

D 21521

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Name

Reg. No.....

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2011

(C.C.S.S.)

Microbiology—Core Course

4 MOLECULAR MICROBIOLOGY

Time: Three Hours

Maximum Weightage : 30

1. Objective Type Questions Answer all twelve questions :

1 The naturally occurring form of DNA :

- (a) A DNA. (b) B DNA.  
(c) Z DNA. (d) All forms.

2 Wobble hypothesis proposes

- (a) Universality of genetic code.  
(b) Flexibility in the third base of genetic code.  
(c) Complementarity of genetic code.  
(d) Punctuations in genetic code.

3 Can you find a repression is present in :

- (a) Tryptophan operon. (b) Histidine operon.  
(c) Arabinose operon. (d) Lactose operon.

4 A start codon encodes :

- (a) Methionine.  
(b) Stop codon.

5 The size of the DNA molecule is \_\_\_\_\_ nm.

6 The number of genes in the genome of a cell is called \_\_\_\_\_.

7 The enzyme that are found in all organisms.

8 DNA polymerase I is known as \_\_\_\_\_.

9 The phase of cell cycle ?

10 Who is known as father of genetics?

11 Which experiment explains DNA replication is semiconservative?

12 Who proposed the gene-enzyme hypothesis?

(12 x ¼ = 3 weightage)

Turn over

II. Short Answer Type Questions. Answer *all* nine questions :

- 13 What is an operon ?
- 14 Function of RNA polymerase.
- 15 What is telomerase ?
- 16 Which is a trailer sequence ?
- 17 Mendel's law of segregation.
- 18 What is an inducible enzyme ?
- 19 What is a nucleotide ?
- 20 What is hn RNA.
- 21 What is heredity ?

x 1 = 9 weightage)

III. Short Essay or Paragraph Questions. Answer any *five* questions :

- 22 Explain Lac operon.
- 23 Write a note on DNA binding proteins.
- 24 Explain structure and function of histones.
- 25 Explain rolling circle replication with suitable example.
- 26 Discuss about post translational modifications in eukaryotes.
- 27 Explain genetic code.
- 28 What are the different stages of mitosis.

(5 x 2 = 10 weightage)

IV. Essay Questions. Answer any *two* questions :

- 29 Explain organisation of eukaryotic chromosomes.
- 30 Discuss about protein synthesis in prokaryotes.
- 31 Explain structure and function of DNA and RNA.

(2 x 4 = 8 weightage)