

**Topic :- Biotechnology Principles & Processes**

- 3 (a)  
*Vent* polymerase enzyme used in PCR is isolated from *Thermococcus litoralis*
- 11 (b)  
A stirred-tank bioreactor is more advantageous, than shake flasks. It has an agitator system to mix the contents properly, an oxygen delivery system to make availability of oxygen, a foam control system, a temperature control system, a pH control system and a sampling port to withdraw the small volumes of the culture periodically
- 12 (b)  
During gene cloning plasmid is called gene taxi. Molecular biologists add desired gene to plasmids, then insert the new plasmid with the added gene into a living bacterium
- 14 (c)  
Both are true. Copy number is defined as the number of copies of vectors present in a cell. It varies from 1-100 copies per cell
- 19 (d)  
Availability of thermostable DNA polymerase. DNA polymerase which is stable at high temperature ( $>90^{\circ}\text{C}$ ) is required to carry out the synthesis of new DNA. The DNA polymerase like *Taq* polymerase is generally used in PCR reactions which is isolated from a bacterium *Thermus aquaticus*

<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>D</b>	<b>A</b>	<b>A</b>	<b>D</b>	<b>C</b>	<b>D</b>	<b>C</b>	<b>D</b>	<b>A</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>B</b>	<b>D</b>	<b>C</b>	<b>D</b>	<b>D</b>	<b>A</b>	<b>A</b>	<b>D</b>	<b>B</b>

**PE**