

BIOLOGY G11 ASSIGNMENT

1 (a) State the functions in a flower of:

(i) sepals,

(ii) petals,

(iii) anthers,

(iv) carpels. [4]

(b) (i) Name a wind-pollinated plant.

(ii) Describe the anthers and the pollen of a typical wind-pollinated plant. [6]

[Total: 10]

2. (a) Describe the use of antibiotics for the treatment of diseases. [3]

(b) Describe how antibiotics may be manufactured on a large scale. [7]

[Total: 10]

3. (a) (i) Name the hormone, released after a meal, which controls the level of glucose in the blood. [1]

Fig. 3.1 shows some organs in the body of a woman.

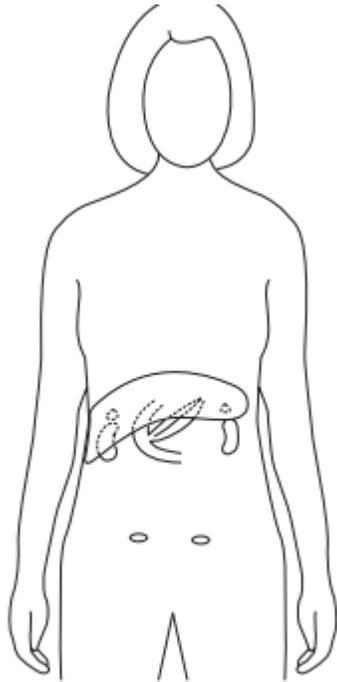


Fig 3.1

(ii) On Fig. 5.1, label and name the gland which produces the hormone you mention in

(i). [2]

(iii) Name two other substances produced by this gland.

4. (a) Explain how a knowledge of genetics has helped breeders to improve the quality of wool produced by sheep. [6]

(b) Explain how variation can occur in a natural population of organisms. [4]

[Total: 10]

5. Fig. 5.1 shows a fetus developing in a uterus.

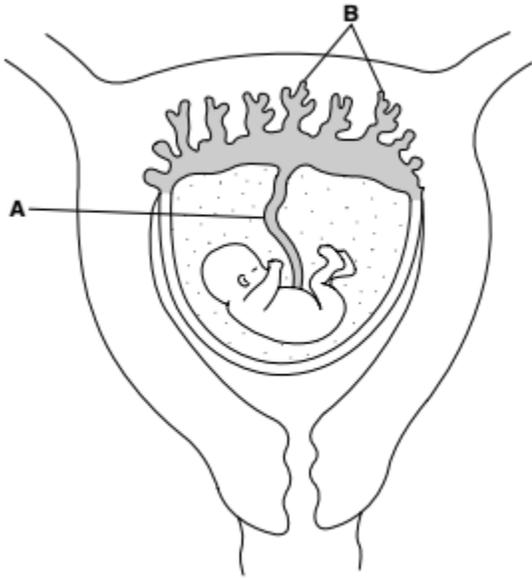


Fig 5.1

(a) (i) Name the part labelled A.

(ii) What is unusual about the blood in the artery in A compared with the blood in most of the arteries in the moth [1]

(iii) The structures labelled B are called placental villi.

Suggest one feature these might have that helps them to carry out their function efficiently.

(b) The blood of the mother and the fetus do not normally mix. State two reasons why this is important.

(c) The placenta is often described as the 'lung and kidney' of the fetus. Explain why this is a good description. [3]

6(a) Fig. 6.1 shows a section through a seed of a dicotyledon.

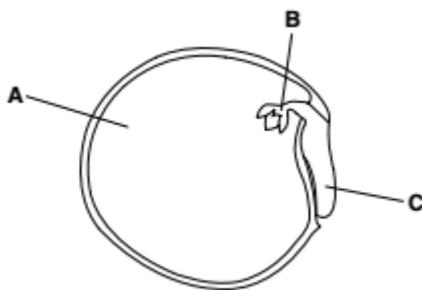


Fig 6.1

(i) What is the role of part A? [1]

(ii) What do parts B and C of the seed develop into after germination? [2]

(b) The graph, Fig. 6.2, shows changes in mass of sets of pea seeds as they germinate and grow into seedlings. After germination, set P was grown in the dark and set Q in the light.

