



**Q.1) (A) Choose the correct alternative.**

**[3]**

- i. Amino acids are obtained after digestion of  
A) Carbohydrates    B) proteins    C) lipids    D) nucleic acids
- ii. Which of the following vitamins is essential for the synthesis of NADH<sub>2</sub>?  
A) Vitamin B<sub>3</sub>    B) Vitamin C    C) Vitamin B<sub>2</sub>    D) Vitamin K
- iii. Spindle fibers attach to which part of the chromosome?  
A) q-arm of chromosome                  B) p-arm chromosome  
C) Centromere                                  D) Centroid

**(B) Answer the following:**

**[3]**

- i. Right or wrong. If wrong, write the correct sentence:
  - a) Muscle cells perform aerobic respiration while exercising.
  - b) Blood plasma contains 90% of water.
- ii. Complete the analogy:  
Blood : Hemoglobin :: ..... : Myosin.

**Q.2) Answer the following question :( Any-4).**

**[8]**

- i. Define nutrients and give two examples.
- ii. Mention any four advantages of digestion of lipids in the body.
- iii. Fibers are one of the important nutrients.
- iv. Give four examples of food materials that are a source of carbohydrates.
- v. Write definitions:
  - a) Proteins                  b) Cellular respiration

**Q.3) Answer the following :( Any-2)**

**[6]**

- i. Explain glycolysis in detail.
- ii. Explain ATP production in microbes through aerobic respiration.

iii. Complete the following chart by filling the names of proteins or respective cell types in which they are produced.

	Cell types/Organ	Protein
i.	.....	Insulin and trypsin
ii.	Cells	Various proteins of cell membrane and various enzymes
iii.	Pituitary glands	.....
iv.	.....	Actin and myosin
v.	.....	Hemoglobin and antibodies
vi.	.....	Melanin and keratin
Vii.	Bones	.....

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**Q.4) Attempt any one:**

**[5]**

- i. Explain in detail, the process of karyokinesis occurring during mitosis.
- ii. With the help of suitable diagrams, explain the five stages of prophase-I of meiosis.

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**Best of luck....**

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