

2020

Time : 3 hours

Full Marks : 100

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

The figures in the margin indicate full marks.

Answer five questions, selecting at least one from each Groups in which

Q. No. 1 is compulsory.

1. Write the correct answer from the options given below : 1×20 = 20

(a) A Semi-indispensible aminoacid for human is :

- (i) Valine
- (ii) Arginine
- (iii) Lysine
- (iv) Leucine

(b) Which of the following is a Phospholipid ?

- (i) Oleic acid
- (ii) Prostaglandin
- (iii) Sphingomyelin
- (iv) Cholesterol

(c) Which of the following is not a polymer of glucose ?

- (i) Amylose
- (ii) Inulin
- (iii) Cellulose
- (iv) Glycogen

(d) The most abundant protein in human body is :

- (i) Collagen
- (ii) Hemoglobin
- (iii) Myosin
- (iv) Albumin

(e) Select the odd from the following :

- (i) Oleic acid
- (ii) Butyric acid

- (iii) Capric acid
- (iv) Glutamic acid
- (f) Key intermediate compound linking glycolysis to Kreb's cycle is :
 - (i) NADH
 - (ii) Acetyl co. A
 - (iii) Malic Acid
 - (iv) ATP
- (g) Which disease is caused by riboflavin deficiency ?
 - (i) Beri-beri
 - (ii) Cheilosis
 - (iii) Scurvy
 - (iv) Pellagra
- (h) Which of the following enzyme is not used in Kreb's Cycle ?
 - (i) Aconitase
 - (ii) Decarboxylase
 - (iii) Aldolase
 - (iv) Fumarase

- (i) Enzyme rich pancreatic Juice secretion is stimulated by :
 - (i) Gastrin
 - (ii) Cholecystokinin
 - (iii) Secretin
 - (iv) Enterocrinin
- (j) During one circuit of blood from lungs to the tissue and back what percentage of oxygen is liberated by haemoglobin ?
 - (i) 25%
 - (ii) 50%
 - (iii) 75%
 - (iv) 100%
- (k) Which substance is in higher concentration in blood than glomerular filtrate ?
 - (i) Glucose
 - (ii) Water
 - (iii) Protein
 - (iv) Urea
- (l) Na⁺ reabsorption in tubules is promoted by :
 - (i) Aldosterone

(ii) Oxytocin

(iii) Cortisol

(iv) Calcitonin

(m) Which one of the following is called vestigial hormone ?

(i) LH

(ii) PRL

(iii) MSH

(iv) FSH

(n) Ovulation in human is controlled by :

(i) PRL & LH

(ii) FSH & LH

(iii) PRL & FSH

(iv) FSH & TSH

(o) The action of Insulin includes :

(i) Breakdown of fat

(ii) Breakdown of glycogen in liver

(iii) Breakdown of protein

(iv) Glucose uptake in target tissues

(p) Which gland stores hormone in extracellular space before its secretion ?

(i) Testis

(ii) Thyroid

(iii) Adrenal

(iv) Pancreas

(q) Which hormone is responsible in absorption of water in Kidney ?

(i) Aldosterone

(ii) Vasopressin

(iii) Oxytocin

(iv) Adrenaline

(r) The hormone responsible for fear, fight and flight response is :

(i) ADH

(ii) Adrenalin

(iii) Oxytocin

(iv) Insulin

(s) HIV causing AIDs reduces immunity by attacking :

- (i) Erythrocytes
- (ii) B Lymphocytes
- (iii) Cytotoxic T Lymphocyte
- (iv) Helper T Lymphocyte

(t) Which muscle band remains unchanged during muscle contraction ?

- (i) I
- (ii) A
- (iii) H
- (iv) None of these

Group - A

- 2. Describe the structure and classification of lipids. 5+15 = 20
- 3. Discuss different steps of Kreb's cycle. Add a note on its energetics. 15+5 = 20
- 4. Define Vitamins. Discuss different types of vitamin B complex and add their physiological role. 20

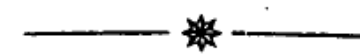
UO - 112/4 (7) (Turn over)

Group - B

- 5. Describe different steps of Urea biosynthesis and mechanism of its removal. 20
- 6. Give an account of molecular mechanism of muscle contraction. 20
- 7. Describe menstrual cycle along with its hormonal regulation. 20

Group - C

- 8. Give an account of chemical nature and physiological function of adenohipophyseal hormones. Add a note on feed back mechanism with one example. 15+5 = 20
- 9. Describe the chemistry and physiological actions of hormones of Islets of Langerhans. 5+15 = 20
- 10. Give an account of chemistry and physiological action of Aldosterone. How its secretion is regulated, discuss. 15+5 = 20



UO - 112/4 (1,500) (8) AA(H-3) -- Z (5)