

D 51497

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Name.....

Reg. No.....

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2013

(U.G.-CCSS)

Microbiology (Core Course)

MB 3B 04—MOLECULAR MICROBIOLOGY

Time : Three Hours

Maximum : 30 Weightage

Part A

Choose the correct answer from the following. **Weightage** for each answer is $\frac{1}{4}$:

1. Which among the following is a stop **codon** ?
(a) **UAA.** (b) **AUG.**
(c) **CUG.** (d) **AAA.**
2. The transforming principle as identified through Griffith experiment was later found to be :
(a) **RNA.** (b) **DNA.**
(c) **Protein.** (d) **Polysaccharide.**
3. In lac **operon**, lactose act as :
(a) **Inducer.** (b) **Repressor.**
(c) **Both (a) and (b).** (d) **None of the above.**
4. The final stage of meiotic prophase I is called :
(a) **Pachytene.** (b) **Diakinesis.**
(c) **Leptotene.** (d) **Zygotene.**

Fill it _____ blanks of the following. **Weightage** for each answer is _____ :

5. The negative charge of DNA is due to the presence of _____
6. An example for repressible **operon** is _____
7. The unwinding of double stranded DNA for replication is carried out by _____
8. The wobble hypothesis was proposed by _____

Answer in single word of the following. **Weightage** for each answer is $\frac{1}{4}$

9. Which stage of prophase I of meiosis is characterised by the pairing of homologous chromosomes ?
10. Which RNA **polymerase** of **Eukaryote** is responsible for **rRNA** synthesis ?

Turn over

11. The number of enzymes coded by structural genes of lac **operon** is.
12. **Meselson and stahl** experiment was the demonstration of :

(12 x ¼ = 3 weightage)

Part B

Explain the following *nine* questions. **Weightage** for each answer is **1**

13. Nucleoside.
14. Law of segregation.
15. **HI-Histone**.
16. Crossing over.
17. Function of *tRNA*.
18. **Shine-Dalyarso** sequence.
19. B DNA.
20. **Peptidyl transferase**.
21. **Catabolite gene Activator Protein (CAP)**.

(9 x 1 = 9 weightage)

Part C

Write short essay on any *five* questions from the following. **Weightage** for each answer is **2**

22. Rolling circle replication.
23. *rRNA*.
24. One gene one enzyme hypothesis.
25. Genetic code.
26. DNA binding proteins.
27. RNA processing in **Eukaryotes**.
28. **Nucleoid** structure.

(5 x 2 = 10 weightage)

Part D

Write essay on any *two* questions from the following. **Weightage** for each answer is **4** :

29. Explain **Trp operon**.
30. Explain Meiosis.
31. **Explain** post translational modifications.

(2 x 4 = 8 weightage)