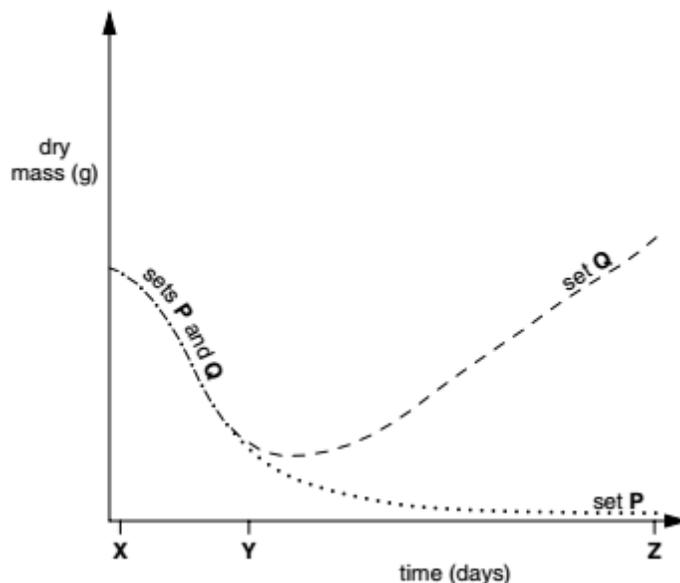


Fig 6.2

(i) Why is mass measured as dry mass?

(ii) Explain the changes in dry mass between days X and Y in both sets of seedlings.[4]

(iii) Explain why there is a difference in the dry mass of sets P and Q between days Y and Z. [4]

7. (a) Name and describe one example of each of the following methods of birth control:

(i) natural; [3]

(ii) chemical; [3]

(iii) mechanical; [3]

(iv) surgical. [3]

(b) Describe the process of reproduction in bacteria. [3]

8. Fig. 8.1 shows a nerve cell.

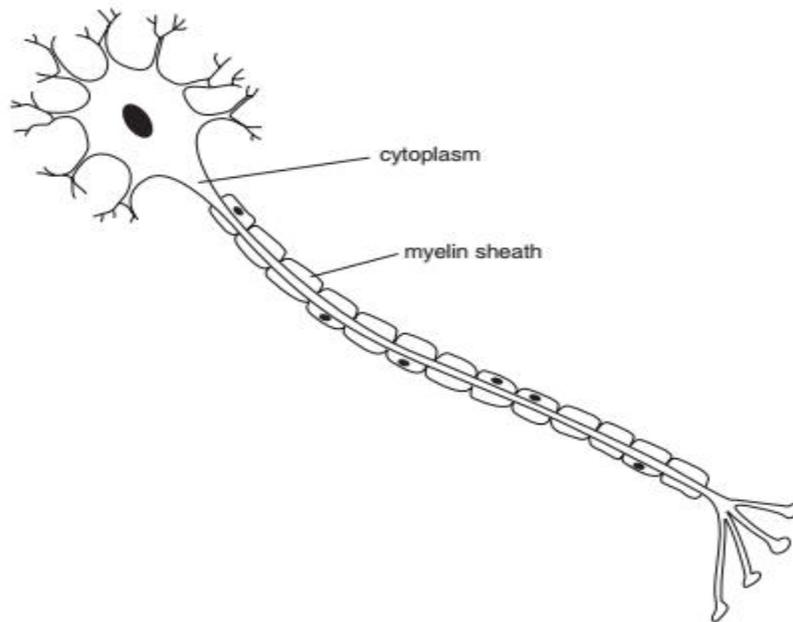


Fig 8.1

(a) (i) Name the type of nerve cell shown in Fig. 8.1.

(ii) State two features that distinguish it from other types of nerve cell.

(iii) Where, in the nervous system, is this cell located?