



B.TECH DEGREE EXAMINATIONS: MAY 2015

(Regulation 2009)

Sixth Semester.

BIOTECHNOLOGY

BTY205: Medical Biotechnology

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

- Symmetrical chromosomes consisting of either two long arms or two short arms of a particular chromosome
 - Acentric chromosome
 - Isochromosome
 - Dicentric chromosome
 - Monocentric chromosome
- Mutation in *hRMEII* gene is a common cause of
 - Ataxia telengictasia
 - Bloom's syndrome
 - Ataxia telengictasia like disorder
 - Fanconi anemia
- Which of the following is not the chromosomal change in the genome of cancer cells?
 - Insertion
 - Substitution
 - Deletion
 - Duplication
- Daily recombinant growth hormone injections are recommended for children with
 - Angelman syndrome
 - Huntington's disease
 - Prader-Willi syndrome
 - Marfan's syndrome
- Which of the following is not a consequence of abnormal release of pancreatic enzymes?
 - Auto digestion of pancreas
 - Vaso dialation
 - Respiratory failure
 - Vaso constriction
- Prenatal diagnosis with chorionic villi sampling is usually carried out between
 - 10 to 13 weeks
 - 11 to 14 weeks
 - 15 to 20 weeks
 - 12 to 16 weeks
- The gene *pol* encodes for the following proteins except -
 - Reverse Transcriptase
 - Protease
 - Integrase
 - Capsid structural proteins

23. a) (i) How are protein and enzyme markers used in diagnosis of molecular diseases? (7)
(ii) What are the applications of genome and cDNA arrays in diseases? (7)

(OR)

- b) (i) Explain the variants of monoclonal antibodies and its relation to disease diagnosis. (4)
(ii) Discuss the significance of invasive and non-invasive techniques in pre-natal diagnosis. (10)

24. a) Describe the various strategies of gene therapy in the treatment of molecular diseases.

(OR)

- b) (i) Write a short note on the strategy and clinical application of Nano medicine. (10)
(ii) Write the potential uses of stem cells in cell based therapies. (4)

25. a) (i) Discuss the concept of functional cloning with an example. (7)
(ii) How are subunit vaccines produced in the laboratory? Cite with an example. (7)

(OR)

- b) (i) Illustrate the production strategy of recombinant insulin using mammalian culture. (7)
(ii) Write a brief note on DNA based vaccines. (7)
