MARKING SCHEME

1(a) Predation/predator prey/predator and prey

(b)M/Lion

(c)- Animal M is at a higher trophic level than animal N/ M feeds on N/ M is a tertially consumer while N is a secondary consumer.

-Biomass decreases upwards in a food chain/ energy is lost from lower trophic level to an upper trophic level/energy is lost from producers to consumers.

(d)-The ecosystem consist of different organisms that compete for resources/ struggle to exist.

-The well adapted ones survive; perpetuating their traits to the next generation;

-M being more powerful/ stronger/well adapted/ more endowed attacks/ kill sand feed on N

(e)-Both animals M and N camouflage/ blend well with the environment concealing themselves from their prey/predator;

-Animal M is strong/more muscular; to attack/ kill/suffocate the prey;

-Both animals are covered with fur; to protect them from coldness;

-Both animals have oily fur; to prevent/avoid /minimize/reduce water getting to the skin;

-Animal M has sharp teeth/canines; to kill N

- Animal N has sharp/pointed horns; to fight off/scare away M

NB; One mark for adaptive feature and the other for qualifying that feature.

-Mark the first three responses.

2. You are provided with a food sample labeled solution Q. Using the reagents provided; carry out tests to identify the food substance present in the sample [12mks]

TEST FOR	PROCEDURE	OBSERVATION	CONCLUSION
Reducing sugars	Put solution Q in a test tube. Add (equal volume of) Benedict's solution /D. Put in a hot water bath/heat;	The blue color of Benedict's solution persists/remains./no colour change;.	Reducing sugars absent;
Non reducing sugars	Put (2 cm^3 /some/little amount of) solution Q in a test tube. Add (few drops of) hydrochloric acid/C, Place in a hot water bath/heat (for 3 minutes.) Remove and cool; Add sodium hydrogen carbonate solution/F(drop wise till fizzing stops); Add (2 cm^3 /some/ a little of) Benedict's solution/D. Put in a hot water bath/heat;	There fizzing ; the colour changes from blue - green - yellow – orange-brown;	Non reducing sugars present;
Proteins	Put Q in a test tube/. Add sodium hydroxide solution; shake. Add copper (II) sulphate solution/E (drop wise and shake);	Colour changes to purple/mauve;	Proteins are present;

NB;1.The bracketed information may or may not be present.

2. **the order of colours in observation – non-reducing sugar must be correct.**

3.(a)

SPECIMEN	MODE OF DISPERSAL	ADAPTIVE FEATURES
A	Animal(s)	Fleshy/Juicy/succulent/fleshy pericarp
B	Self/Self mechanism/self explosive mechanism. Rej.explosive mechanism alone	Lines of dehiscence/satures/lines of weakness
C	Animal(s)	Hooks/hooked/hook like structure
D	Wind	(parachute of) Hairs/pappus/hairy/hair like projections
E	Animal(s)	Fleshy/succulent Rej. Juicy or fleshy pericarp
F	Wind	Papery/paper like structures

(b) (i) Axile/central rej. Axil, Axial

(ii) Seed/endocarp/Dicotyledonous seed rej. Monocotyledonous seed