



# Holiday Assignments

Section Name

Subject: Biology

Grade: 13 E Science

Medium: English

- Structured Essay.

01)

a) The table below shows various nutrients in the human diet and their functions and effects when deficient. Complete the table by writing the correct word / words in the empty box.

Nutrient	Function	Effects of deficiency
1. Fiber Diet		
2. Nicotinic Acid		
3.		Kwashiorkor
4.		Muscle Cramps
5. Lipids		
6. Phosphate		

b)

1) What is symbiosis, what are the types of symbiosis.

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2) What is the type of symbiosis in following relationships of organisms.

i. Cuscuta and the host plant - .....

ii. Termites and “Microbes(*Trichonympha*)” living in termites alimentary canal -  
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iii. Loranthus and the host plant - .....

iv. Tape worm and human - .....

v. Epiphytes - .....

3) What are the main stages in holozoic nutrition.

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c) Draw a diagram to shows histology structure of pancreas.



i. What is the endocrine part of the pancreas

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ii. Name hormones secreted by endocrine part and function of each hormone.

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iii. What is the function of Kupffer cells in the liver?

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iv. What is the role of liver in digestion?

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**02)**

A)

i. Explain how the matrix of bone (non living parts) is adapted for is function -

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ii. State why deficiency of vitamin D may result in deformed bone. -

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B) .

1. What is the significance of cross pollination.

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2. Suggest and explain one reason why a commercial flower grower would like all his flowers to be self pollinated rather than cross pollinated.

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3. Mention two adaptation presents in the bisexual flowers to induce the cross pollination.

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**03)**

A)

1. What is photomorphogenesis.

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2. What are the two types of light receptors in plants.

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3. What is the effect of light on following each activity.

a) Phototropism.

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b) Plant spacing and shade avoidance.

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4. What is the hypothesis which explains geotropism of roots

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B)

1. Explain water potential in a cell.

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2. Write down the water potential equation.

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3. What are the factors determined the water potential of a cell.

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4. What are the changes taking place when a **plasmolysed** cell placed in a **hypotonic** solution.

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**04)**

1) Movement in the phloem sap occurs between source & sink. Mention the term could be used to describe the translocation in the following locations in phloem tissue.

- 1. Source .....
- 2. Sink .....
- 3. Between source & sink .....

2) What is active absorption.

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3) Mention two locations where active absorption can take place in the plant.

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**B. .**

1) Write down the part of the fruit, after the fertilization of the following parts in the flower in Anthophyta.

- a) Ovule .....
- b) Egg cell .....
- c) Diploid nucleus .....
- d) Ovary .....
- e) Wall of the ovary .....

2) What is the parthenocarpy

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3) What is the difference between parthenocarpy & parthenogenesis give examples for each.

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4) Write down four adaptations in the seed to be successful in the land as terrestrial life.

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5) What is seed dormancy.

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6) Give three benefits of seed dormancy?

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• Essay

1)

- a) Write down major organic compounds which contain nitrogen in living organism.
- b) Describe the structure and functions of above organic compounds.
- c) Describe an experimental method to identify the presence of non reducing sugar in banana

2)

- a) Describe the structure of the plasma membrane.
- b) Write down the functions of nucleus , mitochondria chloroplast and E/R

3)

- a) Describe the method of Radial transport of water in plants.
- b) Explain the mechanism of upward movement of water and minerals in plants.
- c) Describe briefly various methods shown by flowering plants in order to fulfill their Nitrogen requirements.

4)

- a) Explain what is Alternation of generations.
- b) Describe the structure of ovule in flowering plants.
- c) Compare haploid generations of pogonatum and Anthophyta.