BIOLOGY PAPER 3 MARING SCHEMES

Q1. Completion: 1 (b) Organism with exoskeleton; 4a – Has fins

|  |  |  |
| --- | --- | --- |
| Specimen | Steps followed | identity |
| A | 1b, 3a | Arachnida |
| B | 1a, 2a, 4a | Pisces |
| C | 1b,3b, 5b, 6b, | Chilopoda |
| D | 1a,2a,4b,7b,8a | Reptilia |
| E | 1a,2a,4b,7a | Aves |
| F | 1b, 3b,5a | Insecta |

2. a) i)

|  |  |  |  |
| --- | --- | --- | --- |
| Potato cylinders | Original length in cm | Length of S1 cylinders after 30 min in cm | Length of cylinders after 30 min in water. |
| 1 | 4.0 | 4.1-4.3 | 3.6 – 3.9 |
| 2 | 4.0 | 4.1 – 4.3 | 3.6 – 3.9 |
| Average | 4.0 | 4.1 – 4.3 | 3.6 – 3.9 |

ii) Cylinders in S1 increased in length, cells absorbed water by osmosis, S1 was hypotonic.

Cylinders in S2 decreased in length, cells lost water by osmosis; S2 was hypertonic

b) i)

|  |  |  |  |
| --- | --- | --- | --- |
| Food | Procedure | Observation | Conclusion |
| Starch | -place the paste formed in test tube.  -add 3 drops of iodine solution | Content turned blue-black | Starch present |
| Protein | Place the part formed in the test tube   * Add a little NaOH solution   -then add a little CuSO4 solution | The content doesn’t form violet or purple colour | Protein absent. |

iii) Starch formed in potato leaves is translocated and stored in stem tubers which continue to enlarge.

3. a) Q- incisor

- has one root

Chisel-shaped edge

R- Molar

* Has 3 roots
* Cusps on crown
* Broad surface

b) Q R

- Has 1 root - has 3 roots

- Chisel shaped edge - broad edge

- Has no cusps on crown - has cusps on crown

c) Has cusps and ridges on the crown; for efficient chewing/ grinding/ crushing of food.

d) Herbivorous e.g. herbivore