

01.12.2014 (ASTU)

Total No. of printed pages = 7

**PY 132102**

Roll No. of candidate

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**B. Pharm 1st Semester End-Term Examination**

**HUMAN ANATOMY AND PHYSIOLOGY – I**

Full Marks – 100 Pass Marks – 35 Time – Three hours

The figures in the margin indicate full marks for the questions.

**SECTION – A**

Answer question No. 1 and any *three* from the rest.

1. (a) Fill in the blanks :  $(1 \times 5) + (2 \times 3) + (3 \times 1) = 14$

- (i) '.....' was first time invented the 'ABO system' of blood grouping.
- (ii) '.....' heterocyclic ring present in haemoglobin.
- (iii) Lacteal is .....
- (iv) '.....' is known as antihemophilic factor.
- (v) The longest bone of the body is '.....'.

[Turn over



(b) (i) What is mean 'pressure' ?

(ii) What is action potential ?

(iii) What is agglutinin and agglutinin ?

(c) Role of junctional tissue in contraction of heart.

2. (a) Write down the stages of erythropoiesis and draw the diagram wherever necessary.

(b) Answer any *one* of the following :

(i) Explain the role of muscle protein in skeletal muscle contraction. What are the bands found in skeletal muscle ?

(ii) What is Myasthenia gravis and Tetanus ?

(c) Answer any *one* of the following :

(i) What is ECG ?

(ii) What is Thromboplastin ?

$$(4 \times 1) + (3 \times 2) + (2 \times 1) = 12$$



3. (a) Draw a neat and labelled diagram of a transverse section of a lymph node and explain the various parts of it.

(b) Answer any *one* of the following :

(Short note)

(i) Spleen and Hodgkin's disease.

(ii) Columnar epithelium and Neuron.

(c) Answer any *one* of the following :

Define :

(i) Erythroblastosis foetalis

(ii) Thallassemia.  $(4 \times 1) + (3 \times 2) + (2 \times 1) = 12$

4. (a) Explain the molecular structure of skeletal muscle.

(b) Answer any *one* of the following :

(i) ABO system of blood grouping and haemolytic anaemia.

(ii) Explain Angina pectoris and Atherosclerosis.



(c) Answer any *one* of the following :

Define :

(i) ESR

(ii) Roulex formation.

$$(4 \times 1) + (3 \times 2) + (2 \times 1) = 12$$

5. (a) Explain the role of intrinsic and extrinsic factors in blood clotting.

(b) Answer any *one* of the following :

(i) Draw neat and labelled diagram of heart and neuron.

(ii) Explain hypertension and cardiac arrhythmias.

(c) Answer any *one* of the following :

(i) Sickle cell anaemia.

(ii) Megaloblastic anaemia.

$$(4 \times 1) + (3 \times 2) + (2 \times 1) = 12$$



SECTION - B

Answer question No. 6 and any *three* from the rest.

6. (a) Fill in the blanks :

(i) ..... occurred due to deficiency of iron.

(ii) In healthy adult male the Hb% is .....

(iii) In healthy adult male pulse pressure (PP) is .....

(iv) Pacemaker is made up of ..... cells.

(v) The only movable bone in face is .....

(b) (i) Name the bones of the face and skull.

(ii) Role of  $\text{Ca}^{++}$  in blood clotting.

(iii) Nature of plasma membrane in Eukaryote.

(c) (i) Explain the fluid mozaic model of plasma membrane.

$$(1 \times 5) + (2 \times 3) + (3 \times 1) = 14$$

7. (a) (i) Explain in detail about the cardiac cycle and draw a neat and labelled diagram of blood circulation in heart.



(b) Answer any *two* of the following.  
(Short note)

(i) Congestive Heart Failure (CHF)

(ii) Myocardial Infarction (MI)

(iii) Renin.  $(5+3)+(2 \times 2)=12$

8. (a) (i) Explain the mechanism of skeletal muscle contraction mentioning the role of action potential.

(ii) Write down the physiological characters of skeletal muscle.

(b) Answer any *one* of the following.

(Short note)

(i) Rheumatoid Arthritis.

(ii) Gout.  $5+4+3=12$

9. (a) Explain how body's blood pressure is maintained.

(b) Write short note on any *one* of the following :

(i) Composition of blood.

(ii) Composition of lymph.



(c) Write short note on any *one* of the following :

(i) Factors affecting lymph formation.

(ii) LUBB - DUB in cardiac cycle.

$$5+(3\times 1)+4=12$$

10. (a) Explain the ventricular events in cardiac cycle.

(b) Write short note on any *one* of the following :

(i) Pacemaker

(ii) Difference between stratified and columnar epithelium.

(c) Answer any *one* of the following :

(i) Dietary sources of iron

(ii) Chest lead in ECG.

$$5+(4\times 1)+(3\times 1)=12$$