

**INSTRUCTION FOR VALUATION**

மாதிரிப்பொதுத்தேர்வு விடைத்தாள்களை மதிப்பீடு செய்ய முன்வந்துள்ள தங்களுக்கு நன்றியைத் தெரிவித்துக்கொள்கிறோம். மாதிரிப் பொதுத்தேர்வு விடைத்தாள்களை அரசுப் பொதுத்தேர்வு விடைத்தாள்களை மதிப்பிடுவதைப் போன்றே சிறப்பாக, விரைவாக, குறைபாடுகளுக்கு இடமின்றி மதிப்பிட்டுத் தருமாறு உங்களை அன்புடன் வேண்டுகிறோம்.

- ★ விடைக்குறிப்பினைப் பல்வேறு ஆசிரியர்கள் சரிபார்த்த பிறகே இறுதி செய்துள்ளோம். அதன்படியே மதிப்பீடு செய்யுங்கள். ஏதேனும் தவறுகள் உங்களுக்குத் தென்பட்டால் 7397774508 என்ற எண்ணில் தொடர்புகொண்டு கலந்தாலோசித்த பிறகே விடை குறிப்பில் திருத்தம் செய்யவேண்டுமே தவிர நீங்களாகத் திருத்தம் செய்யவேண்டாம். தமிழ்நாடு முழுவதும் பொதுவான தேர்வு என்பதால் மதிப்பீட்டுப் பணிகளில் வேறுபாடுகள் ஏற்பட்டுவிடக்கூடாது என்பதற்காகவே இதனைக் கூறுகிறோம்.
- ★ விடைத்தாள்களைச் சிவப்பு மை கொண்டு மட்டுமே மதிப்பிட வேண்டும். வேறு வண்ணங்களில் மதிப்பிடக்கூடாது.
- ★ தவறுகளை வட்டமிட்டு அல்லது அடிக்கோடிட்டுக் காட்டி, மாணவர்கள் எழுதியிருக்கும் விடைகளின் தரத்திற்கேற்றவாறு மதிப்பெண்களைக் கொடுக்கவும்.
- ★ விடைத்தாளின் வலதுபுற கோட்டுக்குப் பிறகு உள்ள இடத்தில் ஒவ்வொரு வினாவிற்கும் நேராக உங்கள் மதிப்பெண்களை எழுதவும். பக்கவாரியான கூடுதல்களை அந்தந்தப் பக்கங்களின் கீழே எழுதவும்.
- ★ விடைத்தாளின் முன்பக்கத்திலுள்ள 'வினா எண் வாரியான கூடுதல்கள்' 'பக்கவாரியான கூடுதல்கள்' போன்றவற்றை நிரப்பி, அவற்றைக் கூட்டி, இவ்விரு பகுதிகளின் மொத்த மதிப்பெண்ணும் ஒன்றாக வருகிறதா என சரிபார்த்தபின் மொத்த மதிப்பெண்ணை விடைத்தாளின் வலது மேல் மூலையில் தெளிவாக எழுதவும்.
- ★ திருத்திய விடைத்தாள்களை மாதிரித் தேர்வுப் பொறுப்பாளரிடம் வரிசைப்படி அடுக்கி கட்டிக் கொடுத்துவிடுங்கள்.

**வினாக்களுக்கு மதிப்பெண் வழங்குவதில் நினைவில் கொள்ள வேண்டியவை :**

- ★ கட்டாய வினாவிற்கு (compulsory Question) பதிலாக வேறு வினாவிற்கு விடையளித்திருந்தால் அதற்குக் கட்டாயம் மதிப்பெண் வழங்கக் கூடாது.
- ★ வினா எண் எழுதவில்லை எனில் மதிப்பெண் வழங்காதீர்கள்.
- ★ ஒரு மதிப்பெண் வினாவிற்கு வினா எண், விடை மற்றும் அதன் குறியீடு ஆகிய மூன்றுமே சரியாக இருந்தால் மட்டுமே முழு மதிப்பெண் வழங்க வேண்டும்.
- ★ சில கேள்விகளுக்கு Mark Allocation வழங்கப்பட்டுள்ளது. அதன் அடிப்படையில் மதிப்பெண் வழங்க வேண்டும்.
- ★ ஒன்றுக்கும் மேற்பட்ட விடைகளுடைய வினாக்கள், பாடம் சார்ந்த பத்திவினாக்கள், சுயமாக எழுதக்கூடிய வினாக்கள் போன்றவற்றிற்கு விடைக்குறிப்பில் இல்லாத பொருத்தமான விடைகளை மாணவர்கள் எழுதி இருப்பின் அதற்கேற்ப மதிப்பெண் வழங்கலாம். ஏதேனும் சந்தேகம் இருப்பின் மேற்கூறிய எண்ணைத் தொடர்புகொள்ளவும். ஆசிரியர் மாணவர் சார்ந்த கல்விப்பணியில் எங்களோடு இணைந்துள்ள உங்களுக்கு, உங்களது கல்விப்பணி என்றென்றும் சிறந்து விளங்க வாழ்த்துகளையும் நன்றியையும் தெரிவித்துக்கொள்கிறோம்.

**SCIENCE ANSWER KEY****PART – I**

Answer all the questions.

12 × 1 = 12

Q.NO	OPTION	ANSWERS	UNITS	MARKS
1.	(c)	in front of the retina	(Unit - 2)	1
2.	(b)	340 m/s	(Unit - 5)	1
3.	(d)	I-3, II-4, III-1, IV-2	(Unit - 6)	1
4.	(a)	A ← B, A ← C, B ← C	(Unit - 3)	1
5.	(d)	14 g	(Unit - 7)	1
6.	(c)	$A_{(aq)} + B_{(aq)} \rightarrow C_{(s)} + D_{(aq)}$	(Unit - 10)	1
7.	(b)	alkene	(Unit - 11)	1
8.	(b)	33 segments	(Unit - 13)	1
9.	(d)	hypothalamus	(Unit - 15)	1
10.	(d)	F.W. Went	(Unit - 16)	1
11.	(d)	Central Nervous System	(Unit - 21)	1
12.	(c)	May 28 <sup>th</sup>	(Unit - 17)	1

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**SSLC MODEL PUBLIC EXAM ANSWER KEY 2023-24**

**SCIENCE**

**PART – II**

Answer any seven of the following questions. Q.no 22 is compulsory.

$7 \times 2 = 14$

Marks should not be given if alternative question are answers instead of compulsory question.

Q.No	ANSWERS	MARKS
13.	i) Used to measure the dimensions of heavenly bodies like Mass & radius of Earth etc. ii) Helps in discovering new stars and planets. iii) In Wobble condition the mass of the star can be calculated using the law of gravitation. iv) It explains germination of roots due to the property of geotropism. v) Helps to predict the path of astronomical bodies. <span style="float: right;">(Any 2 points) [Unit-1]</span>	2
14.	❖ As amplitude of vibration of air is greater than liquid and liquid molecules do not vibrate freely like air, an empty vessel produces more sound than a filled one. ❖ Also intensity of sound is increased by multiple reflections in empty vessel. <span style="float: right;">[Unit-5]</span>	2
15.	<b>Hydrated salt:</b> <span style="float: right;">[Unit-9]</span> Ionic substances crystallize out from their saturated aqueous solution with a definite number of molecules of water. Such salts are called hydrated salts. <i>Eg</i> : Blue vitriol – $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	2
16.	<b>Uses of Ethanol:</b> <span style="float: right;">[Unit-11]</span> 1.medical wipes, as an antiseptic.                      2. an anti-freeze in automobile radiators. 3.hand sanitizers to kill microorganisms.        4. an antiseptic to sterilize wounds in hospitals. 5.solvent for drugs, oils, fats, etc.,                6. to enhance the flavour of food extracts.	2
17.	Tissue between upper and lower epidermis of leaf is called mesophyll. It is differentiated into, ❖ <b>Palisade parenchyma:</b> It is found below upper epidermis. These are elongated cells with more chloroplasts. Cells do not have intercellular spaces. Helps in photosynthesis. ❖ <b>Spongy parenchyma:</b> It is found below the palisade parenchyma. These are spherical or oval cells & arranged irregularly with intercellular spaces. Helps in gaseous exchange. <span style="float: right;">[Unit-12]</span>	2
18.	i) The rings of cartilages are found in trachea of rabbit to help in the free passage of air. ii) The teeth of rabbit called as heterodont. Because, they have four different types of teeth namely Incisors (I), Canines (C), Premolars (PM) & Molars (M). <span style="float: right;">[Unit-13]</span>	1 1
19.	<b>A - White Matter    B - Central Canal    C - Posterior Horn    D - Anterior Horn</b> <span style="float: right;">[Unit-15]</span>	2
20.	Organic farming uses natural manures like plant debris, animal faeces and microbes to make soil fertile. It adds nutrients like nitrogen, phosphorus, potassium to soil. ❖ In Organic farming, 1. Proper soil management is done.                      2. Food chain is protected. 3. It doesn't cause global warming.        4. It is very cheap as no no genetically altered seeds ❖ Whereas, Green revolution uses high yielding crop varieties and modern agricultural techniques like fertilizers and pesticides which are toxic and cause pollution. ❖ Hence, organic farming is safer, healthier than green revolution. <span style="float: right;">[Unit-20]</span>	2
21.	❖ Allosomes are chromosomes, which are responsible for determining the sex of an individual. ❖ They are also called as sex chromosomes (or) hetero-chromosomes. ❖ There are two types of sex chromosomes X & Y chromosome. ❖ Human male have XY chromosomes. Human female have XX chromosomes. <span style="float: right;">[Unit-18]</span>	2
22.	<b>Solution:</b> $R_s = R_1 + R_2 + R_3 = 5 + 3 + 2 = 10 \Omega$ $I = \frac{V}{R_s} = \frac{10}{10} = 1 \text{ A} \therefore$ The current through the circuit is 1A. <span style="float: right;">[Unit-4]</span>	2

