

# JEECUP 2024 Group B Polytechnic Question Paper

|                               |                    |                      |
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| Time Allowed :2 Hours 30 Mins | Maximum Marks :400 | Total Questions :100 |
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## General Instructions

Read the following carefully and follow them strictly:

1. The paper consists of **100 multiple-choice questions (MCQs)**. For each correct answer, **+4 marks** will be awarded, and for each incorrect answer, **-1 mark** will be deducted.
2. If a candidate fills more than one circle for a question, the answer will be considered **invalid**.
3. The OMR answer sheet instructions will be given separately. Follow these instructions carefully, and ensure that all entries and circles are filled with a **ballpoint pen**.
4. Candidates must follow all instructions given by the **Centre Superintendent, Invigilator, or Board Authorities**. Failure to do so, or engaging in misconduct, such as tearing the question paper, exchanging written materials, or assisting others, will result in cancellation of the exam.
5. The use of **log tables, electronic calculators, pagers, mobile phones, and slide rules** is strictly prohibited during the examination.
6. The answer sheet should be filled carefully with a **ballpoint pen**. Make sure to mark the correct answer, as no changes will be allowed once the circle is filled.
7. After the examination, candidates may keep the question paper, but the answer sheet should be submitted as per the instructions.

## MATHEMATICS

1. If  $\sec x = \frac{5}{4}$ , then  $\frac{\tan x}{1+\tan^2 x}$  is equal to

- (A)  $1/25$
- (B)  $9/25$
- (C)  $3/4$
- (D)  $12/25$

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2. If  $A = \frac{x+1}{x-1}$  and  $B = \frac{x-1}{x+1}$  then  $A + B$  is

- (A) None of these
- (B)  $\frac{2(x^2+1)}{(x-1)^2}$
- (C)  $\frac{2(x^2-1)}{x^2+1}$

(D)  $\frac{x^2+1}{x^2-1}$

---

**3. Value of 1 Radian is**

- (A)  $47^\circ 15' 17''$   
(B)  $60^\circ 30' 15''$   
(C)  $180^\circ$   
(D)  $57^\circ 17' 45''$
- 

**4. If 15% of  $m = 20\%$  of  $n$  then  $m : n$  is**

- (A) 16 : 17  
(B) 17 : 16  
(C) 3 : 4  
(D) 4 : 3
- 

**5. The median of the following distribution is**

|     |   |   |   |    |   |   |   |
|-----|---|---|---|----|---|---|---|
| $x$ | 8 | 5 | 6 | 10 | 9 | 7 | 4 |
| $f$ | 6 | 4 | 5 | 8  | 9 | 4 | 6 |

- (A) 8  
(B) 9  
(C) 10  
(D) None of these
- 

**6. The total amount for a sum of 400 for 3 years at simple interest at 5% per annum will be**

- (A) 415  
(B) 412  
(C) 460  
(D) 435
- 

**7. If  $\tan A = \frac{1}{\sqrt{3}}$  and  $\tan B = \sqrt{3}$  then  $\cos A \cdot \cos B - \sin A \cdot \sin B$  will be equal to**

- (A) 0  
(B)  $1/2$

- (C) 1  
(D)  $\sqrt{3}/2$
- 

**8. Distance between two lines  $3x + 4y - 9 = 0$  and  $3x + 4y + 10 = 0$  is**

- (A) None of these  
(B)  $9/5$  unit  
(C) 10 units  
(D)  $19/5$  unit
- 

**9. Find the value of  $\frac{\sqrt{3} \cos 23^\circ - \sin 23^\circ}{2}$**

- (A)  $\tan 53^\circ$   
(B)  $\sin 53^\circ$   
(C) 1  
(D)  $\cos 53^\circ$
- 

**10.  $\sqrt{3}$  is**

- (A) A natural number  
(B) An integer  
(C) A rational number  
(D) An irrational number
- 

