



GL-036017

Seat No. _____

B. Sc. (Sem. VI) Examination

March / April – 2019

BSCC605A : Recombinant DNA Technology

Time : Hours]

[Total Marks : **70**

- 1** Answer any **two** of the following questions : **14**
- (a) Enlist and describe in brief about the enzymes used in molecular cloning.
 - (b) Give a brief account of restriction endonucleases and write their applications.
 - (c) What are Plasmids? How plasmids can be used as vectors in molecular biology?
 - (d) Enlist types of expression vectors and describe prokaryotic expression vectors in detail.
- 2** Write answers to following questions : (any **two**) **14**
- (a) Describe chemical method of transformation of DNA with its pros and cons.
 - (b) Enlist various methods of gene delivery and discuss any two methods in detail.
 - (c) Discuss agarose gel electrophoresis technique used for DNA analysis and write its significance.
 - (d) What are blotting techniques? Briefly describe blotting techniques and write their applications.
- 3** Discuss any **two** of the following in detail : **14**
- (a) Polymerase chain reaction and its types
 - (b) Compare conventional and modern techniques of DNA sequencing.
 - (c) Construction of genomic and cDNA libraries
 - (d) Screening of cDNA libraries and its importance

- 4 Answer any **two** of the following questions : 14
- (a) Explain 'insulin' as product of recombinant DNA technology.
 - (b) What is gene therapy? Write in detail with example.
 - (c) Discuss protein engineering and write its application.
 - (d) Describe Bt cotton and discuss its advantages.
- 5 Write briefly any **seven** of the following : 14
- (a) What is YAC?
 - (b) What is the role of DNA ligase?
 - (c) Explain use of 'eletroporation'
 - (d) What is SDS-PAGE? How it is different than native PAGE?
 - (e) Define -'chromosome walking'
 - (f) What is the use of 'linkers' and 'adaptors'?
 - (g) Explain - 'site directed mutagenesis'
 - (h) What is recombinant vaccine? Write 2 examples.
 - (i) Write any two important milestones in genetic engineering.
 - (j) What is hGH? What is its significance?
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