SEAT No._____ No. of Printed Pages : 2

[37/40/A-20]

SARDARPATELUNIVERSITY
M.Sc Microbiology Examination (CBCS)
Wednesday, 19th April, 2017
10:00 am to 1:00 pm
PS01EMIC02/PS02EMIC02/PS04EMIC07 – Human Physiology
TOTAL MARKS: 70

Q.1 Choose the correct answer for the following and write in your answer sheet (*Only correct option against given question number needs to be written in provided answer book*) **(08 Marks)**

1. During blood coagulation, thromboplastin is released by

(a) RBC (b) blood plasma (c) leucocytes (d) clumped platelets

2. Each of 250 million Hb molecules in RBCs can bind to ___ molecules of O_2.

(a) 250 (b) 4 (c) 1 (d) 12

3. If pancreas is removed, which of the following compound remain undigested?

(a) Carbohydrates (b) Proteins (c) Fats (d) all of these

4.Ability of the kidneys for the production of concentrated urine is dependent on

(a) Passive transport
(b) Countercurrent mechanism
(c) Active transport
(d) Diffusion

5. Which of the following drug can prevent the Rh-ve mother from becoming sensitized

(a) Thiazolidinediones (b) Aspirin (c) RhoGAM (d) none of the above

6. Which of the following statements concerning the rate of action potential propagation is true?

(a) It is faster in large-diameter axons than in small-diameter ones.
(b) It is faster for a strong stimulus than for a weak one.
(c) It is faster in myelinated nerve fibres than in non-myelinated ones.
(d) a and c

7. The normal level of Hb per 100 ml of blood in women is

(a) 14g
(b) 18g
(c) 20g
(d) 10g

8. In the resting state of the neural membrane, diffusion due to concentration gradient, if allowed would drive

(a) K+ into the cell
(b) K+ and Na+ out of the cell
(c) Na+ into the cell
(d) none of the above

Q.2 Answer **any SEVEN** of the following questions briefly: (14 marks)

1. List all the organs of the digestive system.
2. What is the normal RBC count in male and female?
3. Narrate in brief three basic functions performed by nephrons.
4. By which cells erythropoietin is produced? What is its major function?
5. Show the structure of renal corpuscle with the help of a diagram.
6. What is the role played by Renin-Angiotensin in the regulation of kidney function?
7. Narrate the functions of testosterone.
8. What is the role of FSH during onset of puberty in females?
9. What is autonomous nervous system?

Q.3. (a) Describe the structure and functions of different types of white blood cells. (06)

(b) What is anemia? List and describe briefly various types of anemia. (06)

OR

(b) Explain erythropoiesis. (06)

Q.4. (a) Describe the major hormones that regulate digestive activities. (06)

(b) Describe the digestion process in the small intestine. (06)

OR

(b) Name the four layers lining the GI tract and describe their functions. (06)

Q.5. (a) What is net filtration pressure? Write the equation and calculate NFP. (06)

(b) Write a note on (i) Filtration membrane (03)

(ii) Filtration Pressure (03)

OR

(b) Explain different muscle cell types and their functions. (06)

Q.6. (a)What are the roles of FSH, LH, testosterone and inhibin in the male reproductive system? (06)

(b) Explain the major structures of the nervous system. Give a schematic diagram of organization of the nervous system. (06)

OR

(b) Explain the factors that affect the speed of propagation of impulses (06)
