

B.Sc. 5th Semester (Programme) Examination, 2020-21

PHYSIOLOGY

Course ID: 52510

Course Code: SP/PHY/ 504/SEC-3 (T)

Course Title: Clinical Microbiology and Laboratory Medicine

Time: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any five questions from the following: 2×5=10

- (a) Give two examples of Gram-positive bacteria.
- (b) Write the applications of spectrophotometer.
- (c) Which bacteria is found in sputum?
- (d) What is Cardiac Arrhythmia?
- (e) What is *rpm*? At which rpm blood is centrifuged for plasma separation?
- (f) Where from sputum is collected for laboratory use?
- (g) What do you mean by Einthoven's triangle?
- (h) What is the difference in structure of cell wall of gram positive or gram negative bacteria?

2. Answer any four questions from the following: 5×4=20

- (a) What are the three types of ECG leads? Writ the significance of T wave. 3+2=5
- (b) What is acid -fast bacteria? Describe the acid-fast staining procedure. 1+4=5
- (c) Briefly discuss the principle of colorimeter. When green filter is used in colorimeter? 3+2=5
- (d) Write the protocol of gram staining. 5
- (e) Write the identifying characters of tuberculosis bacteria. Mention the precautions to be taken for handling this type of bacterium. 3+2=5
- (f) Write the principle of Centrifugation. How do you handle a centrifuge machine? 3+2=5

3. Answer any one question from the following: 10×1=10

- (a) Write the principle of ECG machine. Discuss in brief normal tracing of ECG wave. Mention the significance of each wave. 2+4+4= 10
- (b) What is Beer Lambert's Law? Write the applied value of colorimeter in biomedical laboratory. How colorimeter is used in a laboratory? 3+5+2= 10