



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

**CS/B. OPTM/SEM-1/BO-102/2011-12**

**2011**

**PHYSIOLOGY (GENERAL)**

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 )**

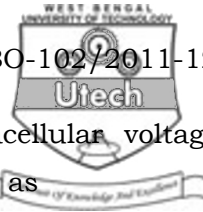
1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) QRS complex of ECG represents
  - a) atrial depolarization
  - b) atrial repolarization
  - c) ventricular depolarization
  - d) ventricular repolarization.
  
- ii) If RBC is kept in hypertonic solution, the cells get shrunken. This is called
  - a) crenation
  - b) hemolysis
  - c) shrinking of RBC
  - d) hypo RBC.



- iii) Abnormal low platelet count causes the disease
  - a) thrombocytosis
  - b) purpura/thrombocytopenia
  - c) Anemia
  - d) none of these.
- iv) Dragging of solute molecules, during movement of solvent, in one direction is known as
  - a) osmosis
  - b) solvent drag
  - c) diffusion
  - d) none of these.
- v) Stiffening of body muscles after death is known as
  - a) Rigor mortis
  - b) Convulsion
  - c) Tremor
  - d) none of these.
- vi) Iron present in Haemoglobin is in ..... form.
  - a) Ferric
  - b) Ferrous
  - c) Ferro-alloy
  - d) none of these.
- vii) Christmas disease is deficiency of
  - a) clotting factor V
  - b) clotting factor X
  - c) clotting factor IX
  - d) clotting factor VIII.
- viii) Pulmonary vein carries
  - a) oxygenated blood
  - b) deoxygenated blood
  - c) mixed blood.
- ix) Synaptic vesicle contains
  - a) Acetyl choline
  - b) Dopamine
  - c) Histamine
  - d) all of these.



- x) Depolarisation of cells when the intracellular voltage reaches  $-60$  mV from  $-90$  mV is known as
- a) action potential                      b) electrical potential  
c) reflex action                          d) none of these.
- xi) Universal blood donor is a person with
- a) blood group A                          b) blood group B  
c) blood group AB                        d) blood group O.

**GROUP - B**

**( Short Answer Type Questions )**

Write short notes on any *three* of the following.  $3 \times 5 = 15$

2. Ultrastructure of artery & vein
3. Thalassaemia
4. Electrophoresis
5. Neuromuscular junction.

**GROUP - C**

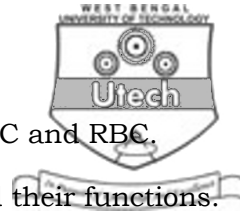
**( Long Answer Type Questions )**

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

6. a) Define Sterling's law. Describe the mechanism of cardiac muscle contraction.  
b) Explain cardiac cycle. 7 + 8
7. a) Draw a labelled diagram showing the different parts of kidney.  
b) Explain counter-current system of urine concentration.

7 + 8

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8. a) Bring out the differences between WBC and RBC.  
b) Discuss the classification of WBC and their functions.

5 + 10

9. a) What is diffusion ? Describe Fick's Law of Diffusion.  
b) What is Donnan-Gibbs effect.  
c) Discuss briefly on Radioisotopes and their applications.

5 + 5 + 5

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