

**Topic :- Cell the Unit of Life**

- 1      **(d)**  
Spherosomes are not involved in photorespiration.
  
- 2      **(c)**  
Leucoplasts are colourless plastids found in storage organs of plants *e.g.*,  
Amyloplasm – Store starch  
Elaioplast – Store fat  
Proteinoplast – Store protein
  
- 3      **(d)**  
Cytoskeletal structures maintain the shape of the cell and its extensions, regulate orientation and distribution of cell organelles, intracellular transport and movement of cells
  
- 4      **(a)**  
Vital staining is the staining technique in which structure of living cells are stained either *in vivo* or *in vitro*. Three most widely used stains for this are Janus green B, neutral red and methylene blue.
  
- 5      **(a)**  
Mitoplast is not a plastid. It is mitochondria devoid of outer membrane.
  
- 6      **(b)**  
Elaioplast store oil.
  
- 7      **(d)**  
**J D Watson** and **F H C Crick** gave double helix model of DNA in 1953 and got Nobel Prize in 1962.
  
- 8      **(a)**  
The inward transport of molecule is called endocytosis. Phagocytosis is a type of endocytosis whereby certain cells and unicellular organisms are capable of ingesting and digesting solid material. Pinocytosis is a type of endocytosis whereby cells are capable of ingesting liquid food.

- 9 **(c)**  
The base ratio A+T/G+C may vary from one species to another, but is constant for a species. It is rarely equal to one and varies between 0.4 and 1.9.
- 10 **(d)**  
Viruses do not have any living characteristic except replication but replication happens only when living cells are available to assist them. Cell theory is not applicable for viruses.
- 11 **(b)**  
**Mitochondria** are small granular or filamentous bodies, called 'power house of the cell' because it is associated with cellular respiration and energy generation of cell. These contain ribosomes which are approximately equal to 70 S type.
- 12 **(d)**  
Ribosomes are made up of protein and RNA in about equal amounts.
- 13 **(b)**  
Strasburger coined the terms 'cytoplasm' and 'nucleoplasm'.
- 14 **(a)**  
In prokaryotic cell, the genetic material is not organised into nucleus and all the membrane bound organelles (mitochondria, chloroplast, Golgi body, endoplasmic reticulum, lysosomes) are absent. The histone proteins are absent and therefore, the genetic material is not organised into chromatin.
- 15 **(a)**  
Karyotheca or nuclear envelope or nuclear membrane consists of two membranes, *i.e.*, the outer and inner nuclear membranes, which are separated by a perinuclear space and perforated by pores. The outer membrane is continuous with rough endoplasmic reticulum, while the inner membrane surrounds the nucleoplasm.
- 16 **(a)**  
Protein synthesis is also known as translation. Protein synthesis takes place in ribosomes.
- 17 **(c)**  
Holes in the center of the nuclear pore complex provide the main channel through which water soluble molecules shuttle between the nucleus and cytoplasm. This channel also contains a protein called nucleoplasmin, which facilitates nucleo-cytoplasm traffic through the pore.
- 18 **(d)**  
The function of ATP synthase in chloroplast and mitochondria is the same.

19 **(a)**  
Protoplasm denotes the whole of protoplasm

20 **(b)**  
Prokaryotic cells contain 70S type of ribosomes and double stranded, circular naked DNA without histone proteins, *e.g.*, bacteria.

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<b>ANSWER-KEY</b>										
<b>Q.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>A.</b>	<b>d</b>	<b>c</b>	<b>d</b>	<b>a</b>	<b>a</b>	<b>b</b>	<b>d</b>	<b>a</b>	<b>c</b>	<b>d</b>
<b>Q.</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>A.</b>	<b>b</b>	<b>d</b>	<b>b</b>	<b>a</b>	<b>a</b>	<b>a</b>	<b>c</b>	<b>d</b>	<b>a</b>	<b>b</b>

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