III-A, IV-D

(B) I-C, II-B, III-D, IV-A

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(C) I-D, II-A, III-C, IV-B

(D) I-A, II-D, III-B, IV-C

---

45. Match the following.

Column I	-	Column II
(a) Vit E	-	(i) Night blindness
(b) Vit C	-	(ii) Beri-Beri
(c) Vit A	-	(iii) Muscular weakness
(d) Vit B	-	(iv) Scurvy

(A) a-iii, b-iv, c-i, d-ii

(B) a-iv, b-iii, c-ii, d-i

(C) a-i, b-ii, c-iii, d-iv

(D) a-ii, b-i, c-iv, d-iii

---

46. Statement-I: All aldehydes and ketones give positive Tollens' test.

Statement-II: Only aldehydes give positive Fehling's test.

(A) Both I and II

(B) Neither I nor II

(C) Only II

(D) Only I

---

47. Solutions having the same osmotic pressure are called:

(A) Hypertonic

(B) Hypotonic

(C) Isotonic

(D) Normal

---

48. For a spontaneous process at constant pressure and temperature, ΔG° and ΔS are:

1. $\Delta G^\circ = 0,\ \Delta S = 0$

2. $\Delta G^\circ < 0,\ \Delta S > 0$

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3. $\Delta G^\circ > 0,\ \Delta S > 0$

4. $\Delta G^\circ = 1,\ \Delta S = 1$

---

49. The decreasing order of C–X bond length in $CH_3 - X$ is

(a) $CH_3I > CH_3Br > CH_3Cl > CH_3F$

(b) $CH_3F > CH_3Cl > CH_3Br > CH_3I$

(c) $CH_3F > CH_3Cl > CH_3I > CH_3Br$

(d) $CH_3I > CH_3Cl > CH_3F > CH_3Br$

---

50. Zirconium is a transition element, but Zinc is not. Why?

(1) Both Zr^{3+} and Zn^{2+} ions are colourless and form white compounds

(2) In case of transition elements, d-orbitals are partially filled, but in Zn they are completely filled

(3) Last electron is added to 4s level in case of Zn

(4) Both Zr and Zn do not exhibit variable oxidation states

---

51. For the reaction

$$N_2 + O_2 \rightleftharpoons 2NO$$

the equilibrium concentrations are given as

$$[N_2] = 0.5\,M, \qquad [O_2] = 0.7\,M, \qquad [NO] = 0.4\,M$$

Calculate the value of K_c.

(1) 0.58

(2) 0.48

(3) 1.15

(4) 2014

---

52. Which of the following carbohydrates is the sweetest sugar?

1. Glucose

2. Fructose

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3. Cellulose

4. Maltose

---

53. What is the symbol for an atom containing 20 protons, 18 electrons and 22 neutrons?

(1) Mg^{2+}

(2) Sc^{3+}

(3) Ca^{2+}

(4) K^{+}

---

54. Which one is the strongest electrolyte among the following?

(1) HF

(2) NH_3

(3) $CaCl_2$

(4) AgCl

---

55. The energy required to completely separate one mole of a solid ionic compound into its gaseous constituent ions is called:

(A) Lattice energy

(B) Ionization energy

(C) Electron gain enthalpy

(D) Sublimation energy

---

56. Consider the following statements:

I. Aniline does not give Friedel-Crafts reaction.

II. Aromatic primary amines cannot be prepared by Gabriel phthalimide synthesis.

Choose the correct option.

(A) Both I and II

(B) Neither I nor II

(C) Only II

(D) Only I

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57. The catalytic activity of transition elements is related to their:

(A) Variable oxidation states

(B) Surface area

(C) Complex formation ability

(D) Magnetic moment

---

58. The following are catalysts and their respective processes/reactions. The wrong pair is:

(A) $[RhCl(PPh_3)_3]$ **: Hydrogenation**

(B) $TiCl_4 + Al(C_2H_5)_3$ **: Polymerisation**

(C) V_2O_3 **: Haber-Bosch process**

(D) Nickel : Hydrogenation

---

59. Consider the following statements:

I. Cellulose contains only $\beta(1 \rightarrow 4)$ **glycosidic linkages.**

II. Starch contains both $\alpha(1 \rightarrow 4)$ **and** $\alpha(1 \rightarrow 6)$ **glycosidic linkages.**

(A) Both I and II

(B) Neither I nor II

(C) Only II

(D) Only I

---

60. Consider the following statements:

I. Aniline does not give Friedel-Crafts reaction.

II. Aromatic primary amines cannot be prepared by Gabriel phthalimide synthesis.

(A) Both I and II

(B) Neither I nor II

(C) Only II

(D) Only I

---

61. Which statement is logical according to Werner's theory?

(A) Primary valency can be ionized

(B) Secondary valency can be ionized

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(C) Primary and secondary valency do not ionize

(D) Only primary valency does not ionize

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62. Two bodies of masses $1\,kg$ and $4\,kg$ are connected by a spring of spring constant $K = 5\,N\,m^{-1}$. Find the time period of oscillation.

(A) $\frac{4\pi}{5}\,s$

(B) $\frac{2\pi}{5}\,s$

(C) $\pi\,s$

(D) $2\pi\,s$

---

63. Mutual inductance between two coils is $2\,H$. Current changes from 0 to $10\,A$ in $0.5\,s$. Find the induced emf.

(A) $20\,V$

(B) $60\,V$

(C) $40\,V$

(D) $80\,V$

---

64. Distance between two slits is $2\,mm$, distance between slit and screen is $1.6\,m$, and wavelength of light is $500\,nm$. Find the fringe width.

(A) $0.2\,mm$

(B) $0.4\,mm$

(C) $0.8\,mm$

(D) $1.6\,mm$

---

65. Find the radius of trajectory of a proton moving with velocity $4 \times 10^5\,m\,s^{-1}$ in a magnetic field of $0.01\,T$.

(A) $0.2\,m$

(B) $0.8\,m$

(C) $0.6\,m$

(D) $0.4\,m$

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66. The powers of the objective lens and eyepiece of an astronomical telescope are $2D$ and $20D$ respectively. Find the length of the telescope in normal adjustment.

(A) $45\,cm$

(B) $50\,cm$

(C) $55\,cm$

(D) $60\,cm$

---

67. A thin rod has mass $100\,g$ and length $0.3\,m$. Find its moment of inertia about an axis passing through its centre of mass and perpendicular to its length.

(A) $2.5 \times 10^{-4}\,kg\,m^2$

(B) $5.0 \times 10^{-4}\,kg\,m^2$

(C) $7.5 \times 10^{-4}\,kg\,m^2$

(D) $1.0 \times 10^{-3}\,kg\,m^2$

---

68. Find the terminal voltage of a cell having emf $12\,V$, internal resistance $1\,\Omega$, and external resistance $5\,\Omega$.

(A) $10\,V$

(B) $9.25\,V$

(C) $8.5\,V$

(D) $7.75\,V$

---

69. What is the dimensional formula of mobility?

(A) $[M^{-1}L^0T^2A]$

(B) $[MLT^{-2}A^{-1}]$

(C) $[MT^{-2}A]$

(D) $[M^{-1}LT^3A]$

---

70. An electromagnetic wave has frequency $50\,MHz$ and electric field amplitude $5.6\,V\,m^{-1}$. Find the magnetic field amplitude.

(A) $1.9 \times 10^{-8}\,T$

(B) $1.8 \times 10^{-8}\,T$

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(C) $2.0 \times 10^{-8}\,T$

(D) $5.6 \times 10^{-8}\,T$

---

71. A pipe is closed at one end. The speed of sound in air is $330\,m\,s^{-1}$ and the length of the pipe is $55\,cm$. Find its fundamental frequency.

(A) $150\,Hz$

(B) $300\,Hz$

(C) $75\,Hz$

(D) $600\,Hz$

---

72. Two charges $+5\,\mu C$ and $-5\,\mu C$ form an electric dipole of length $0.2\,m$. The dipole is placed in a uniform electric field of intensity $20\,V\,m^{-1}$. If the angle between the dipole moment and electric field is $30°$, find the torque acting on the dipole.

(A) $1 \times 10^{-5}\,N\,m$

(B) $2 \times 10^{-5}\,N\,m$

(C) $5 \times 10^{-6}\,N\,m$

(D) $1 \times 10^{-6}\,N\,m$

---

73. Two polaroids are inclined at an angle of $30°$. Unpolarized light of intensity $40\,W\,m^{-2}$ is incident on the first polaroid. Find the intensity after emerging from the second polaroid.

(A) $30\,W\,m^{-2}$

(B) $20\,W\,m^{-2}$

(C) $10\,W\,m^{-2}$

(D) $15\,W\,m^{-2}$

---

74. An AC source of $220\,V$ and $50\,Hz$ is connected to an RLC circuit having resistance $10\,\Omega$. The power factor is 0.5. Find the average power consumed.

(A) $605\,W$

(B) $2420\,W$

(C) $1210\,W$

(D) $2200\,W$

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75. The energy density of a magnetic field in a solenoid is $10^5\,J\,m^{-3}$. Find the magnetic field.

(A) $0.0162\,T$

(B) $0.0324\,T$

(C) $0.0081\,T$

(D) $0.0648\,T$

---

76. The refractive index of the material of a prism is $n = 1.6$. Find the ratio of the angle of the prism to the angle of minimum deviation.

(A) $3:2$

(B) $5:3$

(C) $2:1$

(D) $4:3$

---

77. A particle executes SHM with angular frequency $\omega = 0.5\,\text{rad s}^{-1}$ and amplitude $A = 5\,\text{cm}$. Find the acceleration when its displacement is $x = 4\,\text{cm}$.