**PART – III**

Answer any seven of the following questions. Q.no 32 is compulsory.

$7 \times 4 = 28$

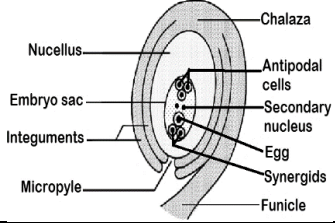
Q.No	ANSWERS	MARKS
23. i)	<b>Snell's Law:</b> <span style="float: right;">[Unit-2]</span> The ratio of the sine of the angle of incidence and sine of the angle of refraction is equal to the ratio of refractive indices of the two media. <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <math display="block">\frac{\sin i}{\sin r} = \frac{\mu_2}{\mu_1}</math> </div>	2
ii)	<b>Applications or uses of concave lens:</b> ♦ eye lens of 'Galilean Telescope' ♦ wide angle spy hole in doors. ♦ correct the eye defect, myopia.	2

## SCIENCE

**WTS & SMARTA – SSLC Model Public Exam 2023-24 – Science - Answer Key | Page - 3**

**WAY TO SUCCESS & SMART TEACHERS ASSOCIATION**  
**SSLC MODEL PUBLIC EXAM ANSWER KEY 2023-24**

**SCIENCE**

28.	<p><b>Transpiration:</b> It is the evaporation of water from aerial parts of plants through stomata in the leaves.</p> <p><b>Importance of transpiration:</b> [Unit-14]</p> <ul style="list-style-type: none"> <li>❖ It creates transpiration pull for transport of water.</li> <li>❖ It supplies water for photosynthesis.</li> <li>❖ It transports minerals from soil to all parts of the plants.</li> <li>❖ It cools the surface of the leaves by evaporation.</li> <li>❖ It keeps the cells turgid, hence maintains their shape.</li> </ul>	4
29.	<p>The gaseous plant hormone is ethylene. Its physiological effects in plants are, [Unit-16]</p> <ul style="list-style-type: none"> <li>❖ It promotes the ripening of fruits. Eg : Tomato, Apple, Mango, Banana, etc.,</li> <li>❖ It inhibits the elongation of stem and root in dicots.</li> <li>❖ It hastens the senescence of leaves and flowers.</li> <li>❖ It stimulates formation of abscission zone in leaves, flowers &amp; fruits leading to premature shedding.</li> <li>❖ It breaks the dormancy of buds, seeds and storage organs.</li> </ul>	4
30.	<p><b>Structure of the Ovule :</b> [Unit-17]</p> <ol style="list-style-type: none"> <li>The main part of the ovule is the nucellus.</li> <li>It is enclosed by two integuments with an opening called micropyle.</li> <li>The ovule is attached to the ovary wall by a stalk known as funiculus.</li> <li>Chalaza is the basal part.</li> <li>The embryo sac contains seven cells and the eighth nuclei within the nucellus. <ul style="list-style-type: none"> <li>❖ Egg apparatus includes 3 cells at micropylar end.</li> <li>❖ Antipodal cells includes 3 cells at chalaza end.</li> <li>❖ Remaining 2 nuclei in the centre is polar nuclei.</li> </ul> </li> </ol> 	4
31.	<p>i) Tidal energy is the energy obtained from the movement of water due to ocean tides. [Unit-22]</p> <p><b>Advantages of tidal energy :</b></p> <ol style="list-style-type: none"> <li>It does not produce any pollution.</li> <li>No fuel is used &amp; no waste is produced.</li> <li>It can be produced at any time when tides are predictable.</li> <li>It generates electricity at lower speeds than wind turbines.</li> </ol> <p>ii) Applications of DNA fingerprinting technique [Unit-20]</p> <ul style="list-style-type: none"> <li>❖ It is used in forensic applications.</li> <li>❖ It is used for paternity testing.</li> <li>❖ It helps in the study of genetic diversity of population, evolution and speciation.</li> </ul>	2 2
32.	<p>i) Molecular mass of <math>\text{Al}_2(\text{SO}_4)_3 = (2 \times 27) + (3 \times (32 + (4 \times 16)))</math> [Unit-7]</p> $= (2 \times 27) + (3 \times 96) = 54 + 288 = 342 \text{ g}$ $\% \text{ of O in } \text{Al}_2(\text{SO}_4)_3 = \frac{\text{Mass of Oxygen}}{\text{Molecular Mass of } \text{Al}_2(\text{SO}_4)_3} \times 100 = \frac{3 \times 4 \times 16}{342} \times 100$ $= \frac{192}{342} \times 100 = 56.14\%$ <p>ii) <b>Solution :</b> <math>\text{pH} = -\log_{10}[\text{H}^+]</math> [Unit-10]</p> $= -\log_{10}[10^{-4}]$ $= -(-4) \log_{10} 10$ $= 4(1) = 4 \quad (\because \log_{10} 10 = 1)$ <p><math>\therefore</math> pH of <math>1.0 \times 10^{-4}</math> molar solution of <math>\text{HNO}_3</math> is 4.</p>	2 2



