

Class XI Biology

Model Question Paper

Time: 3 hrs ----- Maximum Marks: 60

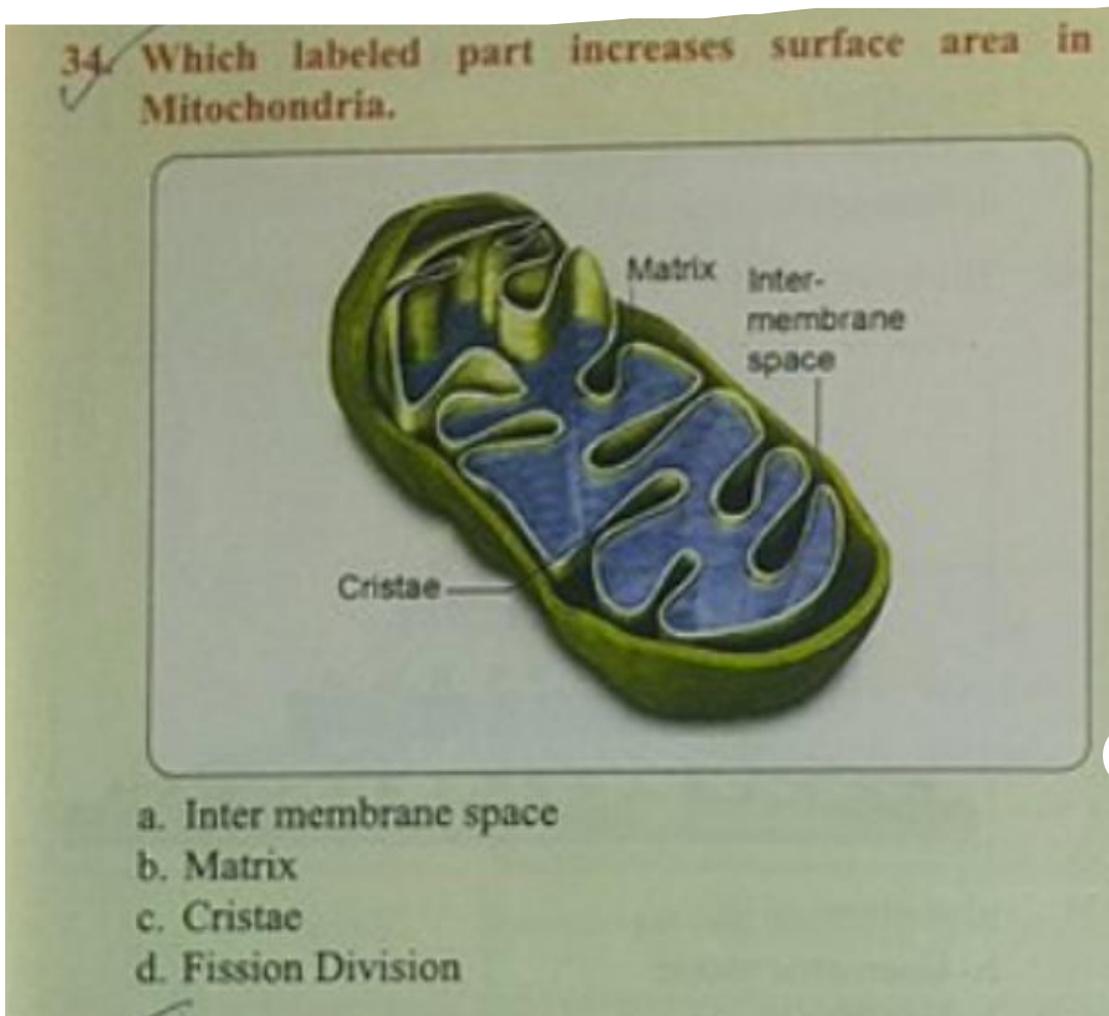
General Instructions

- The question paper consists of 4 sections - A, B, C and D.
 - Internal choice is given in all sections (except section A). The student has to attempt only one of the alternatives.
 - Section A contains 12 MCQ of 1 mark each.
 - Section B contains 10 questions of 2 marks each.
 - Section C contains 4 questions of 3 marks each.
 - Section D contains 4 questions of 4 marks each.
 - Draw neat and labelled diagrams wherever required
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Section A (1 × 12)

