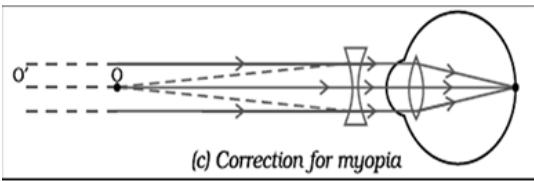






29	<p>A. X: transpirational pull Y: root pressure</p> <p>B. Transpirational pull: evaporation of water molecules from the stomata of a leaf due to transpiration creates a suction that pulls water from the xylem cells of roots.</p> <p>Root pressure: Active absorption of ions by roots from the soil causes water to steadily move into the root xylem creating a column of water that is pushed upwards.</p>	0.5 0.5 1 1	3				
30	<p>(Any letter which clearly indicated dominant and recessive ears, example, L or E or any other)</p> <p>A.</p> <div style="text-align: center;"> <p>Long Ear                  Short Ear</p> <p>LL                  x                  ll</p> <p>↓                                  ↓</p> <p>L                                  l</p> <p>    \                                  /</p> <p>    F<sub>1</sub> → Ll Long Ear</p> <p>    L                  l</p> <p>F<sub>2</sub> { L                  l</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>LL</td> <td>Ll</td> </tr> <tr> <td>Ll</td> <td>ll</td> </tr> </table> <p>1 LL : 2 Ll : 1 ll</p> </div> <p>B. No change in ratio/the ratio of F<sub>2</sub> generation will still be 1LL:2Ll:1ll/ ratio will be the same. As the cross is still between a pure dominant and recessive allele / genes / traits as shown in the cross above.</p>	LL	Ll	Ll	ll	1  1 1	3
LL	Ll						
Ll	ll						
31	<p>(a) Myopia (b) Concave lens u = -∞, v = -2m <math>\frac{1}{v} - \frac{1}{u} = \frac{1}{f}</math></p> <p><math>\Rightarrow \frac{1}{-2} - \frac{1}{(-\infty)} = \frac{1}{f}</math>  <math>\Rightarrow \frac{1}{-2} = \frac{1}{f}</math>      (<math>\frac{1}{(\infty)} \rightarrow 0</math>)  <math>\Rightarrow f = -2 \text{ m}</math>  <math>P = \frac{1}{f}</math>  <math>\Rightarrow P = \frac{1}{-2}</math>  <math>\Rightarrow P = -0.5 \text{ D}</math></p> <div style="text-align: center;">  <p>(c) Correction for myopia</p> </div> <p>Diagram NCERT BOOK page 189 fig 11.2 (c)</p>	½ ½  ½  1	3				



35	<p>A. Refer to Page No 117 of NCERT Science Text Book, Std-X (any two)</p> <p>B. Non-reproductive parts are hyphae and reproductive parts are the sporangia which contain the spores</p> <p>C. The spores are covered by thick walls that protect them until they come in contact with a moist surface and begin to grow</p> <p>D. Amoeba divides into two daughter cells in any plane. Leishmania forms two daughter cells in a specific plane i.e., longitudinally while Plasmodium divides to form many daughter cells by multiple fission.</p> <p style="text-align: center;"><b>OR</b></p> <p>A. Planaria shows the property of regeneration So, if we cut a portion of Planaria, it will develop into a new organism from just a broken or cut part of parent organism.</p> <p>B. Stigma is the terminal part of the carpel. It helps in receiving the pollen during pollination. So, if we remove the stigma then pollination will not occur.</p> <p>C. If style is plugged from a flower, than pollen grain containing male gametes will not be able to reach ovary and fertilisation will not occur as the hollow style provides path for pollen tube development.</p> <p>D. Implantation will not takes place.</p> <p>E. If the Fallopian tube is plugged then the egg will not be able to reach the uterus and thus fertilisation will not take place.</p>	<p>1+1</p> <p>.5+.5</p> <p>.5</p> <p>.5x3</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	5
36	<p>A. <math>R_p = \frac{8 \times 8}{8 + 8} = 4\Omega</math></p> <p>B. <math>I = \frac{V}{R_{eq}} = \frac{8V}{8\Omega} = 1A</math></p> <p>C. <math>V = IR = 1A \times 4\Omega = 4V</math></p> <p>D. <math>P = \frac{V^2}{R} = \frac{4^2}{4} = 4W</math></p> <p>E. No difference can be seen in ammeter's reading. As same current flows through each element in a series circuit.</p> <p style="text-align: center;"><b>OR</b></p> <p>A. in series, <math>R_{eq} = 9+9+9= 27 \Omega</math></p> <p>B. in parallel , <math>1/ R_{eq} = 1/9 + 1/9+ 1/9, R_{eq} = 9/3 = 3\Omega</math></p> <p>C. 9 <math>\Omega</math> in series 9<math>\Omega</math> and the combination in parallel with 9<math>\Omega</math>  So <math>1/ R_{eq} = 1/18 + 1/9</math>  <math>R_{eq} = 6\Omega</math>  (Diagram representation can also be awarded)</p> <p>D. any two advantages of parallel combination  If one appliance stops working, others are not affected  All appliance have same potential difference across them</p>	<p><math>1/2+1/2</math></p> <p><math>1/2+1/2</math></p> <p><math>1/2+1/2</math></p> <p><math>1/2+1/2</math></p> <p><math>1/2+1/2</math></p> <p><math>1/2+1/2</math></p> <p><math>1/2+1/2</math></p> <p><math>1/2+1</math></p> <p><math>1/2+1</math></p> <p><math>1/2+1/2</math></p>	5