(A) $0.02\,\text{m/s}^2$

(B) $0.0125\,\text{m/s}^2$

(C) $0.01\,\text{m/s}^2$

(D) $0.005\,\text{m/s}^2$

---

78. A lens of power $5\,D$ forms a virtual image having magnification 2.5. Find the position of the object.

(A) $12\,cm$

(B) $30\,cm$

(C) $8\,cm$

(D) $16\,cm$

---

79. Stopping potential is $2.5\,V$ for light of wavelength $400\,nm$. Find the work function of the metal.

(A) $0.6\,eV$

(B) $2.5\,eV$

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(C) $3.1\,eV$

(D) $3.7\,eV$

---

80. Three capacitors $C_1 = 1\mu F$, $C_2 = 2\mu F$ and $C_3 = 3\mu F$ are connected in series across a $10V$ battery. Find the potential difference across C_2.

(A) $2.73\,V$

(B) $3.33\,V$

(C) $10\,V$

(D) $5\,V$

---

81. Two blocks of masses $3kg$ and $1kg$ are placed on a smooth horizontal surface. A horizontal force of $5N$ acts on the system. Find the contact force between the two blocks.

(A) $0\,N$

(B) $5\,N$

(C) $3.75\,N$

(D) $1.25\,N$

---

82. A wire of length $5\,mm$ carries a current of $5A$ along the X-axis. Find the magnetic field at a point on the Y-axis at a distance $1m$.

(A) $1.0 \times 10^{-9}T$

(B) $2.5 \times 10^{-9}T$

(C) $5.0 \times 10^{-9}T$

(D) $1 \times 10^{-6}T$

---

83. Two long parallel wires carry currents $5A$ and $2A$ and are separated by $0.2m$. Find the force per unit length between them.

(A) $5 \times 10^{-6}N/m$

(B) $2 \times 10^{-5}N/m$

(C) $1 \times 10^{-5}N/m$

(D) $1 \times 10^{-4}N/m$

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84. The focal length of objective lens is $50cm$, focal length of eyepiece is $5cm$, tube length is $15cm$ and least distance of distinct vision is $25cm$. Find the magnifying power of the microscope.

(A) 2.0

(B) 3.0

(C) 1.8

(D) 6.0

---

85. Find the velocity of an electron in the fourth Bohr orbit of hydrogen atom.

(A) $2.18 \times 10^6\, m/s$

(B) $5.45 \times 10^5\, m/s$

(C) $1.09 \times 10^6\, m/s$

(D) $4.00 \times 10^5\, m/s$

---

86. If Magnetic susceptibility is 2499, then find magnetic permeability.

(A) $10^{-3}\pi$ **H/m**

(B) $10^{-4}\pi$ **H/m**

(C) $10^{-3} \times 2\pi$ **H/m**

(D) $10^{-2}\pi$ **H/m**

---

87. Find the minimum wavelength of Paschen series. Given $R = 1.1 \times 10^7\, \mathbf{m}^{-1}$.

(A) 656 **nm**

(B) 102.5 **nm**

(C) 818 **nm**

(D) 1220 **nm**

---

88. What is the molar specific heat of an ideal monoatomic gas at constant pressure?

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

(B) $\frac{3}{2}R$

(C) $3R$

(D) $2R$

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89. Who founded the Sikh Empire?

(A) Maharaja Ranjit Singh

(B) Guru Gobind Singh

(C) Banda Singh Bahadur

(D) Maharaja Hari Singh

---

90. Which is the smallest state of India in terms of area?

(A) Goa

(B) Sikkim

(C) Tripura

(D) Mizoram

---

91. Which is the longest river of India?

(A) Ganga

(B) Yamuna

(C) Brahmaputra

(D) Godavari

---

92. Who led the Jhansi Regiment?

(A) Rani Durgavati

(B) Captain Lakshmi

(C) Ahilyabai Holkar

(D) Rani Avantibai

---

93. What is the ratio of length and width of the Indian flag?

(A) 2:3

(B) 3:2

(C) 1:2

(D) 1:1

---

94. How long did Sunita Williams remain in space?

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(A) 100 days

(B) 195 days

(C) 250 days

(D) 300 days

---

95. What is India's highest gallantry award?

(A) Param Vir Chakra

(B) Maha Vir Chakra

(C) Vir Chakra

(D) Ashoka Chakra

---

96. Where is "Satyameva Jayate" taken from?

(A) Rigveda

(B) Mundaka Upanishad

(C) Bhagavad Gita

(D) Atharvaveda

---

97. Who is called the Missile Man of India?

(A) Dr. A.P.J. Abdul Kalam

(B) Homi J. Bhabha

(C) Vikram Sarabhai

(D) C.V. Raman

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