1. Which among the following is correct sequence?
 - a) Genus - Species - Order - Kingdom
 - b) Species - Order - Phylum - Kingdom
 - c) Species - Genus - Order - Phylum
 - d) Kingdom - Phylum - Class - Order
2. Which of the following is false about fungi?
 - a) They are eukaryotes
 - b) They are heterotrophs
 - c) They possess a purely cellulose cell wall
 - d) None of the above
3. Agar is commercially obtained from
 - a) Blue green algae
 - b) Red algae
 - c) Brown algae
 - d) Green algae
4. Select correct pair

- a) Arthropoda - silver fish
 - b) Pisces - Jelly fish
 - c) Echinodermata - cuttle fish
 - d) Mollusca - star fish
5. ___ cells line the blood capillaries
- a) α cells
 - b) Endothelial cells
 - c) Oxyntic cells
 - d) None of the above
6. Answer the question shown below:



7. The process of cell respiration is carried out by
- a) Mitochondria

b) Chloroplast

c) Nucleus

d) Ribosomes

8. Seed dormancy is triggered by

a) Indole 3 ethanol

b) Abscisic acid

c) Carbon di oxide

d) None of the above

9. Dental formula of man is

a) $\frac{3223}{3223}$

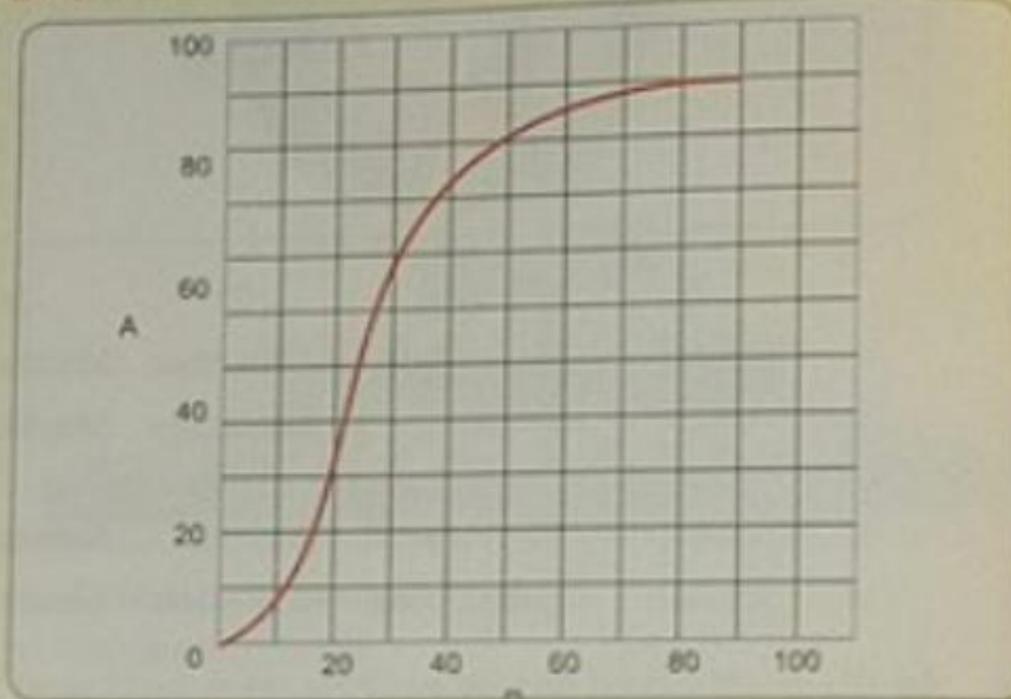
b) $\frac{2123}{2123}$

c) $\frac{1232}{1232}$

d) $\frac{2233}{2233}$

10. Answer the question below:

Which of the following is incorrect about the given graph?



- The curve is called oxygen dissociation curve.
- The part 'A' represents percentage saturation of haemoglobin with oxygen.
- The part 'B' represents partial pressure of carbon dioxide.
- This curve is highly useful in studying the effect of factors like $p\text{CO}_2$, H^+ concentration, etc.

