ATAL BIHARI VAJPAYEE MEDICAL UNIVERSITY, LUCKNOW

MBBS DEGREE EXAMINATION - 1st PROF PROFESSIONAL SUPPLEMENTARY EXAM - MARCH 2024

PHYSIOLOGY - PAPER - I

Time: 3 Hrs **Max. Marks: 100 Marks (80 Theory + 20 MCQs)**

NOTE:

Attempt all questions.

This question paper consists of two sections: Section A - Multiple Choice Questions and Section B - Theory Questions.

Both sections have different paper codes. Write the correct paper code on the respective sheet.

Write the correct MCQ paper set on the OMR sheet.

Answer MCQs on the provided OMR sheet and theory questions on the provided answer booklet.

SECTION B - THEORY QUESTIONS

PAPER CODE: 2421230002

Q.1 Long Answer Question **15 MARKS**

i) Define cardiac output. 3 marks

ii) Explain Fick's principle 5 marks

iii) Describe the factors affecting cardiac output 7 marks

Q.2 Clinical Case Scenario based Structured Question **15 MARKS**

A 22 year old male from Calcutta about 1.5-9 meters above sea level had arrived for pilgrimage (Amaranth shrine pilgrimage) located at an altitude of 5670m (amaranth cave). Patient had climbed to an altitude of 3574m (sheshnag) in single day after arrival at base camp (pahalgam altitude 2740m).

On night of arrival at this altitude he complained of tightness in chest, breathlessness, tiredness exhaustion, altered sensorium in form of irrelevant talking improper behavior like refusal to feed and poor response to verbal commands. On examining the patient at arrival in army facility his GCS was 10 /15, pulse 108 bpm, BP 130.80, RR 35, Temperature, 101°F, and Spo2 80%.

i) What is the most probable diagnosis of above condition? 3 marks

ii) Discuss the physiological changes that occur during acclimatization to high altitude. 6 marks

iii) Classify hypoxia. Describe the types of hypoxia with suitable examples. 6 marks

Q.3 Short Note Question (Within 500 Words) 5 x 6 = 30 MARKS

i) Oxygen hemoglobin dissociation curve

ii) Neural regulation of respiration

iii) Exocrine secretions of the pancreas

iv) Carbon-di-oxide transport in blood

v) Wallerian degeneration

Q.4 Short Answer Questions (Within 100 Words) 5 x 4 = 20 MARKS

i) Types of Heart Block

ii) Briefly explain the role of vitamin K in clotting.

iii) What are the functions of surfactant?

iv) What are the functions of saliva?

v) Bainbridge reflex

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