

1. (a) (i) No gas produced; (1mk)
 (ii) Gas produced; (1mk)
 (b) (i) (In boiled potato cube) enzyme catalase is denatured; hence no reaction when hydrogen peroxide is added; (2mks)
 (ii) (Fresh potato cube) had an enzyme catalase; which broke / decomposed hydrogen peroxide to water and oxygen; hence production of gas. (2mks)

Food Substance	Procedure	Observation	Conclusion
Starch	(To food substance) add iodine solution;	Blue colour formed	Starch present
Proteins	To food substance add sodium hydroxide followed by copper II sulphate.	Light green mixture	Proteins absent

- (6mks)
2. (a) Q – self dispersal; (2mks)
 Reason – Dihisent / line of weakness for opening.
 R – Wind dispersal
 Reason – it is parachute shaped for floatation in air. (2mks)
- (b) Q – Marginal placentation; (1mk)
 S – Parietal placentation; (1mk)
 T – Basal placentation; (1mk)
 U – Axile placentation; (1mk)
- (c) True fruit;
 Reason – Develops from the ovary alone. (2mks)
- (d) (i) Meiosis; (1mk)
 (ii) (Late) anaphase / (early) telophase (1mk)
 (iii) Resents to formation of gametes for reproduction; (1mk)
3. (a) (i) P – Nucleolus; (1mk)
 R – Cell membrane / plasma membrane; (1mk)
 T – Golgi body / apparatus; (1mk)
- (iv) Q – Carry out respiration (1mk)
 S – Site for protein synthesis;
 - Package and transport proteins and glycolipids; (1x 2 = 2mks)
- (v) 42mm \pm 0.05mm
- (vi) Mg = $\frac{\text{image}}{\text{Actual}}$
 $20000 = \frac{42}{x}$
 $X = \frac{42}{20000} \times 1000\mu\text{m}$
 $= 2.1\mu\text{m}$
- (b) (i) C: cardiac muscles / heart muscles (2/2 = 1mk)
 D: Smooth muscles / visceral muscles;
- (ii) B: has many nuclei per muscle
 Cell; while D has one nuclei is located periphery; D nucleus is located at the centre
 Mark first 2 (1 x 2 = 2mks)
- (iii) B - cause locomotion upon contraction;
 C – causes heartbeat to pump blood upon contraction; (1x2 = 2mks)
- (iv) C has neuromuscular cells /myogenic to initiate and maintain contraction;
 - Has intercalated discs to spread waves of contraction;
 - Does not undergo fatigue to contract throughout life of animal;
 - Has many mitochondria to produce more energy for contraction;
 Mark first only (1 x 1 = 1mk)