AR 19

Reg. No

GIET UNIVERSITY, GUNUPUR – 765022
B. Tech (Seventh Semester – Regular) Examinations, November – 2022
BPEBT7020 – Medical and Pharmaceutical Biotechnology
(Biotechnology)

Time: 3 hrs   Maximum: 70 Marks

Answer ALL Questions
The figures in the right hand margin indicate marks.
PART – A: (Multiple Choice Questions)   **(1 x 10 =10 Marks)**

Q.1. Answer *ALL* questions   [CO#]   [PO#]

a. Penicillin is active against   1   1
    (i) Gram +ve bacteria   (ii) Gram-ve bacteria
    (iii) All virus   (iv) All the bacteria

b. The origin and development of a disease?   1   1
    (i) Pathogenesis   (ii) Transgenic
    (iii) Peptides   (iv) Pharmacogenetics

c. How is streptomycin recovered?   2   1
    (i) Paper chromatography   (ii) Hydrophobic chromatography
    (iii) Size exclusion chromatography   (iv) Ion exchange chromatography

d. The assessment of hundreds, thousands, or even millions of molecule samples?   2   1
    (i) Screening   (ii) Medicine
    (iii) Vaccine   (iv) Immunity

e. Who invented the process of producing monoclonal antibodies in 1975?   2   2
    (i) Albert Einstein   (ii) Watson and Creek
    (iii) Georges Köhler and César Milstein   (iv) Robert Hook

f. What is the method to harvest monoclonal antibodies from the positive clones?   3   2
    (i) Subculture in the new medium   (ii) Bioreactors
    (iii) One a single media plate   (iv) Tissue culture method

g. What is the disulfide bond?   3   1
    (i) The ionic bond between S-S   (ii) Vander Waals interaction between two S atoms
    (iii) The covalent bond between sulfur atoms on two cysteine amino acids   (iv) The covalent bond between any two sulfur atoms

h. Which one of the following is a treatment for Multiple sclerosis?   3   1
    (i) Decrease depression   (ii) Prevent damage to BBB
    (iii) Provide glucose so that the patient does not feel fatigued   (iv) Provide paracetamol to decrease frequent fever

i. What are antibiotics?   4   2
    (i) Nutrient supplements   (ii) Anti-cancer drugs
    (iii) Anti-microbial drugs   (iv) Anti-ulcer drugs

j. Which of the following is a characteristic of DNA biosensors?   4   1
    (i) Detects the change in light adsorption   (ii) Detects the photon out for luminescent
    (iii) Detects the movement of electrons between electrodes   (iv) Formation of DNA recognition layer

PART – B: (Short Answer Questions) (2 x 10=20 Marks)

Q.2. Answer *ALL* questions [CO#] [PO#]

a.	What are semi-synthetic antibiotics?	1	1
b.	Write about the techniques used for the development of new generation antibiotics?	1	2
c.	Define the term Biotransformation?	1	1
d.	Define the term drug targeting?	2	1
e.	What are DNA vaccines?	2	2
f.	Define the term Proteomics?	3	1
g.	Write the types of antibodies and their function?	3	2
h.	Write about SDS-PAGE?	3	1
i.	What are therapeutics? Write any two examples?	4	2
j.	What are non-steroidal contraceptives?	4	2

PART – C: (Long Answer Questions) (10 x 4 = 40 Marks)

Answer *ALL* questions Marks [CO#] [PO#]

3. a.	Write in detail about the Production of Insulin using Recombinant DNA technology?	10	1	2
	(OR)			
b	Write in detail about the Production of Human Growth Hormone (hGH) using Recombinant DNA technology?	10	1	2
4. a.	Write the uses of enzymes in clinical diagnosis?	5	2	2
b	Write the uses of biosensors in rapid clinical analysis?	5	2	2
	(OR)			
c.	Write the production of monoclonal antibodies using Hybridoma technology?	10	2	2
5. a.	Write about the role of Proteomics in drug development?	10	3	2
	(OR)			
b.	Write about the separation and identification techniques for protein analysis?	10	3	2
6. a.	Write about the types of Pharmaceutical products and what are the control strategies in pharmaceutical industries?	10	4	2
	(OR)			
b.	Write about the bioidentical hormone replacement therapy? Write its uses and side effects?	10	4	2

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