Question 11 and 12 are assertion reason type

Directions: In the following questions a statement of assertion is followed by a statement of reason. Mark the correct choice as

- If both assertion and Reason are true and Reason is correct explanation of assertion
- If both assertion and reason are true but reason is not correct explanation of assertion
- If assertion is true but reason is false
- If both assertion and reason are false

11. Assertion: Pancreas is a mixed gland

Reason: It has both endocrine (secretes hormones such as insulin and glucagon) and exocrine (secretes pancreatic juice) cells

12. Assertion: Blood coagulates in uninjured blood vessels
Reason: Uninjured blood vessels release anticoagulants heparin

Section B (2 × 10)

13. Give rules of binomial nomenclature
14. Differentiate between chordates and non chordates

or

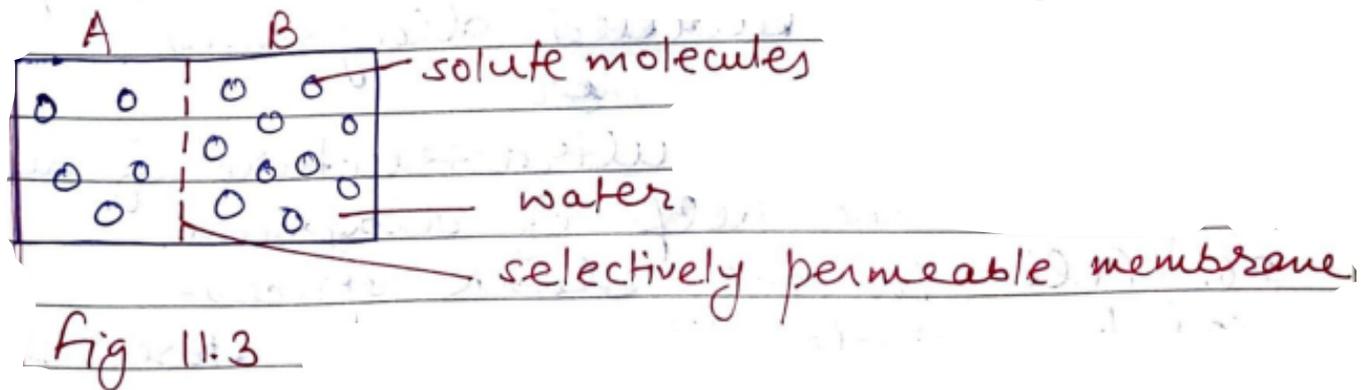
Differentiate between red and brown algae

15. Match the following

	Column 1	Column 2
a)	Operculum	Mollusca
b)	Parapodia	Porifera
c)	Radula	Annelida
d)	Choanocytes	Osteichthyes

16. Give the location and function of the following
a) Sclerenchyma
b) Chondriocytes
17. Differentiate between dicot and monocot stem
or
Differentiate between racemose and cymose inflorescence
18. Differentiate between nucleoside and nucleotide
19. Name the stage of the cell cycle at which one of the following events occur
a) Centromere splits and chromatids separate -
b) Chromosomes are moved to spindle -
c) Crossing over between homologous chromosomes takes place -
d) Pairing between homologous chromosomes occur -
20. Study the Fig 11.3 in which two chambers A & B containing solutions are separated by a semi permeable membrane. Answer the following
a) Solution of which chamber has lower water potential
b) In which direction will osmosis occur

- c) Which chamber has higher solute potential
 d) At equilibrium which chamber will have lower water potential



21. What is leghaemoglobin? Give its function.

or

Differentiate between PSI and PSII.

22. Draw a well labelled diagram of human heart.

Section C (3 × 4)

23. List 5 important distinguishing features of phylum platyhelminthes. Give 2 example also.

24. Describe various types of placentation found in flowering plants. Give suitable example from each type.

25. Explain Meioses-1 with the help of suitable labelled diagram

or

Explain the ultrastructure of nucleus with the help of diagram

26. Fill in the blanks

- In muscle fibre Ca^{++} are stored in __
- Resorption of water from distal part of tubule is facilitated by __ hormone.
- __ blood group is universal recipient.
- Opening of stomach into duodenum is guarded by __
- Deficiency of insulin causes __
- The region of vertebrate eye from where the optic nerve comes out is called __

Section D (4 × 4)

27. Define the following

- Active site

- b) Co-enzyme
- c) Synapsis
- d) Peptide bond

28. Explain Calvin cycle in detail

or

- a) Draw schematic sketch of glycolysis [3]
- b) What happens when a rotten fruit gets mixed with unripe fruits [1]

29. a) List 4 important functions of liver

- b) Define IRV and VC. Give their values also.

30. a) Write short note on ultrafiltration

- b) Differentiate between cranial and spinal nerves

or

- a) Write note on transmission of N.I. across a synapse
- b) Differentiate between diabetes mellitus & diabetes insipidus