

C.U.SHAH UNIVERSITY

Summer Examination-2016

Subject Name : Genetics

Subject Code : 4LS03MBO1/4SC03GEN1

Branch: B.Sc.(Microbiology)

Semester : 3

Date : 28/04/2016

Time : 02:30 To 05:30

Marks : 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
-

Q-1

Attempt the following questions:

(14)

- a) Choose the correct option-
Which component of transcribed RNA in eukaryotes is present in the initial transcript but is removed before translation occurs:
a. Intron b. 3' Poly A tail c. Ribosome binding site d. 5' cap
- b) Choose the correct option-
DNA ligase:
a. Joins the DNA b. Joins the RNA c. Joins the Protein d. None
- c) Choose the correct option-
Hfr strain of E. coli contains:
a. R-plasmid b. F factor c. Vir plasmid d. None
- d) Choose the correct option-
Replication of DNA is:
a. Dispersive b. Conservative c. Semi conservative d. None
- e) Enzyme used in conversion of DNA into RNA is called.
- f) What is plasmid?
- g) Write full form of pUC.
- h) How many base pairs are present in one turn of B-DNA?
- i) What is Vir-plasmid?
- j) Bacteriophage has all lytic, lysogenic and lysosomal cycle. (True/False)
- k) Inversion can cause mutation. (True/False)
- l) DNA transposons can inactivate or alter the expression of genes by insertion within introns. (True/False)
- m) Define monohybrid cross.



n) Choose the correct option-

9:3:3:1 ration is obtained in-

- a. Monohybrid cross b. Dihybrid cross. c. Tihybrid cross d.
Tetrahybrid cross

Attempt any four questions from Q-2 to Q-8

Q-2	Attempt all questions	
a	Explain the B-DNA model with suitable diagram.	7
b	Explain Secondary structure of t-RNA	7
Q-3	Attempt all questions	
a	Explain the principle of independent assortment	7
b	Explain the semiconservative model of DNA replication with suitable diagram.	7
Q-4	Attempt all questions	
a	Explain the properties of DNA polymerase.	7
b	Explain the process of Transduction with suitable diagram.	7
Q-5	Write Short notes on-	
a	Types of mutation	7
b	Conjugation	7
Q-6	Write Short notes on-	
a	DNA sequencing	7
b.	Structure of bacteriophage	7
Q-7	Attempt all questions	
a	What is mutagenesis? Explain its role in genetics.	4+3
b.	What is plasmid? Write different types of plasmids.	3+4
Q-8	Attempt all questions	
a	What is transduction? Explain it with suitable diagram.	7
b	Explain the process of genetic recombination in phage.	7