**11. If  $\cos A = \frac{1}{7}$  and  $\cos B = \frac{13}{14}$ , then  $\cos(A - B)$  is**

- (A) 1  
(B)  $\frac{13}{98}$   
(C)  $\frac{1}{2}$   
(D)  $\frac{18}{49}$
- 

**12. By selling a car for 72,000, a person made a profit of 20%. Then the cost price of the car is**

- (A) 90,000  
(B) 60,000  
(C) 80,000  
(D) 70,000
-

**13. If  $a : b = 3 : 4$  and  $b : c = 8 : 9$ , then  $a : c$  is**

- (A)  $1 : 3$
  - (B)  $3 : 2$
  - (C)  $1 : 2$
  - (D)  $2 : 3$
- 

**14. If  $\bar{x}$  is the mean of  $n$  observations  $x_1, x_2, x_3, \dots, x_n$ , then  $\sum_{i=1}^n (x_i - \bar{x})$  is equal to**

- (A) 1
  - (B) 0
  - (C) None of these
  - (D)  $\infty$
- 

**15. Distance between two points  $(a \cos \alpha, a \sin \alpha)$  and  $(a \cos \beta, a \sin \beta)$  is equal to**

- (A)  $2a \sin \left( \frac{\alpha + \beta}{2} \right)$
  - (B)  $2a \cos \left( \frac{\alpha + \beta}{2} \right)$
  - (C)  $2a \sin \left( \frac{\alpha - \beta}{2} \right)$
  - (D)  $2a \cos \left( \frac{\alpha - \beta}{2} \right)$
- 

**16. L.C.M. of  $x^3 - 9x$  and  $x^2 - 2x - 3$  is**

- (A)  $x - 3$
  - (B)  $x + 3$
  - (C)  $x(x + 1)$
  - (D)  $x(x + 3)(x - 3)(x + 1)$
- 

**17. What must be added in  $\frac{9}{x^2} + 4y^2$  to make it a whole square?**

- (A)  $\frac{6x}{y}$
  - (B)  $\frac{6y}{x}$
  - (C)  $\frac{12x}{y}$
  - (D)  $\frac{12y}{x}$
- 

**18. The value of  $\tan \left( \frac{\pi}{4} + \theta \right) \cdot \tan \left( \frac{3\pi}{4} + \theta \right)$  is**

- (A) 1
- (B) 2

- (C)  $-1$   
(D)  $0$
- 

- 19. If  $a + b + c = 11$  and  $ab + bc + ca = 20$ , then the value of  $a^3 + b^3 + c^3 - 3abc$  is**  
(A) 671  
(B) 341  
(C) 121  
(D) 781
- 

- 20. Two supplementary angles measures  $5x + 15^\circ$  and  $4x - 6^\circ$ , angle are**  
(A)  $120^\circ, 60^\circ$   
(B)  $95^\circ, 85^\circ$   
(C)  $100^\circ, 80^\circ$   
(D)  $110^\circ, 70^\circ$
- 

- 21. If one root of equation  $2x^2 - 10x + P = 0$  is 3, then the value of  $P$  is**  
(A)  $P = 6$   
(B)  $P = -3$   
(C)  $P = 9$   
(D)  $P = 12$
- 

- 22. If  $2x + y = 35$  and  $3x + 4y = 65$ , then the value of  $\frac{x}{y}$  is**  
(A) 2  
(B) 3  
(C) 5  
(D) 4
- 

- 23. If  $x + y = 7$  and  $3x - 2y = 11$ , then**  
(A)  $x = 2, y = 5$   
(B)  $x = 0, y = 3$   
(C)  $x = 5, y = 5$   
(D)  $x = 5, y = 2$
-

**24. The sum of roots of the equation  $x^2 - 3x - 28 = 0$  is**

- (A)  $-28$
  - (B)  $4$
  - (C)  $-3$
  - (D)  $3$
- 

**25. The arithmetic mean of given data will be 67, 65, 71, 57, 45**

- (A) 71
  - (B) 72
  - (C) 61
  - (D) 62
- 

**26. The median of 1<sup>st</sup> ten prime numbers is**

- (A) 12
  - (B) 13
  - (C) 11
  - (D) None of these
- 

**27. The length of a rectangle is 8 cm more than its breadth. If the perimeter of the rectangle is 68 cm, then its length and breadth is**

