

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. 1 x 1 = 1mk
- (d) G - Thoracic region / Thorax region.
 H - Cervical region / neck region. 2 x 1 = 2mks
- (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

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Food substance	Procedure	Observation	Conclusion.
Protein	To 2 cm ³ suspension add an equal amount of 10% NaOH and then add 1% CuSO ₄ drop by drop then shake	Colour of CuSO ₄ 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)