FORM 4 BIOLOGY PRACTICAL MAERKING SCHEME

1. (a)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Food substance | test | procedure | observation | conclusion |
| F | STARCH |  F + IodineTo F add iodine | * Blue black
 | * Starch present
 |
| G |  | To G add iodine | * Brown colour persists
 | * Starch absent
 |
| F | Reducing sugar | To F ADD benedicts solution and heat to boil | * Blue colour
 | * Reducing sugar absent
 |
| F |  X | X | * X
 | * X
 |
| G | Non reducing sugar test |  To G add HCL heat – cool add NaHco3 until fizzling stops, add Benedicts solution and heat to boil | * Yellow
* Orange/brown colour observed
 | * Non reducing sugar present
 |

(b)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Food substance | test | procedure | observations | conclusions |
| F 2 | R. sugar test | To F ADD Benedicts solution and heat to boil | Yellow/ orange/ Brown colour | Reducing sugar present |

1. the identity of solution E (1 mk)

 - enzyme anlylase/Invertase

 (2) a . (i)(1 mk)

 - leaves

 (ii) Give two reasons for your answer in (i) above. (3 mks)

* Presence of petiole/sheath
* Presence of lamina
* Presence of veins
* Presence of mid rib
1. . (3 MKS)

|  |  |
| --- | --- |
|  B |  C |
| * Parallel veins
 | * Net/reticulate veins
 |
| * Entire/ smooth margin
 | * Serrated margin
 |
| * Petiole modified into sheath
 | * Petiolated /leaf stalk/
 |
| * Narrow lamina
 | * Broad lamina
 |

1. . (4 mks)

A – Dicotyledonae – Net veined; broad lamina

B – Monocotyledonae – parallel venation; leafy sheath; narrow lamina

1. three features of specimen C that adapts it for its function. (4 mks)
* Broad and flat lamina offering a large surface area for absorption of light gaseos exchange.
* Numerous veins for transport of water, minerals salts and phloem for translocation
* Midrib and veins for support of the lamina
* Presence of petiole for holding the leaf in position for light absorption
* Presence of chlorophyll for trapping light

Q3. The photograph below shows a section of a mammalian organ and associated vessels. Examine it and use it to answer the following questions.



1. Name the organ. (1 mk)
* Kidney ;rej kidneys
1. Name the parts labeled. (6 mks)

S – cortex

T – medulla

V – pelvis

P – renal artery

Q – renal vein

R – ureter

1. State the function of the vessel labeled: (3 mks)

P – Transports/ takes blood into the kidney

Q – Transports/ takes blood away from the heart

R – Draining of urine from the kidney pelvis to the urinary bladder.

1. Name the two parts of the nephron that are found in the part labeled S. (2 MKS)
* Bowman’s Capsule
* Glomerulus
* Proximal convoluted tubule
* Distal convulated tubule