

BIOLOGY – 2003

SECTION - A

Q. Nos. 1-8 are of very short answer type carrying 1 mark each of these the first five questions are of multiple choice which have to be answered simply as A, B, C or D. The remaining questions have to be answered in approximately 1-20 words each.

Q. 1. Sucrase is an enzyme found in

- (a) Saliva
- (b) Gastric juice
- (c) Intestinal juice
- (d) Pancreatic juice **1**

Ans. (c)

Q. 3. Placing a ripe apple in a bag of green bananas will cause them to ripen quickly. This occurs because the apple

- (a) absorbs cytokinin
- (b) forms digestive enzymes
- (c) lacks auxin
- (d) produces ethylene **1**

Ans. (d)

Q. 4. Which of these is not of the inflammatory response?

- (a) Antibodies
- (b) Swelling
- (c) Redness
- (d) Presence of histamine **1**

Ans. (c)

Q. 6. Which disease is associated with the following symptoms: **1**

Sudden onset of profuse watery stool followed by vomiting, rapid dehydration and muscular cramps?

Q. 7. A healthy potted pitcher plant when kept in a green house with favourable conditions of light, temperature, soil and water showed poor growth although there was no infection. Give one reason. **1**

Q. 8. Due to developmental abnormality, the wall of left ventricle of an infant's heart is as thin as that of right ventricle. What would be its specific effect on circulation of blood? **1**

SECTION - B

Q Nos. 9-18 are of short answer type carrying 2 marks each. Answer them in 20-30 words each.

Q. 9. Mention two salient features of immunity theory of ageing. **2**

Q. 11. Write the full form of ESR. What does the rise in ESR indicate? **2**

Q. 12. Why do the sons of a haemophiliac father never suffer from this trait? **2**

Q. 13. Why is the cleavage in mammals referred as simple holoblastic? **2**

Q. 14. How does a sickle cell carrier have an advantage over the rest of the human population in a

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malaria ridden area? 2

Q. 15. Why is organ transplantation from another person generally unsuccessful How is this now overcome? 2

SECTION - C

Q. Nos. 19-27 are of short answer type carrying 3 marks each. Only one of these questions (Q. 27)

based on drawing skill has internal choke. Answer the rest in approximately 30-50 words each.

Q. 22. What is root pressure? How can you demonstrate it experimentally? **3**

Q. 23. What is the cytological basis of Down's syndrome? Give two physical symptoms of this disorder. Explain why the children born to younger women seldom show this abnormality. **3**

Q. 24. A horticulturist kept Chrysanthemum plants in short-day conditions during long-day season. State its effect on flowering. Specify the role of phytochrome involved. **3**

Q. 25. Describe glomerular filtration in human nephrons. **3**

Q. 26. Name the disorder in which the immune mechanism of the body of a patient gets suppressed. Which pathogen is responsible for it? Give any two methods of its transmission. **3**

Q. 27. Draw a diagram of transverse section of the spinal cord showing reflex arc and label the following parts: **3**

- (i) Afferent nerve fibre
- (ii) Motor nerve fibre
- (iii) Grey matter

Or

Draw a diagram of transverse section of mammalian bone and label the following parts in it:

- (i) Haversian canal
- (ii) Lacuna containing osteocytes
- (iii) Canaliculi