KATHMANDU UNIVERSITY
End Semester Examination [C]
December, 2024

Marks Scored:

Level : B.Pharm.
Year : I

Course : PHAR 114
Semester : II

Exam Roll No. :

Time: 30 mins.

F. M. : 20

Registration No.:

Date : 18 DEC 2024

SECTION "A"

[20Q. × 1 = 20 marks]

Choose and encircle the most appropriate option from each set of choices

1. Colloidal osmotic pressure is contributed mainly by
   a. Albumin b. Fibrinogen c. Thrombin d. Prothrombin

2. Humoral antibody formation response is shown by
   a. Neutrophil b. T lymphocytes c. B lymphocytes d. Monocytes

3. Erythropoietin is secreted by
   a. Stomach b. Adrenal cortex
   c. Peritubular capillary cells of Kidney d. Bone marrow

4. CO_2 is carried in venous blood mostly in the form of
   a. Carbonic acid b. Bicarbonate c. Dissolved CO_2 d. Carbamino Hb

5. Type II pulmonary epithelial cells secrete
   a. Mucus b. Polypeptide c. Serotonin d. Surfactant

6. Closure of semilunar valves occurs at the onset of which phase of cardiac cycle
   a. Isovolumetric contraction b. Isovolumetric relaxation
   c. Rapid ejection d. Rapid filling

7. Which of the following is not a property of cardiac muscle
   a. Excitability b. Contractility c. Rhythmicity d. Short refractory period

8. Which type of intercellular junctions that allow the passage of glucose:
   a. Tight junction b. Desmosomes c. Hemidesmosomes d. Gap junction

9. Gall bladder is stimulated by:
   a. Enterogastrone b. Secretin c. Cholecystokinin d. Enterokinase

10. The potent choleretic agent is:
    a. Gastrin b. Secretin c. Bile salts d. Glucagon

11. Troponin C binds with:
    a. Actin b. ATP c. Tropomyosin d. Calcium

12. Myasthenia gravis is due to:
    a. Old age
    b. Non-production of Ach
    c. Excess destruction of Ach
    d. Destruction of ACh receptors due to production of autoantibodies

13. Biconcave shape of RBC is due to:
    a. Ankyrin and Spectrin
    b. Band 3
    c. Band 4
    d. Actin

14. Resting membrane potential develops mainly due to:
    a. K+ efflux
    b. Cl– influx
    c. Ca2+ influx
    d. Na+ efflux

15. Exocytosis requires:
    a. Na^+
    b. K^+
    c. Ca^{2+}
    d. Mg^{2+}

16. Respiratory center is located in the
    a. Spinal cord
    b. Medulla oblongata and pons
    c. Midbrain
    d. Primary motor cortex

17. The cell that acts as first line defence in acute infection is:
    a. Neutrophil
    b. Basophil
    c. Monocyte
    d. Lymphocyte

18. QRS complex indicates:
    a. Atrial depolarization
    b. Atrial repolarization
    c. Ventricular depolarization
    d. Ventricular repolarization

19. Pleural pressure is positive:
    a. At the end of inspiration
    b. At the end of expiration
    c. At the end of forced expiration
    d. Start or beginning of inspiration

20. Spirometry can demonstrate and measure all of the following except:
    a. Tidal volume
    b. Residual volume
    c. Vital capacity
    d. Inspiratory reserve volume

KATHMANDU UNIVERSITY
End Semester Examination [C]
December, 2024

Level : B.Pharm.
Year : I
Time : 2 hrs. 30 mins.

18 DEC 2024

Course : PHAR 114
Semester : II
F. M. : 55

Give the answers with figures, graphs or flowcharts wherever appropriate

SECTION "B"
[5 Q. × 3 = 15 marks]

Attempt *ANY FIVE* questions. *Explain with graphs and figures where ever required*

1. Describe the phases and ionic basis of action potential with a labeled diagram.
2. What is sarcomere? Draw a labeled diagram of it.
3. Enumerate the steps of erythropoiesis with a flow diagram.
4. Describe the process of peristalsis with a labeled diagram?
5. Describe different types of intercellular communication?
6. Describe the pathway of conduction of electrical impulse in heart with a labeled diagram.
7. Describe the mechanism of inspiration with a flow diagram?

SECTION "C"
[5 Q. × 5 = 25 marks]

Attempt *ANY FIVE* questions.

8. Differentiate between active and passive transport.
9. Describe the process of neuromuscular transmission.
10. Describe the process of fibrinolytic system?
11. Describe the defecation reflex.
12. What is cardiac output? What are the factors regulating it?
13. How peripheral chemoreceptors help in regulation of respiration.
14. Enumerate the functions of liver.

P.T.O.

SECTION "D"

[2 Q. × 7.5 = 15 marks]

Attempt *ANY TWO* questions.

15. What is blood pressure? Describe neural and long term hormonal mechanism of regulation of blood pressure.

16. Describe the process of excitation contraction coupling.

17. Describe the mechanism of HCl secretion and factors regulating it.