- (A) 21 cm, 13 cm
  - (B) 20 cm, 10 cm
  - (C) 30 cm, 20 cm
  - (D) 25 cm, 15 cm
- 

**28. A 100 m long train is moving at a speed of 60 km/h. Then the train will cross a signal pole in**

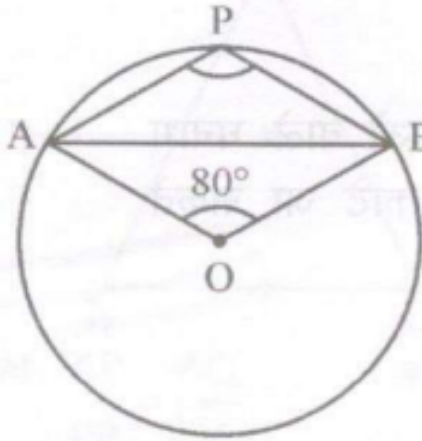
- (A) 10 seconds
  - (B) 4 seconds
  - (C) 6 seconds
  - (D) 3 seconds
- 

**29.  $\cos 75^\circ + \sin 75^\circ$  is equal to**

- (A)  $\frac{\sqrt{3}}{2}$
- (B)  $\frac{1}{2}$

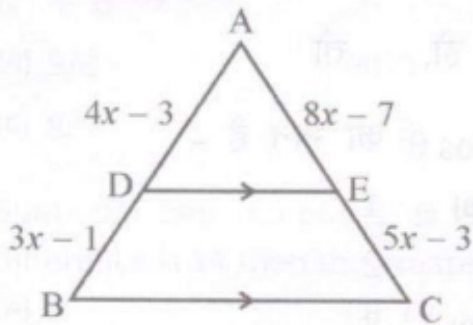
- (C)  $\frac{\sqrt{6}}{2}$   
 (D) 1

30. In the given figure of circle with centre  $O$ , chord  $AB$  makes an angle of  $80^\circ$  with the centre. Then  $\angle APB$  is



- (A)  $40^\circ$   
 (B)  $100^\circ$   
 (C)  $140^\circ$   
 (D)  $90^\circ$

31. In the Adjoining figure,  $DE \parallel BC$ , then value of  $x$  are



- (A)  $-1, \frac{1}{2}$   
 (B)  $1, \frac{1}{2}$   
 (C)  $-1, -\frac{1}{2}$   
 (D)  $1, -\frac{1}{2}$

32. If  $\log_8 m + \log_8 \frac{1}{6} = \frac{2}{3}$ , then  $m$  is equal to

- (A) 4  
 (B) 24  
 (C) 12

(D) 18

---

**33. The value of  $\csc^2 67^\circ - \tan^2 23^\circ$  is equal to**

- (A)  $-1$
  - (B)  $1$
  - (C)  $0$
  - (D)  $\infty$
- 

**34. The number of 6 m cubes can be cut from a cuboid measuring  $36 \text{ m} \times 15 \text{ m} \times 8 \text{ m}$  is**

- (A) 25
  - (B) 10
  - (C) 15
  - (D) 20
- 

**35. If  $x^y = y^x$  then  $\left(\frac{x}{y}\right)^{x/y}$  is**

- (A)  $x^{(x/y)}$
  - (B)  $x^{(x/y-1)}$
  - (C)  $x^{(x/y+1)}$
  - (D)  $x^{(x/y-2)}$
- 

**36. If  $\sin \theta = \frac{1}{\sqrt{2}}$  then the value of  $3 \sin^2 \theta - 4 \sin^3 \theta \cos \theta$  is**

- (A)  $\frac{1}{2}$
  - (B)  $1/2$
  - (C)  $1/\sqrt{2}$
  - (D)  $3/2$
- 

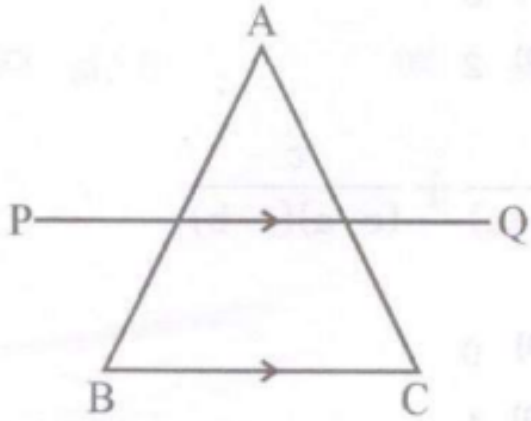
**37. If  $9 : 15 :: 45 : x$ , then the value of  $x$  is**

- (A) 75
  - (B) 3
  - (C) 27
  - (D) 9
-

38. Three solid sphere, whose radii are 3 cm, 4 cm and 5 cm melted into a single sphere, its radius is

- (A) None of these
  - (B) 9 cm
  - (C) 6 cm
  - (D) 8 cm
- 

39. If the line  $PQ$  is parallel to line  $BC$  of  $\triangle ABC$ , then



- (A)  $\frac{AP}{PB} = \frac{AQ}{QC}$
  - (B)  $\frac{AB}{AP} = \frac{AC}{AQ}$
  - (C)  $\frac{AP}{PQ} = \frac{AQ}{BC}$
  - (D)  $\frac{BC}{AQ} = \frac{PQ}{AC}$
- 

40. If  $\alpha, \beta$  are the roots of the equation  $2x^2 - 3x + 1 = 0$ . Then the value of  $\alpha^3 + \beta^3$  is

- (A)  $9/8$
  - (B) 9
  - (C)  $8/9$
  - (D) 8
- 

41. Sum of two numbers is 21 and their difference is 11 then the greatest number is

- (A) 5
  - (B) 10
  - (C) 9
  - (D) 16
-

**42. If  $7x : 63 = 1 : 9$ , then  $x$  is**

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

**43. Find the average of first fifty natural numbers**

- (A) 21.55
  - (B) 25
  - (C) 12.25
  - (D) 25.5
- 

**44. If  $\sqrt{2^n} = 16$ , then the value of  $n$  is**

- (A) 3
  - (B) 8
  - (C) 4
  - (D) 2
- 

**45. The value of  $\frac{a}{(a-b)(a-c)} + \frac{b}{(b-c)(b-a)} + \frac{c}{(c-a)(c-b)}$  is**

- (A) 2
  - (B) 0
  - (C) 3
  - (D) 1
- 

**46. If points  $(1, 2)$ ,  $(x, -1)$ ,  $(4, 5)$  are collinear, then the value of  $x$  is**

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

**47. The value of  $\cos 15^\circ - \sin 15^\circ$  is equal to**

- (A)  $\frac{1}{\sqrt{2}}$
- (B)  $\frac{\sqrt{3}}{2}$
- (C)  $\frac{1}{3}$

(D)  $\frac{1}{2}$

---

**48. Number of parallel tangents of a circle is**

- (A) 4
  - (B)  $\infty$
  - (C) 1
  - (D) 2
- 

**49. If  $\cos \theta = \frac{1}{2}$ , then the value of  $\tan 2\theta$  is**

- (A)  $\frac{1}{\sqrt{3}}$
  - (B)  $-\sqrt{3}$
  - (C)  $\sqrt{3}$
  - (D)  $\frac{1}{\sqrt{3}}$
- 

**50.  $\sin(-\theta)$  is equal to**

- (A)  $\cos \theta$
  - (B)  $-\cos \theta$
  - (C)  $\sin \theta$
  - (D)  $-\sin \theta$
- 

## PHYSICS, CHEMISTRY & AGRICULTURE

**51. Potassium chloride contains K (Approximate)**

- (A) 60%
  - (B) 80%
  - (C) 70%
  - (D) 50%
- 

**52. Which of the following compounds can be used as anti-freeze in car radiators ?**

- (A) Ethyl alcohol
- (B) Methyl alcohol
- (C) Ethylene glycol
- (D) Glycerine

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**53. Which of the following atoms would be paramagnetic ?**

