**Rajiv Gandhi University of Health Sciences, Karnataka**

**MBBS Phase – I Degree examination – …….**

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

**Physiology – Paper 2 (RS4)**

**Q.P. Code: ……………….**

Your answers should be specific to the question asked

Draw neat labelled diagram wherever necessary

**LONG ESSAYS**  **2 X 10 = 20 marks**

1. Trace the pain pathway. Classify the types of pain. Explain the gate control theory. (5+3+ 2)
2. A 26 year married lady menstruating regularly missed her menstrual cycle. Urine Gravindex test was positive.

a) What is the physiological basis of this test (2 marks)

b) What physiological changes would occur in the different systems? (5 marks)

c) Mention the methods by which she can plan her family in future (3 marks)

**SHORT ESSAYS**  **10 X 5 = 50 marks**

3. A 73 year old man’s wife notices that her husband is not making any sense when he talks and does not seem to understand simple commands.

a) Analyze the site of lesion (2 marks)

b) Design a flowchart for the pathway of spoken speech. (3 marks)

4. Describe the mechanism of action of insulin. Explain its regulation. (3+2)

5. Describe the connections of Basal ganglia. Explain its functions. (2+3)

6. Provide experimental evidence for operant conditioning

7. Explain the transmission of impulse across the neuro muscular junction

8. Explain the mechanisms by which the receptor quantity and sensitivity are regulated.

9. Account for all the causes of short stature

10. Describe the role of hypothalamus in the control of food and water intake. (3+2)

11. Describe the uterine and ovarian changes during menstrual cycle. (3+2)

12. Explain the visual reflexes

**SHORT ANSWERS**  **10 X 3 = 30 marks**

13 Enumerate differences between Excitatory and inhibitory post synaptic potential.

14. Describe role of ACTH in the regulation of glucocorticoids

15. Explain all mechanisms by which generation of a nerve action potential can be blocked

16. Describe features of Wallerian degeneration with the help of a diagram

17. List criteria to diagnose metabolic syndrome.

18. Enumerate the functions of pineal gland

19. Explain the different waves of EEG

20. Account for the pain and loss of hearing in a person having common cold during rapid descent in an airplane

21. Explain the tests to detect latent tetany

22. Enumerate the functions of limbic system

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