BIOLOGY
CLASS–XI
Marking Scheme/Hints to Solution   M.M. : 35

Note : Any other relevant answer, not given herein but given by the candidate, be suitably awarded.

S. No.	Value Points/Key Points	Marks	Total Marks
	Section-A		
1.	* Bivalent chromosomes appear as tetrads * Appearance of recombination nodule * Crossing over between non sister chromatids of homologous chromosomes * Recombinase enzyme involved in cross over (Any two points)	½+½	1
2.	— Release of Atrial Natriuretic Factor (ANF) — Cause vasodilation (dilation of blood vessels) — (and thereby decrease the blood pressure)	½ ½	1
3.	(a) 2,4-D (2,4-dichlorophenoxyacetic acid) (b) Ethephon	½ ½	1
	Section-B		
4.	(a) Macrophages / fibroblasts / mast cells /adipocytes / neutrophile (or any other valid answer) (Any two) (b) Diagram of ciliated columnar epithelium (Fig. 7.1 (d) NCERT Page No. 101) Tall cells with nucleus / and cilia *(labelling)*	½+½ ½ ½	2

1

Section-C

8. In stroma lamellae
(Fig. 13.6 Pg. 213 NCERT XIth) $\quad$ 1 $\quad \frac{1}{2}\times4=2$

OR

- C_3 plants $\quad \frac{1}{2}$
- no synthesis of sugar / no CO_2 fixation
- no synthesis of ATP
- no synthesis of NADPH / reduced coenzymes
- utilisaton of ATP
- releases CO_2

$\frac{1}{2}\times5$ $\quad$ 3

9. The substrate (S) has to go through a higher energy state $\quad \frac{1}{2}\times3=1\frac{1}{2}$
or transition state; the difference in average energy content
of S and transition state is called "activation energy". $\quad$ 3
Biocatalyst brings down the energy barrier/activation energy.
Correct graph with correct labelling
(Refer Page 156, Fig. 9.6 NCERT) $\quad \frac{1}{2}\times3=1\frac{1}{2}$

10. (a) S phase / of interphase $\quad \frac{1}{2}+\frac{1}{2}=1$

(b) 4C $\quad$ 1

(c) No, non dividing cells do not enter S
phase / exit G_1 phase and enter G_0 phase. $\quad \frac{1}{2}+\frac{1}{2}$ $\quad$ 3

Section-D

11. NCERT XI Biology (Fig. 14.3 Pg. 232)

OR

- Glycolysis is common respiratory pathway in aerobic
  & anaerobic respiration.

- Glucose is phosphorylated to glucose-6 Phosphate by
  enzyme Hexokinase using ATP.

3