School Connect Online

ISO 2022-23

Class 11

SCO International Science Olympiad

Total Questions - 35	Maximum Mark - 105	Duration - 1 hr
	Pattern and Marking Scheme	
No. of Questions	35	-
Marks Per Question	3	

Syllabus	International Science Olympiad (ISO) 2022-23 SET - AH 1
Grade 11	Biology, Physics and Chemistry

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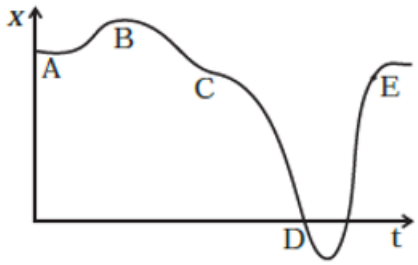
Guidelines for the Candidate

1. You will get additional ten minutes to fill up information about yourself on the OMR Sheet, before the start of the exam.
2. Write your Name, School Code, Class, Roll No. and Mobile Number clearly on the OMR Sheet and do not forget to sign it. We will share your marks / result and other information related to Olympiad exams on your mobile number.
3. The Question Paper comprises sections: reasoning, subjective, achievers' section
4. All questions are compulsory. There is no negative marking. Use of calculator is not permitted.
5. There is only ONE correct answer. Choose only ONE option for an answer.
6. To mark your choice of answers by darkening the circles on the OMR Sheet, use HB Pencil or Blue / Black ball point pen only
7. Rough work should be done in the blank space provided in this booklet.
8. Return the OMR Sheet to the invigilator at the end of the exam.
9. Please fill in your personal details in the space provided on this page before attempting the paper.

1. A graph of x versus t is shown in the figure. Choose the correct alternatives from the list below.



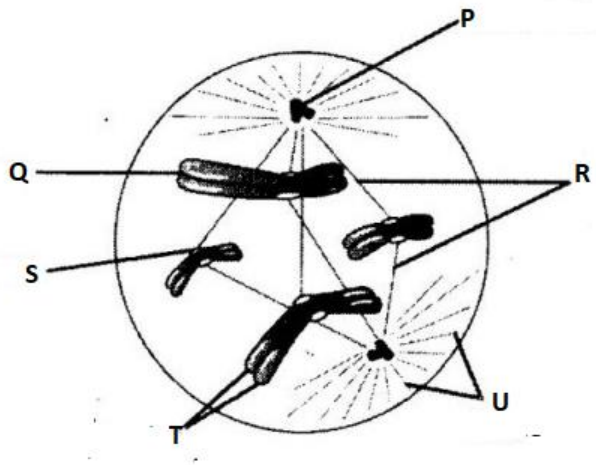
(i) The particle was released from rest at t = 0.
(ii) At B, the acceleration a > 0.
(iii) At C, the velocity and the acceleration vanish.
(iv) Average velocity for the motion between A and D is positive. (e) The speed at D exceeds that at E.
(v) The speed at D exceeds that at E.

a. (i), (iii), (iv)
b. (i), (ii), (v)
c. (i), (ii), (iv)
d. (i), (iii), (v)

2. A fighter plane is flying horizontally at an altitude of 1.5 km with a speed 720 km/h. At what angle of sight (w.r.t. horizontal) when the target is seen, should the pilot drop the bomb in order to attack the target?

a. 23◦4’
b. 33◦4’
c. 43◦4’
d. 22◦4’

3. Identify the parts P to U of the given figure.



a. P- Centriole, Q-Chromosome, R- Spindle fibre, S- Kinetochore, T- Sister chromatids, U-Aster

b. P- Centriole, Q- Aster, R- Spindle fibre, S- Kinetochore, T- Sister chromatids, U-Chromosome

c. P- Centriole, Q-Chromosome, R- Spindle fibre, S- Sister chromatids, T- Kinetochore, U-Aster

d. P- Centriole, Q- Spindle fibre, R- Chromosome, S- Kinetochore, T- Sister chromatids, U-Aster

4. A process is occurring throughout the day, in 'X' organisms. Cells are participating in this process. During this process, ATP, CO_2 and water are evolved. It is not a light dependent process.

Which of the following statements is correct about the given process?

a. The process is called cellular respiration.
b. It is a catabolic process because it involves the glucose molecule breakdown.
c. The raw materials involved in the cellular respiration process are glucose molecules and oxygen.
d. All of these

5. A plant shows Thallus' level of organization. It shows rhizoids and is haploid. It needs water to complete its life cycle because the male gametes are motile. Identify the group to which it belongs to:

a. Pteridophytes
b. Gymnosperms
c. Monocots
d. Bryophytes

6. The correct sequence of flow of electrons in the light reaction is _____.

a. PSII, plastoquinone, cytochromes, PSI, ferredoxin
b. PSI, plastoquinone, cytochromes, PSII, ferredoxin
c. PSI, ferredoxin, PSII
d. PSI, plastoquinone, cytochromes, PSII, ferredoxin

7. Match the following list of animals with their level of organisation.

Division of Labour **Animal**

Column I	**Column II**
A. Organ level	i. Pheretima
B. Cellular aggregate level	ii. Fasciola
C. Tissue level	iii. Spongilla
D. Organ system level	iv. Obelia

Choose the correct match showing division of labour with animal examples.

(a) i-B, ii-C, iii-D, and iv-A
(b) i-B, ii-D, iii-C, and iv-A
(c) i-D, ii-A, iii-B, and iv-C
(d) i-A, ii-D, iii-C, and iv-B

8. The pollutants that come directly into the air from sources are called primary pollutants. Primary pollutants are sometimes converted into secondary pollutants. Which of the following belong to secondary air pollutants?

a. CO
b. Hydrocarbon
c. Peroxyacetyl nitrate
d. NO

9. For an electrophilic substitution reaction, the presence of a halogen atom in the benzene ring _____.

1. deactivates the ring by inductive effect.
2. deactivates the ring by resonance
3. increases the charge density at ortho and para positions relative to meta positions by resonance
4. directs the incoming electrophile to metaposition by increasing the charge density relative to ortho and paraposition.

a. 1 and 3
b. 2 and 4
c. 1, 2 and 3
d. None of these

10. Name a plant, that accumulates silicon.

a. Oryza sativa
b. Triticum aestivum
c. Both (a) and (b)
d. None of these

Answer Keys:

Ques. 1	(d)	**Ques. 6**	(a)
Ques. 2	(a)	**Ques. 7**	(c)
Ques. 3	(a)	**Ques. 8**	(c)
Ques. 4	(d)	**Ques. 9**	(a)
Ques. 5	(d)	**Ques. 10**	(c)

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