



**KLEEE 2023 Model Question Paper for B.Tech.**  
**(Mathematics, Physics, Chemistry)**

Particulars	Details
Number of Sections	<b>3</b> (Mathematics, Physics, and Chemistry)
Total Number of Questions	<b>75</b> Mathematics – 25 out of 25 Questions Physics – 25 out of 25 Questions Chemistry – 25 out of 25 Questions
Duration	3 Hours
Type of Questions	Multiple Choice Questions
Weightage	<ul style="list-style-type: none"><li>All Questions carry equal marks</li><li>No negative marks</li></ul>

- Each section contains 25 Questions. There is no choice and no negative marks.

**Mathematics**

**Answer All Questions**

**Q1.** A man is walking on a straight line. The arithmetic mean of the reciprocals of the intercepts of this line on the coordinate axes is  $1/4$ . Three stones A, B and C are placed at the points (1,1), (2,2), and (4,4) respectively. Then which of these stones is/are on the path of the man?

- A. B only
- B. A only
- C. the three
- D. C only

**Q2.** Let  $f : \mathbb{R} \rightarrow \mathbb{R}$  be defined as  $f(x) = 2x-1$  and  $g: \mathbb{R} - \{1\} \rightarrow \mathbb{R}$  be defined as  $g(x) = (x-1/2)/(x-1)$ . Then the composition function  $f(g(x))$  is:

- A. Both one-one and onto
- B. onto but not one-one
- C. Neither one-one nor onto
- D. one-one but not onto

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**Q25.** The function  $f(x) = (4x^3 - 3x^2)/6 - 2\sin x + (2x - 1)\cos x$ :

- A. increases in  $[1/2, \infty)$
- B. decreases  $(-\infty, 1/2]$
- C. increases in  $(-\infty, 1/2]$
- D. decreases  $[1/2, \infty)$

**Physics**

Answer All Questions

**Q26.** Consider two satellites S1 and S2 with periods of revolution 1 hr and 8 hr respectively revolving around a planet in circular orbits. The ratio of angular velocity of satellite S1 to the angular velocity of satellite S2 is

- A. 8: 1
- B. 1: 8
- C. 2: 1
- D. 1: 4

**Q27.** Two equal capacitors are first connected in series and then in parallel. The ratio of the equivalent capacities in the two cases will be

- A. 2: 1
- B. 1: 4
- C. 4: 1
- D. 1: 2
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**Q50.** A particle is moving in a circular path of radius  $a$  under the action of an attractive potential  $U = -\frac{k}{2r^2}$ . Its total energy is:

- A. 0
- B.  $-\frac{3k}{2a^2}$
- C.  $-\frac{k}{4a^2}$
- D.  $\frac{k}{2a^2}$

## Chemistry

**Q51.** Which force is responsible for the stacking of the  $\alpha$ -helix structure of a protein? hydrogen (1h, 2h,3h) is \_\_\_\_\_

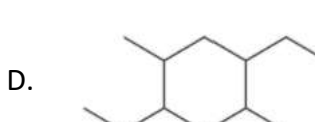
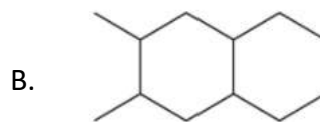
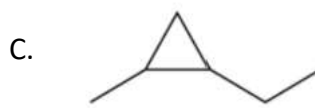
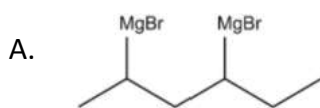
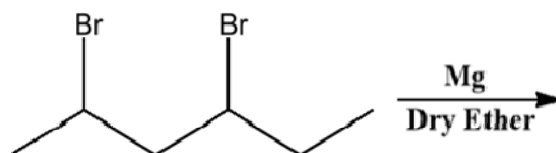
- A. H-bond
- B. Ionic bond
- C. Covalent bond
- D. Van der Waals forces

**Q52.** The gas evolved due to anaerobic degradation of vegetation causes:

- A. Global warming and cancer
- B. Acid rain
- C. Ozone hole
- D. Metal corrosion

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**Q75.** Identify the major product:



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**KLEEE 2023 Model Question Paper for B.Tech.**  
**(Physics, Chemistry, Botany, Zoology)**

Particulars	Details
Number of Sections	<b>4</b> (Physics, Chemistry, Botany, Zoology)
Total Number of Questions	<b>160</b> Physics – 40 out of 40 Questions Chemistry – 40 out of 40 Questions Botany – 40 out of 40 Questions Zoology – 40 out of 40 Questions
Duration	3 Hours
Type of Questions	Multiple Choice Questions
Weightage	<ul style="list-style-type: none"><li>• All Questions carry equal marks</li><li>• No negative marks</li></ul>

- Each section contains 40 Questions. There is no choice and no negative marks.

**Botany**

**Answer all Question**

**Q1.** Which of the events listed below is not observed during mitosis?

- A. Chromatin condensation
- B. Movement of centrioles to opposite poles
- C. Appearance of chromosomes with two chromosomes Joined together at the centromere
- D. Crossing over

**Q2.** Bracket fungi belongs to

- A. Phycomycetes
- B. Ascomycetes
- C. Basidiomycetes
- D. Deuteromycetes

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**Q40.** Red rot of sugar cane is due to

- A. Puccinia
- B. Ustilago
- C. Colletotrichum
- D. Trichoderm

**Zoology**  
**Answer all Questions**

**Q41.** Ductus arteriosus of foetal stage is represented in adults by

- A. Truncus Arteriosus
- B. Pylangium
- C. Ligamentum Arteriosum
- D. Conus Arteriosus

**Q42.** Iodine is essential for the synthesis of

- A. Thyroxine
- B. Parathormone
- C. Melatonin
- D. MSH

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**Q80.** During the evolution of man, the first human like being was

- A. Homo sapiens
- B. Homo habilis
- C. Ramapithecus
- D. Dryopithecus

**Physics**

Answer all Questions

**Q81.** Consider two satellites S1 and S2 with periods of revolution 1 hr and 8 hr respectively revolving around a planet in circular orbits. The ratio of angular velocity of satellite S1 to the angular velocity of satellite S2 is

- A. 8: 1
- B. 1: 8
- C. 2: 1
- D. 1: 4

**Q82.** Two equal capacitors are first connected in series and then in parallel. The ratio of the equivalent capacities in the two cases will be

- A. 2: 1
- B. 1: 4
- C. 4: 1
- D. 1: 2

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**Q120.** A particle is moving in a circular path of radius  $a$  under the action of an attractive potential

$U = -\frac{k}{2r^2}$ . Its total energy is:

- A. 0
- B.  $-\frac{3k}{2a^2}$
- C.  $-\frac{k}{4a^2}$
- D.  $\frac{k}{2a^2}$

**Chemistry**  
Answer all Questions

**Q121.** Which force is responsible for the stacking of the  $\alpha$ -helix structure of protein? Hydrogen (1H,2H,3H) is

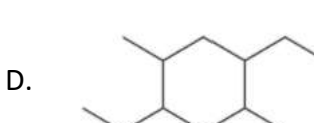
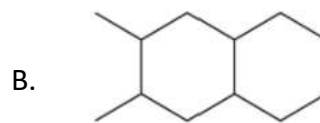
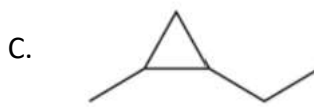
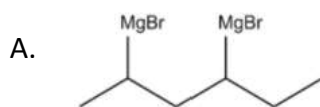
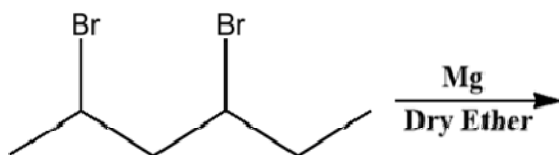
- A. H-bond
- B. Ionic bond
- C. Covalent bond
- D. Van der Waals forces

**Q122.** The gas evolved due to anaerobic degradation of vegetation causes:

- A. Global warming and cancer
- B. Acid rain
- C. Ozone hole
- D. Metal corrosion

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**Q160.** Identify the major product:



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