

Question Paper

Exam Date & Time: 08-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BSc. HEALTH SCIENCE DEGREE EXAMINATION - JUNE 2024
SUBJECT: BHS-205 - CELL BIOLOGY
(OLD SCHEME - SPECIAL EXAM)

Marks: 75

Duration: 180 mins.

SECTION A - ANATOMY (13 MARKS)

Answer all the questions.

Descriptive Questions

- 2A) Draw and label the structure of a nucleus. (2)
- 2B) Describe the structural organization of the golgi apparatus. (2)
- 2C) Write a short note on lysosomal acid hydrolases. (2)
- 2D) Name the four classes of ATP powered transport proteins. (2)
- 2E) Write briefly about the role of steroid hormones and nuclear receptor superfamily in cell signalling. (2)
- 3) Explain the fluid mosaic model of membranes. (3)

SECTION B - BIOCHEMISTRY (37 MARKS)

Answer all the questions.

Descriptive Questions

- 4A) Explain how Bcl-2 and Bid proteins play a role in regulating apoptosis. (2)
- 4B) Explain any TWO principles of bioethics. (2)
- 4C) Draw the structure of human chromosome (2)
- 4D) Write the reaction catalysed by pyruvate kinase and mention its deficiency disorder (2)
- 4E) Mention the 2 differences between DNA polymerase I and DNA polymerase III (2)
- 4F) List four important nutrients required in growth medium for a cell culture. (2)
- 4G) List the application of Western blot techniques (2)
- 4H) Give FOUR differences between DNA polymerase and RNA polymerase. (2)
- 4I) Describe the post transcriptional processing which takes place at 5' end of primary transcript in (2) eukaryotes. (2)
- 5A) Name 3 key enzymes of TCA cycle and reaction catalysed by them (3)
- 5B) Write a note on prepriming complex of prokaryotic replication (3)
- 5C) With the help of diagrams, explain the process of elongation of prokaryotic translation. (3)
- 6A) Explain the steps involved in gene cloning. (5)
- 6B) What is an electron transport chain? Give a schematic representation of flow of electrons in (5) electron transport chain (1+4 = 5 marks)

-----End-----

.....