- (A) Be
- (B) N
- (C) Ca
- (D) Zn

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**54. Which physical quantity is constant for a satellite in orbit ?**

- (A) Angular velocity
- (B) Angular acceleration
- (C) Angular momentum
- (D) Kinetic energy

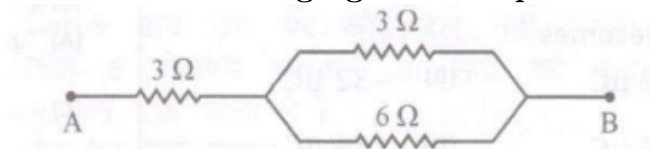
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**55. "Pusha RH-10" is a hybrid variety of**

- (A) Bajra (millets)
- (B) Basmati Rice
- (C) Wheat
- (D) Sugarcane

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**56. In the following figure the equivalent resistance between 'A' and 'B' will be**



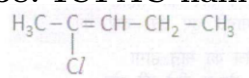
- (A)  $12\ \Omega$
- (B)  $5\ \Omega$
- (C)  $2.25\ \Omega$
- (D)  $1.2\ \Omega$

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**57. Which gas is used in Electric Bulb ?**

- (A) Carbon dioxide
  - (B) Oxygen
  - (C) Helium
  - (D) Argon
-

58. IUPAC name of



- (A) 2-chloro pentene-2
  - (B) 4-chloro pentene-3
  - (C) 2-chloro pentene-3
  - (D) 4-chloro pentene-4
- 

59. The value of one Faraday charge is

- (A) 96500 Coulomb
  - (B)  $10^6$  Coulomb
  - (C)  $3.7 \times 10^6$  Coulomb
  - (D)  $6.23 \times 10^{23}$  Coulomb
- 

60. A particle of charge ' $q$ ', mass ' $m$ ' and velocity ' $v$ ', enters perpendicular to a magnetic field ' $B$ ', force on particle will be

- (A)  $qvB$
  - (B)  $q^2vB/m$
  - (C)  $qmvB$
  - (D)  $qVB$
- 

61. When  $10^{14}$  electrons are removed from a neutral metal sphere, the charge on the sphere becomes

- (A)  $+32\mu\text{C}$
  - (B)  $-32\mu\text{C}$
  - (C)  $-16\mu\text{C}$
  - (D)  $+16\mu\text{C}$
- 

62. The correct order of Radii is

- (A)  $\text{N} < \text{Be} < \text{B}$
  - (B)  $\text{F}^- < \text{O}^{2-} < \text{N}^{3-}$
  - (C)  $\text{Na} < \text{Li} < \text{K}$
  - (D)  $\text{Fe}^{3+} < \text{Fe}^{2+} < \text{Fe}^{4+}$
- 

63. In a 10 cm long horizontal wire, 5 Amp current is flowing. The mass of wire is  $3 \times 10^{-3}$  kg/metre. What will be the field to keep wire stable?

- (A)  $5.88 \times 10^{-6}$  Tesla downward
  - (B)  $0.6 \times 10^{-3}$  Tesla upward
  - (C)  $5.88 \times 10^{-3}$  Tesla upward
  - (D)  $5.88 \times 10^{-3}$  Tesla downward
- 

**64. Phenol with dilute  $\text{HNO}_3$  gives**

- (A) Meta and para nitrophenol
  - (B) Ortho and para nitrophenol
  - (C) Ortho and meta nitrophenol
  - (D) Tri nitrophenol
- 

**65. The metal that cannot displace hydrogen from dilute hydrochloric acid**

- (A) Copper
  - (B) Zinc
  - (C) Aluminium
  - (D) Iron
- 

**66. A force is applied on a 6 gm mass (at rest) for 20 seconds. After it no force is exerted on it and after travelling distance of 50 cm in 5 seconds, mass stops. The amount of force in Newton will be**

- (A)  $5 \times 10^{-5}$  Newton
  - (B)  $5 \times 10^{-3}$  Newton
  - (C)  $0.2 \times 10^{-3}$  Newton
  - (D)  $0.2 \times 10^{-2}$  Newton
- 

