B.Sc. CRITICAL CARE TECHNOLOGY

(New Syllabus 2015-2016)

FIRST YEAR

Paper II – PHYSIOLOGY AND BASIC PHYSICS

Q.P Code : 801232

Time : Three Hours **Maximum : 100 Marks**

Answer All Questions

I. Elaborate on: **(3 x 10 = 30)**

1. Describe the various factors affecting cardiac output.
2. What is meant by haemostasis? Describe the intrinsic and extrinsic clotting pathways.
3. Describe the mechanism of acid secretion in the stomach.

II. Write Notes on: **(8 x 5 = 40)**

1. List the various cell organelles. Mention one function for each of them.
2. Describe any two gas laws with their clinical application.
3. List the various white blood cells and mention one function for each of them.
4. What is meant by the following terms?
   a) Vital capacity. b) Residual volume. c) Dead space.
   d) Tidal volume. e) Total lung capacity.
5. What is CSF? Where is it produced? What are the functions of CSF?
6. Mention the enzymes required for carbohydrate digestion, their source and their actions.
7. What are the hormones secreted by the posterior pituitary? Mention functions of each hormone.
8. What are the common medical gases used? Describe the various means of storage of medical gases.

III. Short Answers on: **(10 x 3 = 30)**

1. Mention any one unit for each of the following.
   a) Pressure. b) Temperature. c) Flow.
2. Describe any two renal function tests.
3. What are the different states of matter? What are the properties of these states?
4. What is pupillary light reflex? What is its clinical relevance?
5. Describe how matter can be changed from one state to another?
6. Describe any two pulmonary function tests.
7. Piped distribution of medical gases.
8. What is meant by the term ABG (arterial blood gases)? What information can be obtained from the ABG?
9. What is meant by streamlined (or laminar flow) and turbulent flow?
10. Formation of semen.

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