

**S.O Attempt these questions .All parts carry equal marks:**

- i. What are the drawback Lamarckism that lead to rejection of this theory of evolution?
- ii. Differentiate between convergent and divergent evolution with example.
- iii. Discuss first the steps of krebs cycle:
- iv. Discuss any three human activities which impact on Ecosystem:
- v. Discuss development of herb and shrub stage in Xerarch condition :
- vi. Give the role of decomposers in the nutrient cycle:And also give examples:
- vii. Draw the flow chart of primary reservoirs of nutrients with proper labeling
- viii. How the evolution of pollen tube took place? Explain its importance.
- ix. What are opportunistic diseases?How that may attack on Aids victim?
- x. Explain symptoms of AIDS:
- xi. Why amphibians are not considered successful group of vertebrates?
- xii. List any four harmful role of insects:
- xiii. Write three main difference between prototheria,metatheria and eutherian.
- xiv. How is a lagging strand synthesized in the replication process?
- xv. Briefly describe the causes of ozone depletion. What are its consequences?
- xvi. Briefly explain different methods of nitrogen fixation:
- xvii. Enlist any three causes and effects of acid rain:
- xviii. Define point mutation. Give one example:
- xix. Write the measures that a eukaryotic cell must adopt to protect its newly born mRNA from its own phosphatases and nucleases
- xx. Draw diagram of light reactions(Z-Scheme):
- xxi. Discuss the hormonal control of male reproductive system
- xxii. The menstrual cycle is coordinated by hormones secreted by the pituitary gland and hormones secreted by the ovaries. Figure shows some of the events that occur during the menstrual cycle.

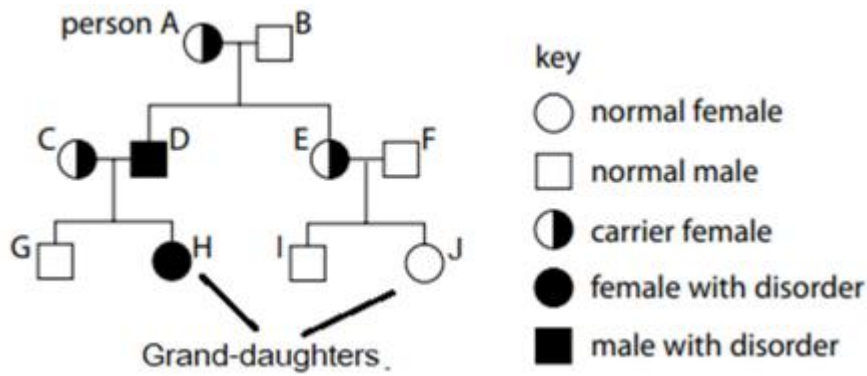
H	FSH is secreted by the pituitary gland
J	oestrogen stimulates repair and growth of the lining of the uterus
K	one or more follicles start to develop in an ovary
L	ovulation occurs
M	oestrogen is secreted by follicle cells
N	LH is secreted by the pituitary gland
O	oestrogen inhibits secretion of FSH

- i. Put the steps (labelled H, J, K, L, M, N, O) into the correct sequence in the following table: (2)

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- b. Name the ovulating follicle and what happens to this follicle after ovulation? 1)

- xxiii.** The blood groups of father and mother are AB and O respectively. Write genotypes of parents and offspring by making a cross.
- xxiv.** XY-XX is a pattern of sex determination. Explain this pattern by giving example:
- xxv.** How does dominance differ from epistasis? Give an example to clear the difference.
- xxvi.** The given figure shows the inheritance of Duchene muscular dystrophy, which is X-linked recessive disorder.



- xxvii.** Describe why grand-daughter “H” of person “A” is affected with this disorder whereas grand-daughter “J” of the same person “A” is normal?
- xxviii.** Compare Autophagy and Autolysis.
- xxix.** Differentiate between the following:
- Lysosome-Peroxisome
  - Chloroplast-chromoplast
  - Microtubules-Microfilaments
- xxx.** Complete the table below which shows functional proteins:

Category	Example
Transport of oxygen	
Enzyme	
	insulin
Defensive	
	Actin & myosin
Storage	

- xxxi.** Proteases are used in biological washing powder. How would it remove a blood stain on clothes? Why these washing powders are recommended for use at low washing temperature:
- xxxii.** What are Irreversible Non-Competitive Inhibitors? Describe with examples.
- xxxiii.** Why fungi are placed in separate kingdom?
- xxxiv.** List the adaptations in Xerophytes which enable them to live in that specific environment:
- xxxv.** Differentiate between waxes and steroids :
- xxxvi.** What are adaptations in plants to cope low and high temperature:
- xxxvii.** How turgor pressure provide support to the herbaceous plants?
- xxxviii.** Discuss the Archaea which inhabit extreme environments.
- xxxix.** Differentiate between apoplast and symplast pathways for the uptake of water in plants
- xl.** What are Prostaglandins? Mention their role in living organisms:
- xli.** Write three differences between smooth and rough endoplasmic reticulum:

