



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

Particulars	Details
Number of Sections	3 (Mathematics, Physics, and Chemistry)
Total Number of Questions	75 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	- All Questions carry equal marks - No negative marks

- 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

....

....

....

....

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

....

....

....

....

....

....

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 α -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

....

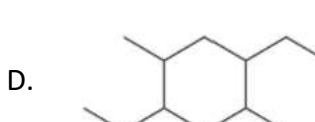
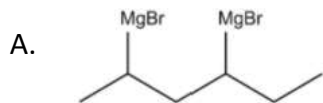
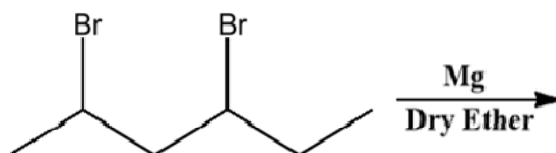
....

....

....

....

Q75. Identify the major product:





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

Particulars	Details
Number of Sections	4 (Physics, Chemistry, Botany, Zoology)
Total Number of Questions	160 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	• All Questions carry equal marks • No negative marks

- 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

....
....
....
....

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

.....
.....
.....
.....

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

....
....
....
....
....
....
....

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 α -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

....
....
....
....
....

Q160. Identify the major product:

