

Total number of printed pages-8

34 (1) PHYS 1-2

2019

PHYSIOLOGY

Full Marks : 100

Time : Three hours

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

1. Answer **any two** of the following :
10×2=20
 - (a) What is Erythropoiesis? Write about the stages of Erythropoiesis and the factors regulating Erythropoiesis.
2+4+4=10
 - (b) What is Excitation contraction coupling? Describe the molecular basis of muscle contraction in a skeletal muscle. What is Myasthenia Gravis?
2+6+2=10
 - (c) Define synapse and give its classification. Describe the properties of synapse.
1+2+7=10

Contd.

2. Answer **any ten** of the following :

5×10=50

- (a) What is Hypoxia? Write down its different types.
- (b) What is Artificial kidney? Write down the principle of Haemodialysis.
- (c) What is Erythroblastosis foetalis?
- (d) Write about the different organelles of the cell with a suitable diagram.
- (e) Write a short note on the components of the conducting system of heart.
- (f) Juxtaglomerular apparatus.
- (g) What is Myxoedema? Describe in brief the clinical features of Myxoedema.
- (h) Describe in brief the visual pathway.
- (i) Describe the muscle spindle in brief.
- (j) Write about the composition and function of Saliva.
- (k) What is Gate control theory of Pain?
- (l) Write in short about Gastrin.

3. Answer **any five** of the following :

2×5=10

- (a) Draw and label the Reflex arc.
- (b) Name a few neuromuscular blockers.

- (c) Differentiate between Isotonic and Isometric contraction.
- (d) Name the hormones of Anterior Pituitary.
- (e) Differentiate between cortical and Juxtamedullary nephron.
- (f) Name the respiratory centers of brain.
- (g) What is Active transport?
- (h) What are the functions of Oxytocin?

4. Choose the correct answer : 1×20=20

- (a) Pain sensation is carried by
 - (a) Posterior column tract
 - (b) Lateral spinothalamic tract
 - (c) Corticospinal tract
 - (d) Anterior spinothalamic tract.
- (b) Cause of shift to the Right of the oxygen-Hb dissociation curve
 - (a) ↓ pH
 - (b) ↓ temp
 - (c) ↓ 2, 3 DPG
 - (d) ↓ H⁺ conc

(c) Megaloblastic anaemia is caused due to deficiency of

- (a) Vit A
- (b) Vit B₁
- (c) Vit B₁₂
- (d) Vit C

(d) Hypercapnia is

- (a) Increased pCO₂
- (b) Decreased pCO₂
- (c) Increased pO₂
- (d) Decreased pO₂

(e) Hormone secreted by Adrenal medulla

- (a) Aldosterone
- (b) Cortisol
- (c) Insulin
- (d) Adrenaline

(f) Night blindness is due to deficiency of

- (a) Vitamin A
- (b) Vitamin B₁₂
- (c) Vitamin D
- (d) Vitamin C

(g) Which among the following is an agranulocyte ?

- (a) Eosinophil
- (b) Lymphocyte
- (c) Basophil
- (d) Neutrophil

(h) Intrinsic factor is produced by

- (a) Chief cells
- (b) Parietal cells
- (c) Mucus cells
- (d) G-cells

(i) Increased secretion of growth hormone after puberty leads to

- (a) Cretinism
- (b) Dwarfism
- (c) Acromegaly
- (d) Gigantism

(j) Second heart sound is produced by

- (a) Semilunar valves
- (b) Mitral valve
- (c) Tricuspid valve
- (d) None of the above

- (k) Most abundant cation in ICF
- (a) Na^+
 - (b) K^+
 - (c) Ca^{2+}
 - (d) Mg
- (l) The refractive error of eye in which accommodation of lens reduced is
- (a) Myopia
 - (b) Hypermetropia
 - (c) Presbyopia
 - (d) Astigmatism
- (m) Photoreceptor for vision is
- (a) Rods
 - (b) Cornea
 - (c) Retina
 - (d) Iris
- (n) Human female consists of chromosome
- (a) 44 + XX
 - (b) 44 + XY
 - (c) 46 + XY
 - (d) 46 + XX

- (o) Which blood group is known as Universal donor?
- (a) A
 - (b) B
 - (c) AB
 - (d) O
- (p) Normal platelet count is
- (a) 1.5 to 2 lacs/cumm
 - (b) 2 to 3 lacs/cumm
 - (c) 1.5 to 4 lacs/cumm
 - (d) 3 to 4 lacs/cumm
- (q) Factor I of the clotting factors is
- (a) Fibrinogen
 - (b) Prothrombin
 - (c) Thromboplastin
 - (d) Calcium
- (r) Cause of Eosinophilia
- (a) Typhoid
 - (b) Worm infestation
 - (c) Acute infection
 - (d) Chicken pox

(s) The difference between systolic and diastolic blood pressure is called

- (a) Capillary pressure
- (b) Pulse pressure
- (c) Venule pressure
- (d) Passive pressure

(t) What is the lifespan of RBC ?

- (a) 240 days
- (b) 120 days
- (c) 65 days
- (d) 120 hours