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5 SEM TDC ZOO M 3

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(November)

ZOOLOGY

(Major)

Course : 503

(Animal Physiology)

Full Marks : 48

Pass Marks : 19 (Backlog) / 14 (2014 onwards)

Time : 2 hours

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

1. (a) Fill in the blanks : 1×5=5
- (i) The largest digestive gland of the body is _____.
 - (ii) _____ is responsible for conversion of *cis*- and *trans*- forms of retinol.
 - (iii) Haemoglobin molecule is composed of iron-containing porphyrin and _____ protein.

(iv) Fibrinogen is converted into fibrin by thrombin in the presence of _____.

(v) _____ artery supplies blood to the heart itself.

(b) Write short notes on the following (any two) : $5 \times 2 = 10$

(i) Reflex arc

(ii) Physiological effect of drug addiction

(iii) Synaptic transmission

(iv) Isometric and isotonic contractions

(v) Regulation of digestive secretion

2. What are micelles? Describe the process of digestion and absorption of lipids. $1 + 2 + 8 = 11$

Or

Describe the structure and function of a nephron with labelled diagram. $5 + 6 = 11$

3. Write an account of tracheal respiration in insects. 11

Or

What do you mean by respiratory pigment? Discuss the role of haemoglobin in O_2 and CO_2 transportations. $2 + 9 = 11$

(3)

4. Describe the ultrastructure of a myofilament with diagram. Explain the sliding filament theory of muscle contraction. 6+5=11

Or :

Distinguish between the following : 3+3+5=11

- (a) Myelinated nerve fibre and Non-myelinated nerve fibre
- (b) Cardiac cycle and Cardiac output
- (c) Proteolytic enzyme and Lipolytic enzyme
