**Question 1**

(a) i) Pteridophyta

Reasons

- It has fronds

–Body differentiated into roots, stems and leaves but no flowers.

–Has sori.

ii) K

b) i) A-Rhizome

B. Sori

ii) It contains sporangia that bear spores

c) i) presence of gametophyte phase and sporophyte phase in lifecycle of an organism.

ii) Q – Gametophyte

Z- Sporophyte

iii) Produces haploid male and female gametes, that undergo fertilization to produce zygote that develops into a sporophyte.

**Question 2**

1. (a) (i) Seed; (1mk)

(ii) It has one scar / point of attachment to placenta (1mk)

(b) (i) Germination; (1mk)

(ii) Water moves into the seed through the micropyle by imbitions; the seed swells; stored food become hydralised / enzyme break down the stored food into soluble products; the embryo uses the soluble nutrients leading to radical coming out through the micropyle; (3mks)

(c) (i) – mature embryo

-Absence of growth inhibitors

Presence growth hormones;

soft / permeable testa; (1st 2 point , 2mks)

(ii) – Absence of light of specific wavelength;

* Low / freezing / chilling temperature
* Lack of moisture (1st 2 point, 2mks)

(d) (i) The indicator D turned yellow;

(ii) The soaked seeds carry out respiration; which produces CO2 which in turn changes the indicator from blue to yellow; (3mks)

(iii) Use boiled seeds / dry seed; (1mk)

**Question 3**

1. L – mammalia

Body is covered with fur

K – Aves

Has a beak

Body covered with feathers

1. E- dorsal fin

F – Operculum

G – Pectoral fin

ii. - Overlaps facing backwards to reduce friction for the fish as it moves in water

* Covered with mucus to reduce friction for the fish as it moves in water

c.