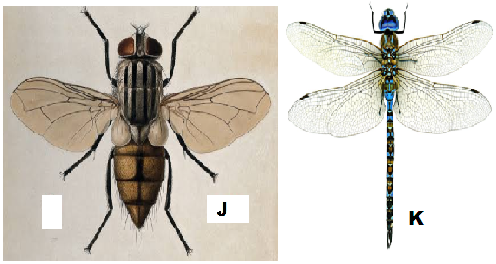
MERU CENTRAL PP3 marking scheme

1. Below are photographs of two specimens, J and K. Both of them belong to the same phylum and class. Observe them carefully before you answer the questions that follow.



1. Name the class to which J and K belong and support your answer with two reasons.

Class **Insecta;** 1mk  *Rej. insect*

Reasons 2mks

1. **Six legs; three body parts; two antennae; two compound eyes;**
2. Suggest why the circulatory fluid in J and K has no haemoglobin. 2mks

**Haemoglobin used to transport oxygen/ carbon (IV) oxide in the body; oxygen is taken directly to tissues/ carbon (IV) oxide taken directly from tissues by tracheoles;**

**divergent evolution;** 1mk

Reason **one pair of wings in J reduced to halters/ are vestigial; but both are functional in K** 2mks

2. **pupa stage;** 1mk
3. 1mk

**Ecdysone; accept Moulting hormone**

1. 4mks

C2 to C3 – **moulting hormone / Ecdysone induce moulting; but presence of juvenile hormone prevent formation of pupa;**

C3 to D – **moulting hormone / Ecdysone induce moulting; but abscence of juvenile hormone lead to formation of pupa;**

2a. 1b – organism with exoskeleton

4a. – has fins

b.

|  |  |  |
| --- | --- | --- |
| Specimen | Steps followed | Identity |
| A | 1a, 3a | Arachnida |
| B | 1a, 2a, 4a | Pisces |
| C | 1b,3b, 5b, 6b | Chilopoda |
| D | 1a, 2a, 4b, 7b, 8a | Reptilian |
| E | 1a, 2a, 4b, 7a, | Ave |
| F | 1b, 3b, 5a | Insect |

c. Arthropoda

*rej: Anthropoda or arthropoda*

d. They all have exoskeleton

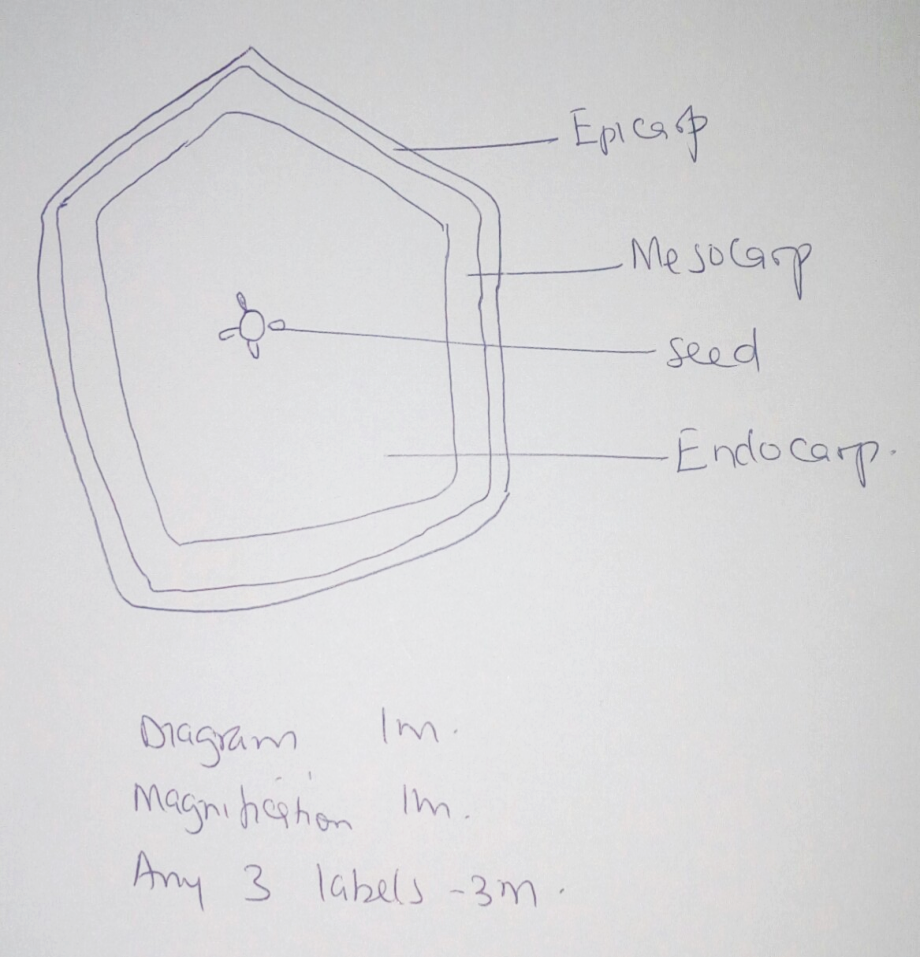
- They have segmented bodies

- They all have jointed appendages/limbs

e. Scales

3.

1. 5mks



**Magnification between X1 and X5**

b) Type of fruit **Berry** 1mk

Reason **has many seeds** 1mk

Agent **Animal** 1mk

Reason **brightly coloured; scented; fleshy; large; first** 2mk

1. **Axile;** 1mk
2. **Ethylene/ ethyne**; 1mk