Question Paper

Exam Date & Time: 29-Nov-2023 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

Advanced Pharmaceutical Biotechnology [PBT-MPB104T - S3]

Marks: 75 **Duration: 180 mins.**

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

1)	Discuss the production of Hepatitis B Vaccine.	(10)
2)	Explain the requirements for setting-up an animal cell culture laboratory. Write briefly the types of media and serum used commonly for the growth of animal cell cultures.	(10)
3)	Explain the concept of genetic variability in a population through founder effect and bottleneck event.	(10)
4)	Define the terms biosensor and transducer. Classify biosensors based on the method of attachment of the bioreceptor molecule to the base transducer element and enlist the properties of an ideal biosensor.	(10)
5)	Define and enlist the types of DNA sequencing. Elaborate on the principle involved in Pyrosequencing.	(10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

6)	Explain different clone selection strategies used in rDNA technology.	(5)
7)	In plant tissue culture, explain the flow of events in developing a callus culture.	(5)
8)	Write a short note on 'tissue engineering and its applications in therapeutics'.	(5)
9)	"During World War II, it was observed that African - American soldiers were more prone to haemolytic anaemia compared to their Caucasian colleagues on administration of antimalarial drugs". Analyze the given data and give the basis for the same and add a note on the benefits of pharmacogenomics.	(5)
10)	"For every 5,000 to 10,000 compounds that enter the research and development pipeline, ultimately only one reaches and receives the approval status". Justify the given statement.	(5)

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