



GIET MAIN CAMPUS AUTONOMOUS GUNUPUR – 765022

B. Tech Degree Examinations, November – 2021

(Seventh Semester)

BBTPC7020 – Medical and Pharmaceutical Biotechnology
(Biotechnology)

Time: 3 hrs

Maximum: 100 Marks

Answer ALL Questions**The figures in the right hand margin indicate marks.****PART – A: (Multiple Choice Questions)****(2 x 10 = 20 Marks)**Q.1. Answer **ALL** questions

- | | [CO#] | [PO#] |
|---|-------|-------|
| a. Who used recombinant DNA technology to produce insulin for first time | CO:1 | PO:1 |
| (i) Eli Lilly (ii) Lilly Rose | | |
| (iii) Emily Lilly (iv) Amy Sanger | | |
| b. How many amino acids are present in Somatotropin ? | CO:2 | PO:1 |
| (i) 191 (ii) 51 | | |
| (iii) 201 (iv) 100 | | |
| c. What are xenobiotics? | CO:1 | PO:1 |
| (i) Another form of antibiotics (ii) A form of nutrient | | |
| (iii) Nutrients which kill microbes (iv) enters the body through different routes | | |
| d. Benzylpenicillin is the chemical name for which of the following penicillin? | CO:1 | PO:1 |
| (i) Penicillin G (ii) Penicillin V | | |
| (iii) Penicillin F (iv) Phenethicillin | | |
| e. Which is the following a substance that stimulates the immune system to produce. | CO:1 | PO:2 |
| (i) antibodies (ii) Antigen | | |
| (iii) Antigen enzyme conjugate (iv) Antibody enzyme conjugate | | |
| f. Name the drug which is used to isolate hybridoma cells from the media? | CO:1 | PO:1 |
| (i) Amphetamine (ii) Opium | | |
| (iii) Aminopterin (iv) Cocaine | | |
| g. Which of the following enzyme is not used to diagnose hepatobiliary disease? | CO:1 | PO:2 |
| (i) Alkaline phosphatase (ii) Alanine aminotransferase | | |
| (iii) γ -glutamyl transferase (iv) 5I – nucleotidase | | |
| h. Which of the following does not act as marker for liver cancer? | CO:2 | PO:1 |
| (i) Aldolase (ii) Prostate specific antigen | | |
| (iii) γ -glutamyl transferase (iv) 5I – nucleotidase | | |
| i. A collection of methods that allows correction of a gene that has been diagnosed in child/embryo is called | CO:1 | PO:1 |
| (i) cloning (ii) gene therapy | | |
| (iii) dialysis (iv) chemotherapy | | |
| j. Plasmids encoding antigenic protein from a pathogen that is directly injected into the cells where it express constitute | CO:1 | PO:1 |
| (i) protein vaccines (ii) nucleotide vaccines | | |
| (iii) DNA vaccines (iv) recombined vaccines | | |

PART – B: (Short Answer Questions)**(2 x 10 = 20 Marks)**Q.2. Answer ALL questions

	[CO#]	[PO#]
a. What do you mean by recombinant DNA technology?	CO:1	PO:2
b. What are the applications of human growth hormone?	CO:1	PO:1
c. Write two functions of interferon?	CO:2	PO:1
d. Define biotransformation?	CO:1	PO:1
e. What are antibiotics?	CO:1	PO:1
f. Define beta cells of langerhans?	CO:1	PO:1
g. What is ligand-based drug design?	CO:2	PO:2
h. Explain non-steroidal contraceptive?	CO:2	PO:2
i. What do you mean by biologicals hormones?	CO:2	PO:1
j. What is DNA microarray technology?	CO:1	PO:1

PART – C: (Long Answer Questions)**(15 x 4 = 60 Marks)**Answer ALL questions

	Marks	[CO#]	[PO#]
3. a. Write in details on how insulin is produced by r-DNA technology?	8	CO:2	PO:2
b. Give an account of structure of human insulin?	7	CO:2	PO:1
(OR)			
c. Illustrate on Somatotropin?	8	CO:1	PO:3
d. Explain the production of human growth hormone (hGH) by recombinant DNA technology?		CO:2	PO:1
4. a. Give an account of biotransformation of steroids?	8	CO:1	PO:2
b. What are the fat soluble vitamins and their biological significance?	7	CO:1	PO:1
(OR)			
c. Write four applications of protein engineering?	8	CO:2	PO:2
d. Give an account of structure based drug designing techniques?	7	CO:2	PO:1
5. a. Write on procedure and application of direct ELISA?	8	CO:1	PO:2
b. Write on the enzymes used in the diagnosis of disease?	7	CO:2	PO:2
(OR)			
c. Explain drug targeting? Add a note on advantages of drug targeting?	8	CO:1	PO:1
d. Give an account on DNA based diagnosis?	7	CO:2	PO:2
6. a. What is Toxicogenomics? Explain its importance?	8	CO:2	PO:1
b. What do you mean by beta lactam antibiotics?	7	CO:1	PO:1
(OR)			
c. Write in detail on antibody based protein assay for diagnosis?	8	CO:1	PO:2
d. Explain good manufacturing practices (GMP) and its importance?	7	CO:1	PO:1

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