<b>SECTION-E</b>													
37	<p>A. A chemical reaction in which an ester reacts with an alkali to form alcohol and salt of the carboxylic acids is known as esterification.</p> <p>B. Micelle</p> <p>C. Soaps are sodium salts of long-chain carboxylic acids. Detergents are generally sodium salts of sulphonic acids or ammonium salts with chlorides or bromides ions, both have long-hydrocarbon chain.</p> <p style="text-align: center;"><b>OR</b></p> <p>D. Soap, as it forms scum in hard water whereas detergent do not form scum in hard water.</p>	1  1 2  1+1	4										
38	<p>A. It is an unconscious, automatic and involuntary response of the body to a stimulus which is monitored through the spinal cord is called reflex action. When the reflex arc is formed in the spinal cord the information input goes on to reach the brain.</p> <p style="text-align: center;"><b>OR</b></p> <p>B. Limitations of Nervous coordination.</p> <p>(i) Firstly, they will reach only those cells that are connected by nervous tissue, not each and every cell in the animal body.</p> <p>(ii) Secondly, once an electrical impulse is generated in a cell and transmitted, the cell will take some time to reset its mechanisms before it can generate and transmit a new impulse.</p> <p>C.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Reflex Action</th> <th style="width: 50%;">Walking</th> </tr> </thead> <tbody> <tr> <td>Reflex action takes place without thought</td> <td>Walking takes place after thought</td> </tr> <tr> <td>Controlled by spinal cord</td> <td>Controlled by cerebellum.</td> </tr> <tr> <td>The intensity of the impulse cannot be changed</td> <td>The intensity can be changed</td> </tr> <tr> <td>It has survival and protection value</td> <td>It has various functions other than survival and protection</td> </tr> </tbody> </table> <p>(Any one point can be considered)</p> <p>D. Cerebrum / Forebrain and cerebellum/ hindbrain</p>	Reflex Action	Walking	Reflex action takes place without thought	Walking takes place after thought	Controlled by spinal cord	Controlled by cerebellum.	The intensity of the impulse cannot be changed	The intensity can be changed	It has survival and protection value	It has various functions other than survival and protection	1+1          1          .5+.5	4
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39	<p>A. converging or convex lenses / (<math>L_1</math> - Convex, <math>L_2</math> - Convex)</p> <p>B. <math>L_1</math> as it has more power</p> <p>C. <math>f = 20\text{cm}</math>, <math>u = -15\text{cm}</math>  <math>1/v = 1/u + 1/f</math>  <math>= -1/15 + 1/20 = -1/60</math>            Or <math>v = -60\text{cm}</math></p> <p style="text-align: center;"><b>OR</b></p> <p>D. <math>f = 30\text{cm}</math>  <math>P = 100/f = 100/30 = 3.33\text{D}</math></p>	$1/2 + 1/2$ 1 1+1       1+1	4										

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