Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.P.T. Degree Examination – <<>>

Time: Three Hours **Max. Marks: 100 Marks**

HUMAN PHYSIOLOGY (RS5)

Q.P. CODE: 2732

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Draw and label Sarcomere. Explain the sliding filament theory of skeletal muscle contraction.
2. Draw and labeled diagram showing the conducting system of human heart with the help of diagram of action potential of sino-atrial node. Explain the ionic basis for its different phases.

   OR

   With the help of diagram, discuss the corticospinal pathway under the headings: a) Origin b) Course c) Termination. Add a note on hemiplegia.

SHORT ESSAYS (Question No 3 & 12 choice) **10 x 5 = 50 Marks**

3. List the properties of nerve fibre and classify as proposed by Erlanger and Gasser.

   OR

   Explain the intrinsic mechanism of blood coagulation.
4. Explain the baroreflex mechanism of blood pressure regulation.
5. Draw a normal spirogram. Define and give normal values of the various lung volumes and capacities.
6. Describe in brief the defecation reflex.
7. Briefly explain the renal handling of glucose.
8. Describe the major actions of cortisol.
9. Briefly explain parturition reflex.
10. Mention four properties of sensory receptors. Explain any two.
11. Describe the special characteristics of coronary circulation.
12. Define dark adaptation. Explain the mechanism of dark adaptation.

    OR

    Explain the major actions of calcitonin on bone and kidney.

SHORT ANSWERS **10 x 3 = 30 Marks**

13. List the factors determining the rate of diffusion across cell membrane.
14. Define the term ''renal clearance''. List the factors determining renal clearance.
15. List the functions of Plasma proteins.
16. Draw a neat labelled diagram of a Cystometrogram.
17. Write a note on enterohepatic recirculation.
18. List the functions of T lymphocytes and B lymphocyte.
19. Define and give one example each for a) Neurocrine b) Paracrine and c) Autocrine
20. List the functions of Sertoli cells.
21. List differences between rods and cones.
22. Define the term ''referred pain''. Give an example with its physiological basis.

*****