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**SSLC MODEL PUBLIC EXAM ANSWER KEY 2023-24**

**SCIENCE**

**PART – IV**

**Answer all the questions.**

**3 × 7 = 21**

Q.No	ANSWERS	MARKS
33.	<p><b>Types of Inertia:</b> [Unit-1]</p> <p>a) i) a) Inertia of rest : It is the resistance of a body to change its state of rest.  Eg : When we shake the branches of a tree, some leaves and fruits are detached &amp; fall down.</p> <p>b) Inertia of motion :It is the resistance of a body to change its state of motion.  Eg : An athlete runs some distance before jumping for a longer and higher jump.</p> <p>c) Inertia of direction :It is the resistance of a body to change its direction of motion .  Eg : When we make a sharp turn while driving a car, we tend to lean sideways.</p>	3
ii)	<p><b>Principle of Moments:</b></p> <p>When like or unlike parallel forces act on a rigid body at equilibrium, the algebraic sum of moments in clockwise direction is equal to the algebraic sum of moments in anticlockwise direction. [Unit-1]</p> <p>Moment of clockwise direction <math>F_1 d_1</math> = Moment of anticlockwise direction <math>F_2 d_2</math></p>	2
iii)	<p><b>Myopia:</b> [Unit-2]</p> <ul style="list-style-type: none"> <li>❖ It occurs due to the lengthening of eye ball.</li> <li>❖ The focal length of eye lens is reduced or the distance between eye lens and retina increases.</li> <li>❖ The image of distant objects are formed before retina.</li> </ul>	2
b) i)	<p><b>Ideal Gas Equation :</b> [Unit-3]</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>According to Boyle's law <math>PV = \text{Constant} \dots (1)</math></p> <p>According to Charles's law <math>\frac{V}{T} = \text{Constant} \dots (2)</math></p> <p>According to Avogadro's law <math>\frac{V}{n} = \text{Constant} \dots (3)</math></p> <p>Combine (1), (2) &amp; (3) <math>\frac{PV}{nT} = \text{Constant} \dots (4)</math></p> <p>This is called a combined law of gases.</p> <p>For a gas of <math>\mu</math> moles, number of atoms is <math>\mu</math> times Avogadro's number, <math>N_A \therefore n = \mu N_A \dots (5)</math></p> </div> <div style="width: 45%;"> <p>Equation (5) in (4),</p> <math display="block">\frac{PV}{\mu N_A T} = \text{Constant} = \text{Boltzmann constant}(k_B)</math> <p><math>PV = \mu N_A k_B T (k_B = 1.38 \times 10^{-23} \text{J K}^{-1})</math></p> <p><math>\mu N_A k_B = R = 8.31 \text{ J mol}^{-1} \text{K}^{-1}</math>,  'R' → Universal gas constant.</p> <p>Thus the ideal gas equation (or) equation of state is <b>PV = RT</b>.</p> </div> </div>	5
ii)	<p><b>Two conditions necessary for hearing an echo:</b> [Unit-5]</p> <ol style="list-style-type: none"> <li>1. Minimum time gap between the original sound and an echo must be 0.1 s.</li> <li>2. Minimum distance required is <math>1/20^{\text{th}}</math> part of the magnitude of velocity of sound in air.  For air, 17.2 metre.</li> </ol>	2
34.a)	<p><b>Salient features of "Modern atomic theory"</b> [Unit-7]</p> <ul style="list-style-type: none"> <li>❖ An atom is no longer indivisible. It is divided into electron, proton and neutron.</li> <li>❖ <b>Isotope</b> : Atoms of the same element having different atomic mass. <b>Eg :</b> <math>^{35}_{17}\text{Cl}</math>, <math>^{37}_{17}\text{Cl}</math></li> <li>❖ <b>Isobars</b> : Atoms of different elements having same atomic masses. <b>Eg :</b> <math>^{40}_{18}\text{Ar}</math>, <math>^{40}_{20}\text{Ca}</math></li> <li>❖ <b>Artificial transmutation</b> : Atom is no longer indestructible. Atom of one element can be transmuted into atoms of other elements.</li> <li>❖ Atoms may not always combine in a simple whole number ratio.  <b>Eg :</b> Glucose <math>\text{C}_6\text{H}_{12}\text{O}_6</math> C:H:O = 6:12:6 or 1:2:1</li> <li>❖ Atom is the smallest particle that takes part in a chemical reaction.</li> <li>❖ The mass of an atom can be converted into energy. <b><math>E = mc^2</math></b></li> </ul>	4
i)	<p><b>Methods to Prevent Metal Corrosion:</b> [Unit-8]</p> <p>(i) <b>Alloying</b> : The metals can be alloyed to prevent the process of corrosion. <b>Eg:</b> Stainless steel.</p> <p>(ii) <b>Surface Coating</b>: It involves application of a protective coating over the metal.</p> <ul style="list-style-type: none"> <li>• <b>Galvanization</b> is the process of coating zinc on iron sheets by using electric current.</li> <li>• <b>Electroplating</b> is a method of coating one metal over another metal by passing electric current.</li> <li>• <b>Anodizing</b> is an electrochemical process that converts the metal surface into a decorative, durable and corrosion resistant. Aluminium is widely used.</li> <li>• <b>Cathodic Protection</b> is a method where the metal to be protected is coated with an easily corrodible metal, which acts as a sacrificial metal and ensures cathodic protection.</li> </ul>	3

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**SSLC MODEL PUBLIC EXAM ANSWER KEY 2023-24**

