

T.Y.B.SC. SEM – VI(2014 COURSE) : WINTER - 2017
SUBJECT: MICROBIOLOGY: MICROBIAL METABOLISM &
BIOCHEMICAL EVOLUTION

Day: **Friday**
Date: **03/11/2017**

Time: **12.00 NOON TO 02.00 PM**
Max. Marks: **40**

W-2017-0696

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labelled diagrams **WHEREVER** necessary.

Q.1 Attempt **ANY TWO** of the following: **(10)**
a) Give structural features and functions of t-RNA.
b) Describe with example passive transport of solutes.
c) Explain in brief biosynthesis of aspartate family amino acids.

Q.2 Attempt **ANY TWO** of the following: **(10)**
a) Diagrammatically represent TCA as the central metabolic pathway.
b) Write note on: synthesis of starch.
c) What is TAG? Write note on its synthesis.

Q.3 Attempt **ANY TWO** of the following: **(10)**
a) Define the term mutant and give their role in the study of biochemical pathway.
b) Explain in brief biochemical N_2 fixation and comment on its energy and reducing power requirement.
c) Schematically represent the electron flow in the ETC and comment on its significance.

Q.4 Attempt **ANY FIVE** of the following: **(10)**
a) Name the hormones that regulate glycogen synthesis.
b) What is primordial cloud theory?
c) Comment on- Fate of acetyl CoA derived from fat breakdown.
d) Schematically demonstrate termination step in protein synthesis.
e) Give two examples of isoprenoid compounds with their function.
f) Schematically represent group translocation of sugars in bacteria.
g) What is Shine-Dalgarno sequence and give its role in protein synthesis.