

**PANGANI GIRLS SCHOOL  
BIOLOGY DEPARTMENT**

**PAPER 1  
THEORY  
PRE-MOCK EXAM  
MARCH, 2013  
TIME – 2HRS.**

**Name:** ..... **Index Number:** .....

**Class:** ..... **Class No:** .....

**INSTRUCTIONS.**

Answer all the questions in the spaces provided.  
All drawings must be in pencil.

**FOR EXAMINER'S USE ONLY.**

<b>QUESTION</b>	<b>MAXIMUM SCORE</b>	<b>CANDIDATES SCORE</b>
1 - 25	80	

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1.a. Write the dental formula of an adult human. (1mk)

b. Name two dental diseases. (2mks)

i.

ii.

2. Give two reasons for classifying organisms. (2mks)

i.

ii.

3. State the name given to the study of the cell - (2mks)

a. microorganisms -

4. State the functions of ; (2mks)

a. Mitochondria -

b. Cell membrane -

5. Distinguish between haemolysis and plasmolysis. (2mks)

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6. Explain why it is not advisable to be in a poorly ventilated room with a burning charcoal stove. (3mks)

7.a. What is meant by the term non-disjunction? (1mk)

b. Give an example of a genetic disorder caused by;  
i. Non-disjunction (1mk)

ii. Gene mutation (1mk)

8.a. Name the causative agents of the following diseases in humans. (2mks)

i. Typhoid -

ii. Amoebic dysentery -

b. Name the disease caused by Plasmodium falciparum - (1mk)

9. Explain why plants do not require specialized excretory organs. (4mks)

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11. Explain how the following factors affect the rate of photosynthesis.  
a. Concentration of Carbon (iv) oxide (1mk)

b. Light Intensity (1mk)

12.a. State two environmental conditions that cause seed dormancy. (2mks)

b. Name the part of a bean that elongates to bring about epigeal germination. (1mk)

13.a. What prevents blood in the veins from flowing backwards. (1mk)

b. State 3 ways in which the Red blood cells are adapted to their functions. (3mks)

14.a. State two disadvantages of sexual reproduction in animals. (2mks)

i.

ii.

b. Pregnancy continues if the ovary of an expectant mother is removed after four months. Explain. (2mks)

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15. State three effects of dumping untreated sewage into a river. (3mks)

i.

ii.

iii.

16. Explain how the following factors determine the daily energy requirements in human. (3mks)

a. Age:

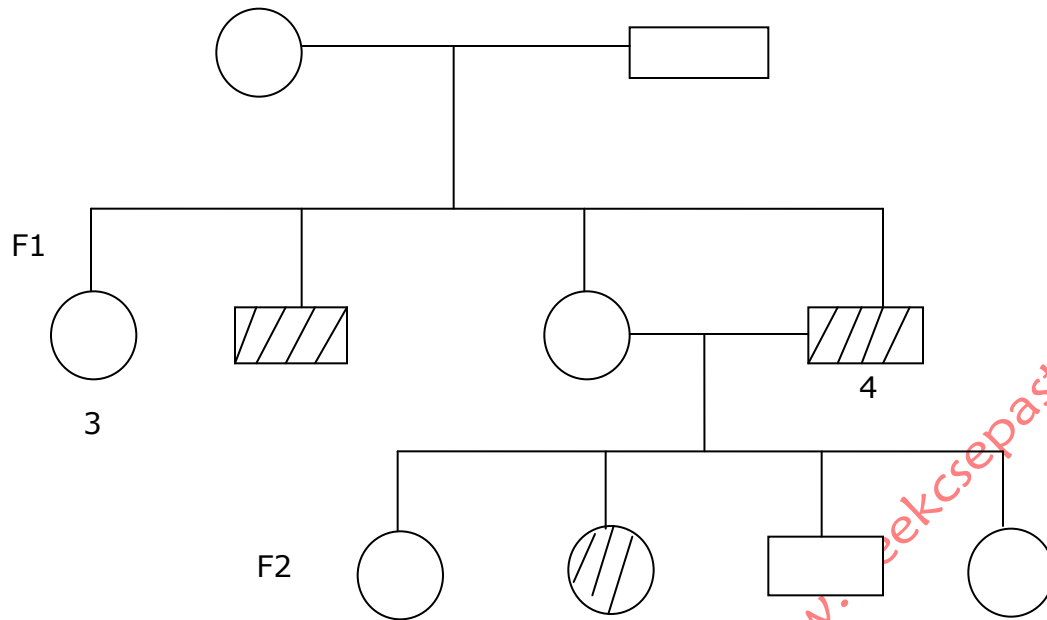
b. Occupation :

c. Sex :

17. Which portions of the human nephron are only found in the cortex? (3mks)

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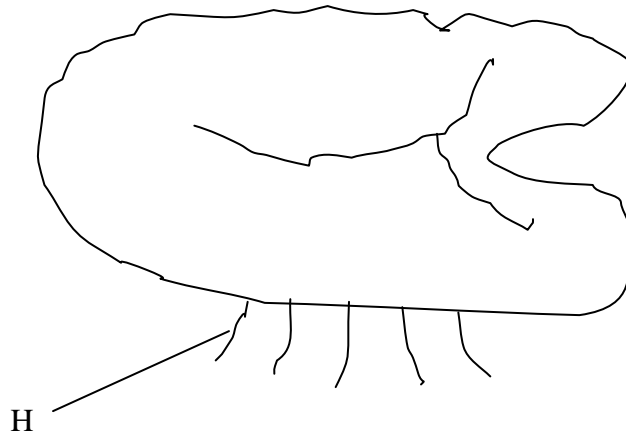
18. The family pedigree shows transmission of colour blindness which is x-chromosome linked and caused by recessive gene C.



- a. Give genotypes of individuals 3 and 4 (2mks)
- b. Suggest why all the daughters in F1 are normal while all sons are colour blind. (2mks)

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19. The diagram below represents a liverworts plant



- a. Name the division to which liverworts belong. (1mk)
- b.i. Identify the part labeled H. (1mk)
- ii. Suggest the type of nutrition found in liverwort. (1mk)
- 20.a. Name the type of circulatory system found in phylum arthropoda. (1mk)
- b. Construct a food chain for the ecosystem. (1mk)
- b. Name the organism which had the highest biomass. Give a reason for your answer. (2mks)
- 23.a. Name the site of anaerobic respiration in a cell. (1mk)
- b. Name the end products of anaerobic respiration in
- i. Plants (1mk)
- ii. Animals (1mk)



24.a. Distinguish between monoecious and dioecious conditions. (2mks)

b. State the biological significance of dioecious conditions. (2mks)

25. A certain plant was found to have the following characteristics:

- Parallel venation in leaves
- sheathlike petiole
- flower parts in multiples of three

a. Name the class to which the plant belongs. (1mk)

b. Describe how the following characteristics would appear in the plant.

i. Vascular bundles in the stem. (1mk)

ii. Root system (1mk)

26.a. State the role of hypothalamus in thermoregulation. (2mks)

b. Explain the importance of contraction of erector pilli muscles of mammalian skin. (2mks)

27. State the 2 types of xylem tissue. (2mks)

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