**SCIENCE**

b) i)	<p><b>Factors affecting solubility:</b> There are 3 main factors which govern the solubility of a solute. <span style="float: right;">[Unit-9]</span></p> <p><b>i) Nature of the solute and solvent:</b></p> <ul style="list-style-type: none"> <li>❖ “Like dissolves Like”- dissolving occurs only when similarities exist between solvent &amp; solute.</li> <li>❖ Polar compounds are soluble in polar solvents. <i>Eg: Common salt dissolves in water.</i></li> <li>❖ Non-polar compounds are soluble in non-polar solvents. <i>Eg: Fat dissolved in ether.</i></li> </ul> <p><b>ii) Temperature:</b></p> <p><b>a) Solubility of solid in liquid:</b></p> <ul style="list-style-type: none"> <li>❖ Solubility increases with increase in temperature. <i>Eg: More sugar dissolves in warm water than in cold water.</i></li> <li>❖ In endothermic process, solubility increases with increase in temperature.</li> <li>❖ In exothermic process, solubility decreases with increase in temperature.</li> </ul> <p><b>b) Solubility of gases in liquid:</b></p> <ul style="list-style-type: none"> <li>❖ Solubility decreases with increase in temperature. <i>Eg: Oxygen escapes as bubbles, in boiling water.</i></li> <li>❖ Solubility is more at low temperatures. <i>Eg : Aquatic animal live more in cold regions.</i></li> </ul> <p><b>iii) Pressure:</b> When pressure is increased, solubility is increased. <i>Eg : soft drinks.</i></p>	5
ii)	<p><math display="block">\text{KCl}_{(aq)} + \text{AgNO}_{3(aq)} \longrightarrow \text{KNO}_{3(aq)} + \text{AgCl}_{(s)} \downarrow</math> <span style="float: right;">[Unit-10]</span></p> <p style="text-align: center;"><i>Potassium nitrate      White precipitate</i></p> <ul style="list-style-type: none"> <li>❖ When aqueous solution of potassium chloride reacts with aqueous solution of silver nitrate, Silver and Potassium displaces with each other and forms a curd like white precipitate of AgCl and potassium nitrate. It is called as double displacement reaction.</li> </ul>	2
35.a) i)	<p><b>Cellular Respiration:</b> It is the biochemical process in cells where food is oxidized to obtain energy. <span style="float: right;">[Unit-12]</span></p> <p style="text-align: center;"><math display="block">\text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2 \rightarrow 6\text{CO}_2 + 6\text{H}_2\text{O} + \text{ATP}</math></p> <p><b>Stages of Aerobic Cellular Respiration :</b></p> <p><b>Glycolysis:</b> It is the first step of both aerobic and anaerobic respiration.</p> <ul style="list-style-type: none"> <li>❖ One glucose molecule breakdown into two molecules of pyruvic acid in cytoplasm.</li> </ul> <p><b>Krebs cycle (or) Tricarboxylic Acid cycle (TCA):</b></p> <ul style="list-style-type: none"> <li>❖ After glycolysis, two molecules of pyruvic acid is oxidized to CO<sub>2</sub> &amp; water in mitochondria matrix.</li> </ul> <p><b>Electron Transport chain (ETC):</b></p> <ul style="list-style-type: none"> <li>❖ It occurs through electron carrier complex in the inner membrane of mitochondria.</li> <li>❖ NADH<sub>2</sub> and FADH<sub>2</sub> molecules formed during glycolysis and Krebs cycle are oxidised to NAD<sup>+</sup> and FAD<sup>+</sup> to release the energy via electrons.</li> <li>❖ The electrons release energy, which is trapped by ADP to synthesize ATP.</li> <li>❖ This is called oxidative phosphorylation. Here O<sub>2</sub>, acceptor is reduced to water.</li> </ul>	5
ii)	<p><b>Pacemaker of heart:</b> <span style="float: right;">[Unit-14]</span></p> <p>Sinoatrial node initiates an impulse, which stimulates the heart muscles to contract. Thus, SA node plays an important role in the initiation of heartbeat and acts as the pacemaker of heart.</p>	2
b) i)	<p><b>1) Overproduction:</b> Living beings reproduce more individuals and multiply geometrically.</p> <p><b>2) Struggle for existence:</b> Overproduction leads to increase in population. But the space to live and food available remains same. This creates a competition among organisms.</p> <ul style="list-style-type: none"> <li>❖ <b>Intraspecific struggle:</b> Competition among the individuals of same species.</li> <li>❖ <b>Interspecific struggle :</b> Competition between organisms of different species living together.</li> <li>❖ <b>Environmental struggle:</b> Natural conditions like extreme heat or cold, drought &amp; floods.</li> </ul> <p><b>3) Variations:</b> The favourable variations are useful &amp; unfavourable variations are useless.</p> <p><b>4) Survival of the fittest or Natural selection:</b> During the struggle,</p> <ul style="list-style-type: none"> <li>❖ Organisms which overcome the challenge will survive and adapt to environment.</li> <li>❖ Organisms which are unable to face the challenges are unfit to survive and disappear.</li> <li>❖ This is called natural selection which is the key for evolution. <span style="float: right;">[Unit-19]</span></li> </ul> <p><b>5) Origin of species:</b> New species originates by gradual accumulation of favourable variations.</p>	5
ii)	<p><b>Methods to prevent soil erosion :</b></p> <ul style="list-style-type: none"> <li>♦ Retain vegetation cover, so that soil is not exposed. ♦ Cattle grazing should be controlled.</li> <li>♦ Crop rotation and soil management improve organic matter of the soil.</li> <li>♦ Runoff water should be stored in the catchment. ♦ Reforestation, terracing &amp; contour ploughing.</li> <li>♦ Wind speed can be controlled by planting trees in form of a shelterbelt. <span style="float: right;">[Unit-22]</span></li> </ul>	2