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P-003-1016036 Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination

March / April - 2020

Biochemistry : Paper - 601

(Human Physiology and Clinical Biochemistry)

Faculty Code : 003

Subject Code : 1016036

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 (A) Write brief answers for the following questions : **4**

(1) Why is blood red in colour?

(2) What is the main function of the platelets?

(3) Define anticoagulant with suitable example.

(4) What are macrophages?

(B) Write answer in brief : (Any **One** out of Two) **2**

(1) Describe various bleeding tests of diagnostic importance.

(2) Enlist different types of leukocytes.

(C) Write answer in detail : (Any **One** out of Two) **3**

(1) Write a note on composition of haemoglobin.

(2) Explain ABO blood group systems.

(D) Write answer in detail : (Any **One** out of Two) **5**

(1) Explain in detail the process and different stages of erythropoiesis.

(2) Write a short note on various types of anaemia.

2 (A) Write brief answers for the following questions : 4

(1) What is the importance of intrinsic factor?

(2) Name the cartilaginous flap that prevents the entry of food into the glottis- opening of the wind pipe during swallowing.

(3) What do you mean by Succus entericus?

(4) Which cell of gastric glands releases pepsin?

(B) Write answer in brief : (Any **One** out of Two) 2

(1) Name different layers of GI tract.

(2) Why digestive enzymes are secreted as zymogens (in inactive forms) ?

(C) Write answer in detail : (Any **One** out of Two) 3

(1) Draw a labelled diagram of Human Digestive system.

(2) Discuss liver function tests.

(D) Write answer in detail : (Any **One** out of Two) 5

(1) Write the functions of saliva.

(2) Discuss the process of digestion and absorption of proteins in human body.

3 (A) Write brief answers for the following questions : 4

(1) Which protein produced by kidneys, stimulate RBC production by the bone marrow?

(2) Define Glomerular Filteration Rate (GFR).

(3) Enlist three main steps involved in the process of urine formation.

(4) Name any two renal disorders.

(B) Write answer in brief : (Any **One** out of Two) **2**

(1) Differentiate between cortical and juxtamedullary nephrons.

(2) Write two important functions of the kidney.

(C) Write the Answer in detail : (Any **One** out of Two) **3**

(1) Describe the structure of Nephron.

(2) List factors affecting GFR.

(D) Write answer in detail : (Any **One** out of Two) **5**

(1) Discuss in detail renal function tests.

(2) Write a note on regulation of salt balance.

4 (A) Write brief answers for the following questions : **4**

(1) Name the types of glial cells present in the peripheral nervous system.

(2) What is the function of the microglial cells in the central nervous system?

(3) Why nerve impulse conduction is-faster in myelinated axons compared to the non-myelinated axons of the neurons?

(4) Write importance of the blood brain barrier.

(B) Write answer in brief : (Any **One** out of Two) **2**

(1) Write structural classification of the neurons.

(2) Describe "fight or flight" response and its significance.

(C) Write answer in detail : (Any **One** out of Two) **3**

(1) Draw a labelled diagram of typical nerve cell.

(2) Describe the process of myelination in central nervous system.

(D) Write answer in detail : (Any **One** out of Two) **5**

(1) Discuss different stages of nerve impulse conduction.

(2) Define neurotransmitters. Discuss types, mode of action and inactivation of neurotransmitters.

5 (A) Write brief answers for the following questions : **4**

(1) What is Bohr Effect?

(2) What is ECG?

(3) Define diastole.

(4) Where oxygen concentration is higher? In venous blood or arterial blood?

(B) Write answer in brief : (Any **One** out of Two) **2**

(1) Write the names of all four valves of heart.

(2) Give various forms used by O_2 for transportation in blood.

(C) Write answer in detail : (Any **One** out of Two) **3**

(1) What is the role played by Haemoglobin in transport of oxygen?

(2) Explain systemic circulation.

(D) Write answer in detail : (Any **One** out of Two) **5**

(1) Discuss the gross anatomy of the Heart.

(2) Describe the cardiac cycle in detail.
