

Total Time: 2:40 Hours

MRD-11™ 22052025 (A-I)
Biology (Part-I)

Total Marks: 67

"Section – B"

Marks: 40

Q-2. Write short answers to any ten (10) of the following parts. All parts carry equal marks:-

- (i) Write down the arrangement of three layers in cell wall and describe the role of middle lamella.
- (ii) Briefly describe the structure of DNA as proposed by Watson and Crick.
- (iii) Describe any two categories of enzymes on the basis of reactions they catalyze?
- (iv) Briefly describe carbon fixation in Calvin cycle.
- (v) What is Creutzfeld-Jacob disease? Write down its symptoms.
- (vi) Identify the role of bacteria in research technology.
- (vii) Briefly describe lichens and mycorrhizae with respect to their partners.
- (viii) Write any four general characteristics of gymnosperms. Bqrc-14168
- (ix) Differentiate between monotremata and marsupials with respect to the development of young ones.
- (x) Describe the structure and function of sclerenchyma tissues in plants.
- (xi) How does the liver control blood glucose levels during fasting and after meal? Explain.
- (xii) Briefly describe the arrangement and structure of layers in the wall of an artery.
- (xiii) A person receives a vaccination against polio. What type of immunity he gains? Explain.

"Section – C"

Marks: 27

Note: Answer any three (3) questions. All questions carry equal marks:-

- Q-3.
 - a. Describe the structure of mitochondrion.
 - b. Describe specific heat and heat of vaporization? How high heat of vaporization helps animals and plants.
- Q-4.
 - a. Differentiate between metallic ions and coenzymes by giving examples.
 - b. Write diagnostic characteristics of jawless fishes. Give examples.
- Q-5.
 - a. What is pasteurization? Write down the procedure to pasteurize milk.
 - b. Describe anaerobic respiration. Write the names of its types. Bqrc-14168
- Q-6.
 - a. Classify tobacco, soyabean, beet, potato, tomato and maize on the basis of photoperiodism. Provide a brief explanation for each class.
 - b. Explain the lub-dub sound produced by heart during heartbeat.