

**BIOLOGY PRACTICAL231/
MARKING SCHEME**

Solid	Food Tested	Procedure	Observation	Conclusion
A	Starch	Add (drops of) iodine solution	No colour change/ colour of iodine persists/remains(brown/yellow)	Starch absent
	Reducing sugar	-Add(drops of Benedicts solution). - Heat/ boil the mixture	No colour change /colour of iodine persists/ remain (blue)	Reducing sugar absent
	Protein	- Add sodium hydroxide solution. - Add copper (II) sulphate dropwise (white shaking)	Purple/violet colour appears	Proteins present
	Starch	Add (drops of)iodine solution	Blue black/blue/black colour is produced	Starch present
B	Reducing sugar	- Add(drops of) Benedicts solution - Heat/Boil the mixture	No colour change /colour of Benedicts solution persists/ remain(blue)	Reducing sugar absent
	Proteins	- Add sodium hydroxide solution -Add copper (II) sulphate(while shaking)	No colour change	Proteins absent

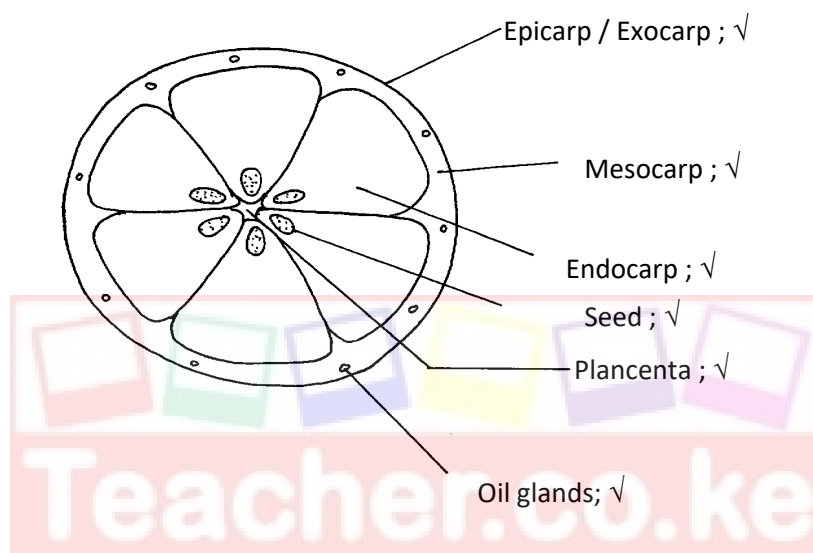
CONDITIONS FOR MARKING FOOD TEST

- I) (a) Reject procedure, hence observation and conclusion if;
- Food substance tested for is wrong.
 - Name of reagents is included in the column for food substance tested for.
 - Procedure is wrong.
 - Spelling of reagent(s) is wrong eg. Benedict solution, sodium hydroxide solution.
 - Incorrect chemical formula of a reagent is used in procedure.
- (II) Reject conclusion if observation is wrong.
- (III) (i) **For solid A:-** Give **one mark** for each correct food substance, procedure, observation and conclusion.
- (ii) **For solid B:-** Award equivalent sign(\equiv) for correct food substance and procedure. Then given **one mark** for each correct observation and conclusion.
- (iii) Add total marks for the whole table and divide by 2 e.g. **18/2=9mrks.**
- (b) (i) **Solid A;**√

- (ii) **Solid A** is rich in proteins;✓
- (c) (i) Mouth / Buccal cavity;✓
- (ii) Salivary amylase/ Ptyalin/Diastase;✓
- (d) - Synthesis of enzymes/ hormones;✓
- Synthesis of protoplasm;✓
- Is a structural component of bodies of organisms e.g. cell membrane ,muscles hair hooves/ nails;✓
- Protection against diseases by forming antibodies;✓
- Transport of substances e.g. Haemoglobin transports oxygen /carbon (iv) oxides;✓

NB: *Mark the first point.*

2. (a)



CONDITIONS

DRAWING:(1mk)

- Continuous outline
- Proportionality
- Accuracy /correct shape

Labelling (2mrks)

Any 4 **correctly labeled** parts divided by 2

- ❖ NB: Labelling line must touch the intended part.
- ❖ No arrow heads on labeling lines.
- ❖ Labelling lines should not cross each other
- ❖ Mark labellings clock wise from topmost label of right hand side.

- (b) (i) Pod/ Legume;✓
- (ii) Marginal;✓
- (c) (i) **Corolla:-**
 - Has 5 petals;✓
 - Petals are fused / gamopetalous (corolla);✓
 - Bell- shaped / funnel- shaped;✓
 - Has honey guides;✓
 - Is membranous;✓
 - Is large;✓

- (ii) **Gynoecium:-**
 - Superior ovary;√
 - Monocarpous pistil/one ovary, style and stigma;√
 - Lobed /bilobed stigma;√
 - Style shorter than filaments/stigma below anthers;√

3. (d) Spermatophyta;√ Rj. Wrong spelling

- (a) (i) **Photograph I**
 Lumbar vertebra;√ Reject:- Plural i.e. Lumbar vertebrae wrong spelling but mark reason.

Reasons:-

- Long transverse processes;√
- Presence of metapophysis /extra process;√

- (ii) **Photograph II**
 Thoracic vertebra;√ Reject:- Plural i.e. Thoracic vertebra/ wrong spelling but mark reason

Reason

- Long neutral spine;√
- Presence of tubercular/capitular facets/demifacets;√
- Short transverse processes;√

- (iii) **Photograph III**
 - Cervical vertebra;√ Reject:- Plural i.e. cervical vertebra/wrong spelling but mark reason

Reasons:-

- Short neutral spine;√
- Presence of vertebrarterial canals;√
- Divided / branched /forked transverse processes/ cervical ribs;√

N/B:- Reject wrong identity in 3(a) (i) (ii) and /or (iii) above hence reject reason given.

Photograph I	Photograph II
<ul style="list-style-type: none"> - Long transverse;√ processes - Metapophysis present;√ - Short neutral spine;√ - Tubercular/capitular facets absent;√ 	<ul style="list-style-type: none"> - Short transverse processes - Metapophysis absent - Long neutral spine - Tubercular/capitular facets present

(c) G:- Vertebrarterial canal;√

(d) Neck (region):√

- (e) -Long transverse processes that provide large surface area for attachment of(abdominal)muscles;√
 - Metapophysis/extra processes that provide large surface area for attachment of (abdominal)muscles:√
 - Large centrum for support (of heavy organs in the abdominal cavity);√
 - Large neural canal for passage of the spinal cord;√
 - Broad neural spines that provides large surfaces area for attachment of (abdominal) muscles