

**P. S. SCIENCE & H. D. PATEL ARTS COLLEGE, KADI**

**Internal Examination**

**B. Sc. SEM - VI**

**[Mark : 40**

**21-3-2016]**

**Genetic Engineering**

**[1-30 to 3-00**

**CC - 602 (CC - I - 12)**

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**1. ANSWERS THE FOLLOWING.**

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- (1) The first engineered plasmid vector is  
A) pBR 322 B) pUC vector C) pSC 101 D) pUC 19
- (2) Extra chromosomal, double, stranded, circular DNA molecule present in bacteria which is widely used as vector is called  
A) Phagemid B) Cosmid C) Plasmid D) bacterial vector
- (3) \_\_\_\_\_ is also known as Kornbergs enzyme.  
A) DNA Ligase. B) Restriction endonucleases.  
C) DNA Pol I. D) RNA Pol.
- (4) Which of the following procedures would produce RFLPs?  
A. Incubating a mixture of single strand DNA from two closely related species.  
B. Incubating DNA nucleotides with DNA polymerase.  
C. Incubating DNA with restriction endonucleases.  
D. Incubating DNA fragments with sticky ends with ligase.
- (5) What are the three major steps of the PCR reaction in the CORRECT order?  
A. Annealing, Denaturation, Extension.  
B. Denaturation, Annealing, Extension.  
C. Extension, Denaturation, Annealing.  
D. Denaturation, Extension, Annealing

- (6) All fragments cut by most restriction endonucleases have \_\_\_\_\_ ends,  
 (A) complementary double-stranded.  
 (B) supplementary single-stranded.  
 (C) double-stranded "sticky",  
 (D) complementary single-stranded.
- (7) Sanger method Growing chains are terminated by  
 A) ddNTP B) dNTP C) NTP D) ATP
- (8) Cycle sequencing requires a \_\_\_\_\_ DNA polymerase  
 A) copper stable B) Heat stable  
 C) pressure stable D) Acid stable
- (9) The first endonuclease discovered was from  
 A) Bacillus subtilis B) Enterobacter  
 C) E.coli D) P. putida
- (10) **EcoRI** comes from which stain of *Escherichia coli*  
 A) SH1 B) RP13 C) RK 1 D) RY 13

2. Write answer of any four question

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- (1) Explain RAPD
- (2) Explain the structure and Properties of Plasmids pBR 322
- (3) Explain Chemical method of DNA sequencing
- (4) Explain Pyrosequencing Method.
- (5) Explain the deference between Western blotting and Northern Blotting techniques

3. Long Answer any One question

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- (1) Explain Sanger DNA sequencing Method with application
  - (2) Explain Cloning Vector
  - (3) Explain PCR method and its Application
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