**OCTOBER 2013** **U/ID 14805/UCQD**

Time : Three hours Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 50 words.

Write short notes on:

1. Homeostasis.
2. Mitochondria.
3. Red muscle.
4. $VO_2$ Max.
5. Saliva.
6. ICF.
7. Vital capacity.
8. Peristalsis.
9. Compliance.
10. Edema.

PART B — (5 × 6 = 30 marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 250 words.

11. (a) Explain the feed back mechanisms with examples.

Or

(b) Define action potential. Explain the ionic basis of the various phases.

12. (a) Explain the counter current mechanism.

Or

(b) Describe the process of micturition.

13. (a) Explain the accumatibation to high altitude add a note on chronic mountain sickness.

Or

(b) Explain the chloride shift.

14. (a) Describe the structure of Villi. Explain the process of absorption in the small intestine.

Or

(b) Explain the movements of small intestine.

15. (a) Explain the structure of sarcomere.

Or

(b) Describe the structure and transmission across neuromuscular junction.

PART C — ($5 \times 10 = 50$ marks)

Answer ALL questions.

All questions carry equal marks.

Each answer should not exceed 500 words.

16. (a) Classify and explain the various transport mechanisms.

Or

(b) Explain in detail the ionic basis of resting membrane potential.

17. (a) Classify total body water. Explain the extra cellular compartment.

Or

(b) Define GFR. Explain the process of formation of Glomerular filtrate and its regulation.

18. (a) Explain the neural regulation of respiration.

Or

(b) Define and give the normal range of various lung volumes and capacities.

19. (a) Give the composition, functions and regulation of pancreatic juice.

Or

(b) Explain all the 3 stages of deglutition.

20. (a) Explain the molecular basis of skeletal muscle contraction.

Or

(b) Briefly explain the following:

(i) Defecation reflex

(ii) Strength duration curve.

———————