



Name : .....  
Roll No. : .....  
Invigilator's Signature : .....

**CS/B.PHARM (NEW)/SEM-2/PT-205/2011**

**2011  
PHYSIOLOGY**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

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

**GROUP - A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following :  
10 × 1 = 10
- i) Thymosin is required for
    - a) development of T-lymphocytes
    - b) regulation of blood pressure
    - c) uterine contraction during labour
    - d) all of the above.
  - ii) The normal number of cardiac cycles per minute ranges from
    - a) 2 - 10
    - b) 60 - 80
    - c) 150 - 200
    - d) All of these
  - iii) Aldosterone is a
    - a) Mineralocorticoid
    - b) Sex hormone
    - c) Glucocorticoid
    - d) Pituitary hormone.
  - iv) Muscles involved in respiration are
    - a) Diaphragm
    - b) Internal intercostals muscle
    - c) External intercostals muscle
    - d) All of these.

2255

[ Turn over



- v) Hemolytic disease in the newborn is associated with
- a) ABO blood group      b) Rh blood group  
c) MN blood group      d) None of these.
- vi) The ion with lowest intracellular concentration is
- a)  $\text{Na}^+$       b)  $\text{Ca}^{++}$   
c)  $\text{HCO}_3^-$       d)  $\text{Mg}^{2+}$ .
- vii) Factor XII in blood coagulation means
- a) Stuart power factor      b) Christmas factor  
c) Anti-haemolytic factor      d) Hageman factor.
- viii) Arneth count
- a) is utilized to calculate the heartbeat of a dying man  
b) is utilized to calculate the inspiratory volumes  
c) is utilized to classify neutrophils  
d) is a marker of failing kidney.
- ix) The end products of fat and carbohydrate metabolism are excreted by
- a) Kidney      b) Liver  
c) Lungs      d) Skin.
- x) Rate of diffusion of a gas through the alveolar membrane is
- a) directly proportional to the partial pressure of the gas  
b) inversely proportional to the partial pressure of the gas  
c) directly proportional to the blood pressure  
d) inversely proportional to the blood pressure.



xi) Glucose reabsorption takes place in the

- a) Bowman's capsule
- b) First half of the proximal tubule
- c) Distal tubule
- d) None of these.

xii) The life span of erythrocyte in man is

- a) 200 days
- b) 50 days
- c) 100-120 days
- d) 150 days.

**GROUP - B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. Define E.S.R. What is the normal value of E.S.R. for adult male and female ? What is the significance of E.S.R. ?

1 + 2 + 2

3. What are the layers of the gastrointestinal tract ? Write briefly about each.

2 + 3

4. Write a note on the cardiac cycle.

5. Write a note on the function of saliva.

6. What are the different types of lymphocyte ? Explain briefly about their function.

2 + 3



**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7. What is erythropoiesis ? Write about various stages of erythropoiesis. What are the factors affecting erythropoiesis?

1 + 7 + 7

8. Write about anatomical position and structure of adrenal gland. Name the hormones secreted from each part of adrenal gland. What are the functions of glucocorticoids ?

1 + 5 + 3 + 6

9. Explain the mechanism of respiration. What are the factors affecting pulmonary and systemic gas exchange ? Write briefly about oxygen-hemoglobin dissociation curve.

5 + 5 + 5

10. Write in brief about the structure of a nephron. Explain the formation of urine. What are the factors affecting the formation of urine.

5 + 5 + 5

11. What are the organs of digestive system ? Write about the functions of stomach, small intestine, pancreas and liver.

3 + ( 4 × 3 )