



UNICUS OLYMPIADS

Sample Paper (2020-21)

Class 10

Unicus Science Olympiad



Section – Class* <small>*Syllabus covered</small>	Total Questions	Marks per Questions	Total Questions
Classic Section – Class 9	28	1	28
Classic Section – Class 8	12	1	12
Scholar Section – Class 9	7	2	14
Scholar Section – Class 8	3	2	6
Grand Total	50		60

1. Read the following statement and choose the correct option:

Statement 1: When a body is thrown up, the acceleration due to gravity at the topmost point is zero.

Statement 2: The acceleration due to gravity is always directed downwards towards the centre of the earth for a freely falling body.

- a) Statement 1 is correct but statement 2 is incorrect.
- b) Statement 1 is incorrect but statement 2 is correct.
- c) Both the statements are correct and statement 2 is the correct explanation of statement 1.
- d) Both the statements are correct but statement 2 is not the correct explanation of statement 1.

Correct Answer: b

1 Mark

2. Three students made the following statements:

Arun: Hydrophytes float on the water surface due to the presence of aerenchyma.

Krish: Apical meristematic tissue is responsible for growth in length.

Suman: Trunk of tree increase in girth due to cell division in meristematic tissue.

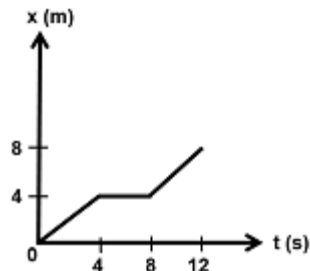
Who among them is/are correct?

- a) Only Suman
- b) Only Krish
- c) Only Suman
- d) Arun, Krish and Suman

Correct Answer: d

1 Mark

3. Figure shows the position-time graph of a particles of mass 10 kg. Calculate the force acting on the particle for $0 < t < 4$ s and $8 \text{ s} < t < 12$ s:

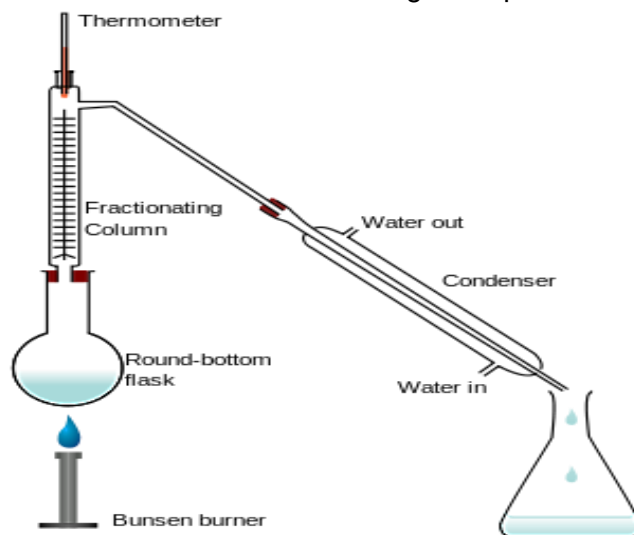


- a) For $0 < t < 4$ s, $F = 5$ N and for $8 \text{ s} < t < 12$ s, $F = 5$ N
- b) For $0 < t < 4$ s, $F = 6$ N and for $8 \text{ s} < t < 12$ s, $F = 5$ N
- c) For $0 < t < 4$ s, $F = 0$ N and for $8 \text{ s} < t < 12$ s, $F = 0$ N
- d) For $0 < t < 4$ s, $F = 4$ N and for $8 \text{ s} < t < 12$ s, $F = 5$ N

Correct Answer: c

1 Mark

4. Deepak performed the following experiment to separate a mixture of alcohol and water. He took the mixture of ethyl alcohol and water in a distillation flask provided with fractionating column. He then started heating the liquid till the mixture begin to boil.



Which of the following observation about the above experiment is/are correct

- a) More volatile liquid is condensed first and collected in the flask and less volatile liquid with high boiling point is collected in another flask.
- b) Less volatile liquid is condensed first and collected in the flask and more volatile liquid with high boiling point is collected in another flask.
- c) More volatile liquid is condensed first and collected in the flask and less volatile liquid with lower boiling point is collected in another flask
- d) Less volatile liquid is condensed first and collected in the flask and less volatile liquid with lower boiling point is collected in another flask

Correct Answer: a

1 Mark

5. Which of the following is/are incorrectly grouped?

- 1. Virus – Common cold, Chicken pox, Measles
- 2. Protozoa – Malaria, Kala-azar, Sleeping sickness
- 3. Bacteria – Elephantiasis, Typhoid, Cholera

- a) Only 1
- c) Only 3

- b) Only 2
- d) Both 2 and 3

Correct Answer: c

1 Mark

9. Arrange the following agricultural practices in the correct order:

Sowing, Manuring, Irrigation, Harvesting, Ploughing, Levelling

- a) Ploughing, Sowing, Levelling, Harvesting, Manuring and Irrigation
- b) Ploughing, Levelling, Irrigation, Sowing, Manuring and Harvesting
- c) Ploughing, Irrigation, Sowing, Manuring, Harvesting and Levelling
- d) Ploughing, Levelling, Sowing, manuring, Irrigation and Harvesting

Correct Answer: d

2 Marks

10.



Which of the following is/are the correct features of the phylum represented by the organisms shown above?

- 1. This phylum is the second largest phylum.
- 2. They respire with gills called ctenidia or pulmonary sacs.
- 3. They have blue coloured blood due to the presence of blue pigment, hemocyanin.
- 4. Endoskeleton is formed of calcareous plates located in the dermis of body wall.

a) Only 1

b) Only 2

c) Both 2 and 4

d) 1, 2 and 3

Correct Answer: d

2 Marks