**67. Work done during the expansion of a gas from a volume of  $4 \text{ dm}^3$  to  $6 \text{ dm}^3$  against a constant external pressure of 3 atm is ( $1 \text{ L atm} = 101.32 \text{ J}$ )**

- (A)  $-608 \text{ J}$
  - (B)  $-304 \text{ J}$
  - (C)  $+304 \text{ J}$
  - (D)  $-6 \text{ J}$
- 

**68. pH value of 0.0001 M HCl solution is**

- (A) 5
- (B) 6
- (C) 4

(D) 3

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**69. Little leaf disease of mango and brinjal is caused due to the deficiency of**

- (A) Iron (Fe)
  - (B) Calcium (Ca)
  - (C) Zinc (Zn)
  - (D) Sulphur (S)
- 

**70. Length of a rod increases 0.2% on increasing the temperature by 100°C. The value of coefficient of linear expansion of material of rod**

- (A)  $2 \times 10^{-5}$  per °C
  - (B) None
  - (C)  $2 \times 10^{-4}$  per °C
  - (D)  $3 \times 10^{-5}$  per °C
- 

**71. A cycle tyre bursts suddenly. This represents an**

- (A) Isobaric process
  - (B) Adiabatic process
  - (C) Isothermal process
  - (D) Isochoric process
- 

**72. How many electrons an atom have in M shell whose atomic number is 19 ?**

- (A) 6
  - (B) 1
  - (C) 8
  - (D) 7
- 

**73. Soils of Western Rajasthan have a high content of**

- (A) Aluminium
  - (B) Nitrogen
  - (C) Calcium
  - (D) Phosphorus
-

**74. A man can see upto 5 metre clearly. To see clear upto 10 m, the focal length of lens will be**  
(A) +20 metre  
(B) -5 metre  
(C) +10 metre  
(D) -10 metre

---

**75. Two springs with spring constants  $K_1 = 1500 \text{ N/m}$  and  $K_2 = 3000 \text{ N/m}$  are stretched by the same force. The ratio of potential energy stored in spring will be**  
(A) 4 : 1  
(B) 1 : 4  
(C) 1 : 2  
(D) 2 : 1

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**76. Which of the following is an insulator ?**  
(A) Graphite  
(B) Aluminium  
(C) Diamond  
(D) Silicon

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**77. The volume of a gas at 1140 mm of Hg pressure and  $546^\circ\text{C}$  temperature is 150 litre. The volume of gas at S.T.P. will be**  
(A) 150 litres  
(B) 75 litres  
(C) 750 litres  
(D) 100 litres

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**78. The metal which is found in the native state**  
(A) Al  
(B) Na  
(C) Ca  
(D) Au

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**79. Accepting the definition that an acid is a proton donor, the acid in the following reaction  $\text{NH}_3 + \text{H}_2\text{O} \rightleftharpoons \text{NH}_4^+ + \text{OH}^-$  is**  
(A)  $\text{OH}^-$

- (B)  $\text{NH}_4^+$
  - (C)  $\text{H}_2\text{O}$
  - (D)  $\text{NH}_3$
- 

**80. The number of neutrons in  ${}_{92}^{238}\text{U}$  are**

- (A) 146
  - (B) 92
  - (C) 330
  - (D) 238
- 

**81. If velocity of light in air is  $3 \times 10^8$  m/s and that in water is  $2 \times 10^8$  m/s, then what would be the critical angle ?**

- (A)  $\sin^{-1} \left( \frac{3}{2} \right)$
  - (B)  $\sin^{-1} \left( \frac{2}{3} \right)$
  - (C)  $\tan^{-1} \left( \frac{3}{2} \right)$
  - (D)  $\tan^{-1} \left( \frac{2}{3} \right)$
- 

**82. Number of moles in 180 gram of water is**

- (A) 18
  - (B) 10
  - (C) 100
  - (D) 1
- 

**83. An aqueous solution of Ferric chloride is**

- (A) Neutral
  - (B) Alkaline
  - (C) None
  - (D) Acidic
- 

**84. The order of radius of the nucleus of an atom is**

- (A)  $10^{-15}$  m
- (B)  $10^{-17}$  m
- (C)  $10^{-12}$  m
- (D)  $10^{-10}$  m

---

**85. Which one of the following is the standard for atomic mass ?**

- (A)  $^{12}\text{C}$
- (B)  $^{16}\text{O}$
- (C)  $^1\text{H}$
- (D)  $^{14}\text{C}$

---

**86. Gobar gas contains mainly**

- (A)  $\text{C}_2\text{H}_6$
- (B)  $\text{C}_4\text{H}_{10}$
- (C)  $\text{CH}_4$
- (D)  $\text{C}_3\text{H}_8$

---

**87. Balance the equation  $^9_4\text{Be} + ^4_2\text{He} \rightarrow ^{12}_6\text{C} + \dots$**

- (A)  $\alpha$ -particles
- (B)  $\beta$ -particles
- (C) Positron
- (D) Neutron

---

**88. Which of the following is not a nitrogenous fertilizer ?**

- (A) Urea
- (B) Ammonium Sulphate
- (C) Super Phosphate
- (D) Ammonium Nitrate

---

**89. The material of permanent magnet has**

- (A) Low retentivity, high coercivity
- (B) High retentivity, low coercivity
- (C) Low retentivity, low coercivity
- (D) High retentivity, high coercivity

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**90. Electrical conductivity of a semiconductor**

- (A) Decrease with the rise in its temperature
- (B) First increases and then decreases with the rise in its temperature.
- (C) Increase with the rise in its temperature.

(D) Does not change with the rise in temperature.

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**91. Water falls from 100 metre height. What will be temperature rise per kg of water due to fall? ( $g = 10 \text{ m/sec}^2$ , specific heat of water =  $4200 \text{ Joule/kg } ^\circ\text{C}$ )**

- (A)  $2.238^\circ\text{C}$
  - (B)  $1.238^\circ\text{C}$
  - (C)  $0.0238^\circ\text{C}$
  - (D)  $0.238^\circ\text{C}$
- 

**92. Zener diode is used as an**

- (A) Amplifier
  - (B) Voltage Regulator
  - (C) Oscillator
  - (D) Rectifier
- 

**93. A sphere of 150 kg is kept on frictionless surface. A bullet of 0.15 kg mass with velocity 200 m/sec strikes the sphere and stops. After collision the velocity of sphere will be**

- (A) 0.2 m/sec
  - (B) 20 m/sec
  - (C) 2.0 m/sec
  - (D) 0.3 m/sec
- 

**94. Ammonia is commercially prepared by**

- (A) Ostwald process
  - (B) Haber's process
  - (C) Contact process
  - (D) Lead Chamber process
- 

**95. The percentage of Calcium in  $\text{CaCO}_3$  is**

- (A) 52%
- (B) 48%
- (C) 20%
- (D) 40%

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**96. Modulus of rigidity of a liquid is**

- (A) Zero
- (B) Infinite
- (C) Negative and finite
- (D) Positive and finite

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**97. Least count of vernier callipers is 0.01 cm. Measuring the length of an object reading of main scale is 2.7 cm and the fifth division of vernier scale coincide with any division of main scale. The length of object will be**

- (A) 2.75 cm
- (B) 3.75 cm
- (C) 4.75 cm
- (D) 1.75 cm

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**98. Which contain maximum no. of molecules ?**

- (A) 10 gm Hydrogen
- (B) 10 gm Oxygen
- (C) 10 gm Nitrogen
- (D) 10 gm Carbon dioxide

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**99. Two equal forces of 300 Newton each acting at an angle of  $60^\circ$ , the resultant will be**

- (A) 155.3 Newton
- (B) 173.2 Newton
- (C) None of these
- (D) 162.4 Newton

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**100. A person travels towards North by 4 m and then turns to West and travels by 3 m. The distance and displacements from initial point are**

- (A) 7 m and 1 m
  - (B) 7 m and 7 m
  - (C) 5 m and 7 m
  - (D) 7 m and 5 m
-