

Seat No. : _____

N16-106

November-2014

B.Sc., Sem.-V (CBCS)

BIC-304 : Biochemistry

(Introduction to Microbiology & Nutrition)

Time : 3 Hours]

[Max. Marks : 70

- Instructions :**
- (1) **All** questions are compulsory.
 - (2) **All** questions carry equal marks.
 - (3) Draw labelled diagrams wherever necessary.

- 1. (a) Explain in detail the different shapes and arrangement of bacterial cell. **7**
- (b) Write a note on Bacterial Capsule. **7**

OR

- (a) Draw and explain the structure of Flagella. **6**
 - (b) Write a note on SCP. **5**
 - (c) List the functions of Metachromatic granules. **3**
- 2. (a) Define : **6**
 - (1) Smear (2) Fixation
 - (3) Compound stain (4) Leuco compound
 - (b) Write a note on Gram staining. **5**
 - (c) What are the differences between a Mordant and an Intensifier ? **3**

OR

- (a) Write a short note on : **10**
 - (1) Mycoplasmas
 - (2) Archaeobacteria
- (b) Discuss the physical and chemical theory behind staining. **4**

3.	(a) Discuss :	9
	(1) Carbohydrate loading	
	(2) Ketosis	
	(3) Complete & Incomplete proteins	
	(b) Write a brief note on Dietary Fiber.	5
	OR	
	(a) Explain the transport of Fats in our body in detail.	8
	(b) Briefly discuss Nitrogen Balance.	6
4.	(a) Briefly discuss :	9
	(1) BMR (2) RQ (3) SDA	
	(b) Discuss the Nutritional value of Legumes.	5
	OR	
	(a) Milk is a complete food. Comment.	7
	(b) Discuss the disadvantages of Non-vegetarian foods.	7
5.	Answer in brief :	[14]
	(1) Define BOD and Pasteurization.	2
	(2) State any two differences between Gram positive and Gram negative bacteria.	2
	(3) Give two examples of Acid fast bacteria.	1
	(4) Name the two important chemical constituents of a bacterial spore.	1
	(5) What are (1) Balanced diets (2) Dental Caries ?	2
	(6) What is Curie ? Define it.	2
	(7) State any two disadvantages of Trans Fats.	2
	(8) What is the RDA for proteins ? Name a reference protein.	2
