

1.(a)	Food substance	Procedure	Observation	Conclusion
	Starch	To a little amount suspension (W) add a few drops of iodine solution ;	Yellow/brown colour removed;	Starch absent;
	Reducing sugars	To a little amount of suspension W add a equal amount of benedicts solution and heat to boil.	Blue colour remained;	Reducing sugar absent;
	Non reducing sugars	To a little amount of suspension W add a few drops of dilute HCl and boil, cool then add sodium hydrogen carbonate until fishing stop. - Add an equal amount of benedicts solution and heat to boil;	The colour change from blue-green-yellow to orange/brown/red;	Non reducing sugar;
	Proteins	To a little amount of suspension W add sodium hydroxide solution and then copper sulphate dropwise;	Colour changed to purple/violet;	Proteins presents;

(Max 12 marks)

- (b) Proteins – Pepsin/Trypsin/erepsin;
Non reducing sugars sucrase/invertase; (2 marks)
- (c) Hydrolyses/converts/breakdown non reducing sugars into monosaccharide /reducing sugars/simple sugars.

2.(a)	D ₁	1b, 3a, 4b, 6a	Bignonaceae	
	D ₂	1b, 3b, 7b, 9a	Commeliceae	
	D ₃	1a, 2a	Pinaceae	
	D ₄	1b, 3a, 4a, 5a	Mimosaceae	
	D ₅	1b, 3b, 7a, 8b	Geranaceae	
	D ₆	1b, 3b, 7a, 8a	Graminae	
	D ₇	1b, 3, 4b, 6b	Compositae	(14 marks)

- (b) Semi-arid/Dry/desert/Arid (any) (1 mark)

3. (a) A₁ – Lumbar vertebrae;
A₂ – Cervical verterbrae;
A₃ – Thoracic vertebrae; X – Vertebrarterial canal;
- (b) Y – Neural spine;
Z – Neural canal; (3 marks)
- (c) Cervical region/neck region; (1 mark)
- (d) Provide site for passage of nerves and verterbrarterial arteries; (1 mark)
- (e) A₁
- Presence of many transverse processes to offer large surface for attachment of muscles;
- Presence of neural canal for passage of spinal cord;
- Presence of Centrum for provision of support; (Max 2) (2 marks)