ALT BIOLOGY EXPERT

NEET BASED SAMPLE QUESTIONS

1. A dikaryon is formed when

a. Meiosis is arrested

b. The two haploid cells do not fuse immediately

c. Cytoplasm does not fuse

d. None of the above.

Ans: b. Explanation : In few forms of Fungi such as ascomycetes and basidiomycetes, an intervening dikaryotic stage -n + n, i.e., two nuclei per cell-means they do not fuse as long as they in dikaryon stage**. Later, the parental nuclei fuse and the cells become diploid.**

2. In context of amniocentesis, which of the following statements is incorrect?

(a) It can be used for detection of Down's syndrome.

(b) It can be used for detection of cleft palate.

(c) It is usually done when a woman is between 14-16 weeks pregnant.

(d) It is used for prenatal sex determination.

Ans: c Explanation: Its referred to the concept of medical termination of pregnancy (MTP) or induced abortion.

3. Which of the following is not a feature of active transport of solutes in plants?

(a) Occurs against concentration gradient

(b) Non-selective.

(c) Occurs through membranes

(d) Requires ATP.

Ans: b Explanation: we can support our answer by understanding the comparison table given below:

TABLE 11.1 Comparison of Different Transport Mechanisms

Property	Simple Diffusion	Facilitated Transport	Active Transport
Requires special membrane proteins	No	Yes	Yes
Highly selective	No	Yes	Yes
Transport saturates	No	Yes	Yes
Uphill transport	No	No	Yes
Requires ATP energy	No	No	Yes

4. Which of the following statements is not correct?

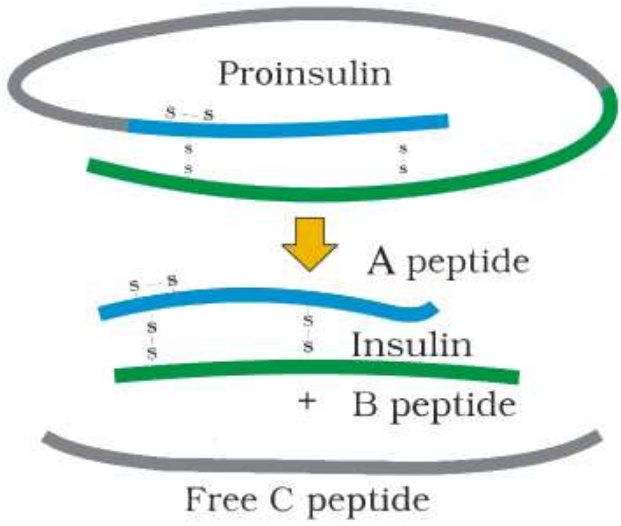
(a) In man insulin is synthesised as a proinsulin.

(b) The proinsulin has an extra peptide called C-peptide.

(c) The functional insulin has A and B chains linked together by hydrogen bonds.

(d) Genetically engineered insulin is produced in *E.Coli*.

Ans: c Explanation: chain A and chain B, that are linked together by disulphide bridges. We can support our answer by understanding the diagram given below:



5. The three-domain system says:

a. Kingdom Algae can be divided into two domains

b. Kingdom Fungi can be divided into two domains

c. Kingdom Monera can be divided into two domains

d. Kingdom Eubacteria can be divided into two domains.

Ans: c Explanation: Kingdom Monera divided into two further domains: Archaebacteria and Eubacteria. So total 3 domains are : Archae bacteria, Eubacteria and Eukaryotes.

7. Which one of the following is a correct pair:

a. Naked nucleus in Monera, remaining kingdoms with nuclear membrane-Body organisation.

b. Cellular level in Monera and Protista, remaining kingdoms have tissue level- Mode of nutrition.

c. Holozoic in Animalia, not seen in any other kingdoms-cell wall

d. Non cellulose in Monera, chitin in Fungi, cellulose in plantae-cell wall.

Ans: d Explanation: we can support our answer by understanding the comparison table given below:

Characters	**Five Kingdoms**				
	Monera	**Protista**	**Fungi**	**Plantae**	**Animalia**
Cell type	Prokaryotic	Eukaryotic	Eukaryotic	Eukaryotic	Eukaryotic
Cell wall	Noncellulosic (Polysaccharide + amino acid)	Present in some	Present with chitin	Present (cellulose)	Absent
Nuclear membrane	Absent	Present	Present	Present	Present
Body organisation	Cellular	Cellular	Multiceullar/ loose tissue	Tissue/ organ	Tissue/organ/ organ system
Mode of nutrition	Autotrophic (chemosynthetic and photosynthetic) and Heterotrophic (saprophytic/parasitic)	Autotrophic (Photosynthetic) and Heterotrophic	Heterotrophic (Saprophytic/ Parasitic)	Autotrophic (Photosynthetic)	Heterotrophic (Holozoic/ Saprophytic etc.)

8. One of the following does not give the reason for why the two-kingdom classification used for a long time but was found inadequate:

a. This system did not distinguish between the eukaryotes and prokaryotes.

b. The unicellular and multicellular organisms could not properly understood.

c. Couldn't distinguish photosynthetic (green algae) and non-photosynthetic (fungi)organisms.

d. None of the above.

Ans: d Explanation: a b c points give correct reasons.

9. Bacteria are the sole members of the Kingdom Monera. Do you agree/disagree with the statement. Why?

a. Agree-show the most extensive metabolic diversity.

b. Agree-the bacterial structure is very simple compared to other living organisms.

c. Disagree-they are not multicellular, show no tissue level of development.

d. Agree-Bacteria occur almost everywhere.

Ans: a Explanation: Some of the bacteria are autotrophic, i.e., they synthesise their own food from inorganic substrates. They may be photosynthetic autotrophic or chemosynthetic autotrophic. The vast majority of bacteria are heterotrophs, i.e., they depend on other organisms or on dead organic matter for food.

10. Suppose you accidentally find an old preserved permanent slide without a label. In your effort to identify it, you place the slide under microscope and observe the following features :-

i. Unicellular

ii. Well defined nucleus

iii. Biflagellate–one flagellum lying longitudinally and the other transversely.

What would you identify it as? Can you name the kingdom does it belong to?

a. Trypanosoma-Protozoa.

b. Gonyaulax-Protista.

c. Mycoplasma-Monera.

d. Chrysophyte-Protista.

Ans: b Explanation: Dinoflagellates have these features. Gonyaulax is a Dinoflagellate. It comes under Protista.

11. Biochemical Oxygen Demand (BOD) may not be a good index for pollution for water bodies receiving effluents from

(a) domestic sewage (b) dairy industry

(c) petroleum industry (d) sugar industry.

Ans: c Explanation: BOD is a good index where aerobic bacteria feed on organic matter, which is Bio-degradable. Petroleum is non-biodegradable. Remaining 3-a b d microbes grow in them.

12. Mitochondria and chloroplast are

(A) semi-autonomous organelles

(B) formed by division of pre-existing organelles and they contain DNA but lack protein synthesising machinery.

Which one of the following options is correct?

(a) (A) is true but (B) is false.

(b) Both (A) and (B) are false.

(c) Both (A) and (B) are correct.

(d) (B) is true but (A) is false.

Ans: a Explanation: Both **mitochondria and chloroplast** possess their own genetic material which is circular and resembles prokaryotic DNA and contains 70S ribosomes. They are self-replicating bodies which undergo binary fission and contains all the enzymes and proteins required for this process.
