

(6 pages)

Reg. No. :

Code No. : 7430

Sub. Code : HZOM 32

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2015.

Third Semester

Zoology

ANIMAL PHYSIOLOGY

(For those who joined in July 2012 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. The energy output of the body under basal condition is called
(a) MMR (b) SMR
(c) BMR (d) KMR
2. The complete oxidation of one glucose molecule yields
(a) 30 ATP molecules (b) 15 ATP molecules
(c) 38 ATP molecules (d) 32 ATP molecules

3. Pick out agranulocyte from the following
(a) neutrophils (b) eosinophils
(c) lymphocytes (d) basophils
4. The process of production of red blood corpuscles is called
(a) haemopoiesis (b) erythropoiesis
(c) haemosis (d) both (a) and (b)
5. The father of conditioned reflex action was
(a) Bergman (b) Smith
(c) Wallace (d) Pavlov
6. Urea is derived from ammonia through the cycle of
(a) Krebs cycle (b) Krebs cycle
(c) Cori cycle (d) Hamburger's cycle
7. The diffusion of chloride ions into the RBC from plasma and back is called
(a) Bohr effect
(b) Hamburger phenomenon
(c) Trepo's phenomenon
(d) Warburg effect



8. The state of continued contraction of the muscle caused by the repeated stimulation is called as
- (a) clonus (b) tetanus
(c) fatigue (d) rheobase
9. Deficiency of thyroxine hormone in children causes
- (a) acromegaly (b) cretinism
(c) Gigantism (d) goitre
10. Islets of Langerhans secrete
- (a) insulin (b) glucagon
(c) mineralo coticoid (d) both (a) and (b)

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) With a neat labelled sketch explain the structure of mammalian digestive tract.
- Or
- (b) Explain the secretory function of alimentary canals.

Page 3 Code No. : 7430

12. (a) Differentiate plasma and serum. Mention the functions of plasma.

Or

- (b) What are formed elements? Explain their features.

13. (a) Explain the structural anatomy of respiratory tract in human.

Or

- (b) With a neat labelled sketch explain the structure and functions of nephron.

14. (a) Explain the properties of muscle.

Or

- (b) Describe the structure of photoreceptors.

15. (a) Describe the structure and functions of mammary gland.

Or

- (b) Explain the structural organization of pituitary gland.

Page 4 Code No. : 7430
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PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) TCA cycle forms the central metabolite pathway. – Justify.

Or

- (b) With an example explain the powers of oxidation and comment on its energetics.

17. (a) Write short notes on :

- (i) types of immunity
- (ii) principle and significance of ECG.

Or

- (b) Compare and contrast the structure of hearts of fishes and amphibians.

18. (a) Give an elaborate account on terrestrial and aquatic respiration in vertebrates.

Or

- (b) Explain how respiratory gas transport is effected between the lungs and tissues.

Page 5 Code No. : 7430

19. (a) With suitable theories explain the mechanism of muscle contraction.

Or

- (b) Highlight the mechanism of hearing.

20. (a) Evaluate the structure and function of Islets of langerhans.

Or

- (b) Write an elaborate account on neuro endocrine regulation in crustaceans.

Page 6 Code No. : 7430

