

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF MEDICINE

BACHELOR OF MEDICINE AND BACHELOR OF SURGERY DEGREE
PART 1 EXAMINATIONS

MBM 1205 : RESPIRATORY & CARDIOVASCULAR SYSTEMS

DATE : MAY 2006

TIME : 3 HOURS

Instructions to Candidates

Answer all questions

SECTION A

1. Outline the anatomy of the lung, with particular emphasis on the bronchopulmonary segments. (20)
 2. With the use of diagrams and short notes describe the physiological control of respiration. (10)
 3. With the use of diagram and short notes describe the physiological control of the cardiovascular system. (10)
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SECTION B

4. Write short notes on the **three** germ layers during the embryonic period or organogenesis giving examples of specific tissues or organs arising from each. (10)
5. What is tetralogy of Fallot. (5)
6. Write short notes on:
 - (i) the boundaries of the middle mediastinum (8)
 - (ii) the conducting system of the heart. (7)

7. Using short notes and diagrams (where appropriate) describe the following:
- (a) oxygen-hemoglobin dissociation curve. (3)
 - (b) laminar and turbulent flow of air in the lung airways. (3)
 - (c) bohr equation. (3)
 - (d) distribution of ventilation and perfusion in the lungs. (3)
 - (e) work of breathing. (3)
 - (f) shunt equation. (3)
 - (g) pressure – volume relationship of the normal left ventricle. (3)
 - (h) action potential of myocardial cells. (3)
 - (i) starling law of the heart. (3)
 - (j) determinants of blood pressure. (3)

END OF EXAMINATION