18. Discuss in detail about the methods for the direct measurement of cell numbers during microbial growth.

19. What is antimicrobial resistance? Add notes on its origin, transformation and prevention methods with suitable examples.

20. Write a brief account on the following.

(a) Isoenzymes.

(b) Phosphorylation.

(c) ATP.

(d) Assimilatory pathway.

Shanmuga Industries Arts & Science College T.V.Malai

NOVEMBER/DECEMBER 2018

BMB21 — MICROBIAL PHYSIOLOGY

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

Each answer not to exceed 50 words.

1. Proton gradient.

2. Macronutrients.

3. Cryopreservation.

4. Enrichment technique.

5. Log phase.

6. Thermophiles.

7. Plasmids.

8. Antifungal agents.

9. Catabolism.

10. Cofactor.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

Each answer not to exceed 200 words.

11. (a) Explain in detail about transport of nutrients through passive transport.

Or

(b) What are growth factors? Add notes on their role in microbial nutrition.

12. (a) Explain in detail about the isolation and purification of fungi under laboratory conditions.

Or

(b) Write an essay or the types of microbiological media.

13. (a) How will you classify the microorganisms based on their oxygen requirement?

Or

(b) Write a short account on the following :

(i) Generation time

(ii) Binary fission.

14. (a) Discuss in detail about antiparasitic drugs and their significance.

Or

(b) Discuss in detail about anti-viral drugs and their significance.

15. (a) Differentiate between substrate level phosphorylation and oxidative phosphorylation.

Or

(b) Write a detailed account on the nomenclature of enzymes.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

Each answer not to exceed 500 words.

16. Write a brief account on the following.

(a) ABC transport mechanism.

(b) Osmosis.

(c) Carbon sources.

(d) Simple diffusion.

17. What is pure culture? How will you obtain a pure culture of a bacteria from a mixed population? Explain any two methods with a neat diagram.