

III Semester B.Sc. Examination, November/December 2015  
(Semester Scheme (F/R) (CBCS)  
MICROBIOLOGY – III  
Microbial Physiology and Microbial Genetics  
(70 – 2012-13 and Onwards 60 – Prior to 2012-13)

Time : 3 Hours

Max. Marks : (CBCS 70(F)/60(R))

- Instructions :**
- 1) Candidates of 2011 onwards should answer **all** the Sections.
  - 2) Candidates Prior to 2011 should answer **A, B and C** Sections only.
  - 3) Draw diagrams **wherever** necessary.
  - 4) **70** marks for students of 2011-12 and onwards/CBCS (Credit based semester scheme).
  - 5) **60** marks for repeater students Prior to 2011-12.

SECTION – A

I. Write brief notes on the following.

(5×2= 10)

- 1) Polypeptide
- 2) Induced fit theory
- 3) Bacterio chlorophyll
- 4) Okazaki fragments
- 5) Phospho di ester bond.

SECTION – B

II. Answer **any four** of the following.

(4×5= 20)

- 6) Explain Watson and Crick model of DNA.
- 7) Write a note on specialized transduction.



- 8) Describe carbon dioxide assimilation in green and purple bacteria.
- 9) Describe the properties and significance of lipids.
- 10) Define fermentation. Explain butandiol fermentation.

SECTION – C

III. Answer **any three** of the following.

(3×10=30)

- 11) Explain semi-conservative mode of DNA replication.
- 12) What is mutation ? Explain spontaneous mutations in detail.
- 13) Describe in detail the bacterial photosynthetic apparatus. Add a note on photosynthetic pigments.
- 14) Describe EM pathway and add a note on ATP generation.
- 15) Explain Oxidative Phosphorylation.

SECTION – D

IV. Answer the following in **one** sentence.

(10×1=10)

- 16) Missence mutation
  - 17) F-factor
  - 18) Photophosphorylation
  - 19) Free energy
  - 20) Klenow fragment
  - 21) Holoenzyme
  - 22) Ferredoxin
  - 23) DNA ligase
  - 24) Acetyl COA
  - 25) Biomolecules.
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