

Total number of printed pages-8

34 (1) PHYS 1.2

2018

**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 arterial blood pressure ? Explain the short-term and long-term regulation of blood pressure. 2+4+4
- (b) What is gastric juice and its composition ? Name the glands involved and the regulation of gastric acid secretion. Discuss briefly, peptic ulcer. 2+2+3+3
- (c) What is the functional unit of kidney ? Draw and label different parts. What is GFR ? Briefly discuss the determinants of GFR. 2+2+2+4

Contd.

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

5×10=50

- (a) Write a short note on transport of substances through cell membrane.
- (b) Action potential of a nerve with proper diagram.
- (c) Summary of events occurring in Neuromuscular junction with a suitable diagram.
- (d) What is Erythropoiesis ? Write down the different stages of erythropoiesis.
- (e) Describe the Cardiac cycle.
- (f) Write a short note on lung volumes and capacities.
- (g) Effects of exercise on Cardiovascular system.
- (h) Write a short note on Diabetes Mellitus.
- (i) Define shock. What are the different types of shock and their features ?
- (j) Name the hormones secreted by the adrenal cortex and their functions.
- (k) Write a short note on Contraceptive methods.
- (l) What is CSF ? Describe the formation, flow and absorption of CSF.

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

2×5=10

- (a) What is Rigor mortis ?
- (b) Differences between Isotonic Contraction and Isometric Contraction.
- (c) Functions of blood.
- (d) Short note on Iron deficiency anemia.
- (e) Short note on Erythroblastosis fetalis.
- (f) Short note on Bohr's effect.
- (g) Differences between Sympathetic and Parasympathetic Nervous System.

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

- (a) \_\_\_\_\_ is known as the powerhouse of the cell.
  - (a) Nucleus
  - (b) Mitochondria
  - (c) Endoplasmic reticulum
  - (d) Golgi Apparatus
- (b) Specialised macrophages located in liner which form part of reticuloendothelial system—
  - (a) Ruffer cells

- (b) Histiocyte Microphage
  - (c) Langerhans cells
  - (d) Histnocyte.
- (c) In worm infestation, usually we find an increase in the counts of—
- (a) Lymphocyte
  - (b) Monocyte
  - (c) Eosinophil
  - (d) Neutrophil
- (d) Hemophilia is caused by a deficiency of factor—
- (a) VIII
  - (b) IX
  - (c) X
  - (d) XIII
- (e) The 'P' wave of ECG is produced because of—
- (a) Atrial repolarisation
  - (b) Ventricular repolarisation
  - (c) Atrial depolarisation
  - (d) Ventricular depolarisation
- (f) 1<sup>st</sup> heart sound is produced because of—
- (a) closure of A-V valves
  - (b) closure of semi-Cunar valves
  - (c) atrial contraction
  - (d) ventricular contraction
- (g) Megaloblastic anemia is caused by deficiency of Vitamin—
- (a) B<sub>6</sub>
  - (b) B<sub>12</sub>
  - (c) Folic acid
  - (d) C
- (h) Trypsin is secreted by—
- (a) Stomach
  - (b) Gall bladder
  - (c) Liner
  - (d) Pancreas
- (i) Growth hormone is secreted by—
- (a) Hypothalamus
  - (b) Anterior Pituitary
  - (c) Posterior Pituitary
  - (d) Thyroid

(j) Diabetes insipidus is caused because of the absence of—

- (a) ADH
- (b) Insulin
- (c) Mineralocorticoid
- (d) Glucocorticoid

(k) Which blood group is known as Universal donor?

- (a) A
- (b) B
- (c) AB
- (d) O

(l) Most abundant cation in ICF is—

- (a) Sodium
- (b) Potassium
- (c) Calcium
- (d) Magnesium

(m) Which of the following cells work as scavenger cells in CNS?

- (a) Microglia
- (b) Oligodendroglia
- (c) Ependymal cells
- (d) Astrocytes.

(n) Most of iron in body is present in—

- (a) Haemoglobin
- (b) Myoglobin
- (c) Ferritin
- (d) Transferrin

(o) Heme is converted to bilirubin mainly in—

- (a) Kidneys
- (b) Liver
- (c) Spleen
- (d) Bone Marrow

(p) What is the maximum amount of O<sub>2</sub> a gram of Hb can bind?

- (a) 1ml
- (b) 1.34ml
- (c) 15ml
- (d) 20ml

(q) In nephron, glucose reabsorption occurs mainly in—

- (a) Proximal tubule
- (b) Loop of Henle
- (c) Distal convoluted tubule
- (d) Collecting duct

- (r) Lipid synthesis occurs in—
- (a) smooth endoplasmic reticulum
  - (b) rough endoplasmic reticulum
  - (c) Nucleus
  - (d) Golgi apparatus
- (s) Life span of RBC cell—
- (a) 110 days
  - (b) 120 days
  - (c) 60 days
  - (d) 90 days
- (t) Milk let-down of Ejection is the function of—
- (a) Prolactin
  - (b) Vasopressin
  - (c) Oxytocin
  - (d) Cortisol.
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