

Question Paper

Exam Date & Time: 27-Apr-2018 (09:30 AM - 12:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

INTERNATIONAL CENTRE FOR APPLIED SCIENCES SECOND B.Sc (APPLIED SCIENCES)

END-SEMESTER THEORY EXAMINATIONS APRIL - 2018

DATE : 27 APRIL 2018

TIME : 9:30AM TO 12:30PM

Biology [IBT 122]

Marks: 100

Duration: 180 mins.

Answer 5 out of 8 questions.

Missing data, if any, may be suitably assumed

- 1) Explain cellular respiration with its relevance. (3)
 - A)
 - B) Explain the inheritance linked to x- chromosome. (5)
 - C) Explain the structure and functions of lysosomes, Golgi, chloroplast. (12)
- 2) Explain the different types proteins related to DNA. (3)
 - A)
 - B) Elucidate the process of synthesis of genetic material. (5)
 - C) Describe the genetic engineering process and its application. (12)
- 3) Write a note on codominance. (3)
 - A)
 - B) Explain the structure and function of organelle involved in respiration. (5)
 - C) Elucidate the electron transport chain and explain oxidative phosphorylation. (12)
- 4) Explain the role of transfer RNA. (3)
 - A)
 - B) Explain the cause of sickle cell anemia and albinism. (5)
 - C) Explain protein synthesis with details. (12)
- 5) Describe the structure of any giant chromosomes. (3)
 - A)
 - B) Explain the process of reduction division with significance. (5)

- C) What is the importance of solenoid model? Explain the structure and functions of DNA. (12)
- 6) Explain the functions of Golgi complex (3)
- A)
- B) Write a note on laws of inheritance. (5)
- C) Explain autoradiography with its use in biotechnology. (12)
- 7) Write note on centromere and telomere. (3)
- A)
- B) Explain inborn errors of metabolism. (5)
- C) Explain the concepts related to origin of life. (12)
- 8) What are desmotubules? Explain their functions. (3)
- A)
- B) Explain aberration of chromosomes with suitable examples. (5)
- C) Describe the syndromes arising from aneuploidy with details. (12)

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