

## 231/3 - BIOLOGY PAPER 3 - MARKING SCHEME

1. (a) F - Heart  
H - Trachea  
J - Ileum  
K - Colon  
M - Stomach 5 x 1 = 5mks
- (b) Part L.  
- Site of foetus development. 1 x 1 = 1mk
- Part N.  
- Site of bile synthesis /regulation of lipid, carbohydrate and protein metabolism /  
site of heat generation / site of urea formation / storage site of mineral ions / vitamins  
and blood. 1 x 1 = 1mk
- (c) (i) Female. 1 x 1 = 1mk  
(ii) - Presence of uterus. 1 x 1 = 1mk  
- Presence of foetuses in the uterus.
- (d) G - Thoracic region / Thorax region. 2 x 1 = 2mks  
H - Cervical region / neck region.
- (e) Part H.  
- Rings of cartilage prevent collapsing of the trachea during exhalation.  
- Hollow trachea allows passage of air.  
- Mucus covered endothelium to trap foreign particles / dust.  
- Moist endothelium to moisten the inhaled air.  
- Ciliated epithelium to waft trapped particles towards the pharynx 2 x 1 = 2mks
- Part G  
- Spongy / numerous alveoli to increase the surface area for gaseous exchange.  
- Elastic; allows for stretching / expansion during inhalation.  
- Vascularised; increase rate of absorption.  
- Pleural membrane; protects against mechanical injury / lubrication / keeping lungs  
air tight therefore free from interference of external pressure. 2 x 1 = 2mks
2. (a) A 1a, 9a Cestoda  
B 1b, 2b, 3a, 4b, 5a Annelida  
C 1b, 2b, 3b Nematoda  
D 1b, 2b, 3a, 4a, 6a, 7a Insecta  
E 1b, 2b, 3a, 4a, 6a, 7a Insecta  
F 1b, 2b, 3a, 4a, 6b, 8a Arachnida  
G 1b, 2a Mollusca  
H 1b, 2b, 3a, 4a, 6a, 7b Crustacea  
Total marks = 8mks
- (b) (i) Identity - Thoracic vertebra 1mk  
Reason- Long neural spine  
- Short transverse process.  
- Has facets of rib articulation. max 1mk

- (ii) C - Tuberculum 1mk  
D - Capitulum 1mk

- (iii) Sternum 1mk

3	Food substance	Procedure	Observation	Conclusion.
	Protein	To 2 cm <sup>3</sup> suspension add an equal amount of 10% NaOH and then add 1% CuSO <sub>4</sub> drop by drop then shake	Colour of CuSO <sub>4</sub> change to purple / violet	Protein Present.
	Reducing sugar	Place suspension X in a test tube and add an equal amount of Benedict's' solution. Then heat / boil / warm.	Blue colour of Benedict's' solution remains/retained.	Reducing sugar absent.
	Lipids	Rub/smear suspension X on a filter paper, dry the filter and observe through a source of light.	Permanent translucent mark formed.	Lipids/oils/fats present.

(12mks)

