

10 SCIENCE QUESTION BANK 2022-23

CLASS 10 SCIENCE QUESTION BANK 2023

(WITH TEXT BOOK PAGE NUMBER)

Question Bank from

- **GOVT PUBLIC EXAM PREVIOUS YEAR QUESTION PAPER -**
SEPTEMBER 2020(S20), SEPTEMBER 2021(S21), MAY 2022, AUGUST 2022
QY -Quarterly 2019, MQP- MODEL Question paper 2019, FRQ- First revision exam-2022, SRQ- Second revision exam-2022.

- **Text book inside**

QUESTION PATTERN

PART -I choose the correct answer	1 mark	12x1=12
PART- II Answer any seven questions (10)	2 mark	7 x2=14 QNo:22 compulsory
PART- III Answer any seven questions (10)	4 mark	7 x4=28 QNo:32 compulsory
PART- IV Answer ALL questions (6)	7 mark	3 x7=21 within choice
TOTAL 75MARKS		75/114

PHYSICS

UNIT 1 LAWS OF MOTION

1. What is mechanics? Explain its branches. (2)
2. Define inertia. Give its classification. (2) (Aug 22)
3. What are the types of inertia. (2) (Aug 22, PTA)
4. Give any two examples of inertia. (2) (Aug 22)
5. Define linear momentum. (3)
6. State Newton's law of motion. (3,6,7) (Sep 21 7 MARK Aug 22)
7. State Newton's first law. (3)
8. What is meant by force. (3)
9. Classify the types of force based on their application. (3) (Aug 22)
10. Define resultant force. (3)
11. Define moment of the force and moment of a couple. (5)
12. Application of Torque (5). Write short notes on gears. (5) (Sep 20)
13. State the principle of moments. (6)
14. State Newton's second law of motion. (6) (GMQP 19; May 22)
15. Deduce the equation of a force using Newton's second law of motion. (6)
16. Define 1 newton (N). (6)
17. State Newton's Third law of motion. (7)
18. Give any two examples of Newton's law of motion.(7)
19. Define impulse. (7)
20. Name the law of motion used in flying of birds. Give another example for the same Law. (7) (PTA 2)
21. State and prove the law of conservation of linear momentum. (7) (GMQP – 19)

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22. Describe rocket propulsion. (8) (Sep 20 4MARK Aug 22)
23. State Newton's universal law of gravitation and derive its mathematical expression. (8)
24. Relation between g and G . (9)
25. Differentiate mass and weight. (10) (May 22)
26. Explain the application of Newton's law of gravitation. (12)
27. Calculate the velocity of a moving body of mass 5 kg whose linear momentum is 2kg ms^{-1} . (12) (GMQP 19)
28. At what height from the centre of the earth surface, the acceleration due to gravity will be $\frac{1}{4}$ of its value on the surface of the earth. (12) (PTA-6)
29. Why the apples weight more at poles than at a equator. (PTA-3)
30. A force of 5N applied on a body produces an acceleration 5cm s^{-2} . Calculate the mass of the body (PTA-5)
31. (i) Shock absorbers are use in luxury buses. why?
(ii) A weight of a man is 686 N on the surface of the earth. Calculate the weight of the same person on moon.
(iii) Name the law of motion used in flying of birds. Give another example for the same law. (PTA-2)
32. A body of mass m is initially moving with a velocity u . when a force F acts on the body it picks up with the velocity v in t seconds so that the acceleration is produce using this data derive the relation between the force, mass and acceleration. (PTA-5)
33. A lift is moving downwards with an acceleration of 1.8 ms^{-2} . What is apparent weight realized by a man of mass 50 kg? (PTA 1) & Study well book Evaluation.

UNIT 2 OPTICS

1. Explain the properties of light? (16) (May 22, QY 19)
2. Define refraction of light. (17)
3. State First law of refraction. (17)
4. State second law of refraction. Snell's law (17) (QY 19, Aug22)
5. Define dispersion of light. (17)
6. Explain the types of scattering. (18)
7. State Rayleigh's scattering law. (18) (PTA-3)
8. Write note on Mie scattering, Tyndall scattering, Raman Scattering. (18)
9. Define lens. (19)
10. What are the types of lens? (Basic classification) (19)
11. What is meant by Plano-convex lens? (19)
12. What is meant by Plano-concave lens? (19)
13. Explain images formed due to refraction through a convex and concave lens. (20)
14. Draw formation of images by a convex lens when the objects is placed at infinity, beyond C, at C, between F and C, Principal focus F, Between the principal focus F and optical centre O (20)

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15. Draw a ray diagram to show the image formed by a convex lens when the object is placed between F and 2F. **(GMQP 19)**
 16. Draw formation of images by a concave lens when the objects is placed at infinity, Object anywhere on the principal axis at a finite distance. (21,22)
 17. What are the applications of convex lenses? (Any two) (21)
 18. What are the applications of concave lenses? (Any two) (22) **(Sep 21 7 MARK ii)**
 19. Write Lens formula. (22)
 20. Explain sign convention. (22)
 21. Differentiate concave lens and convex lens. (23) **(PTA-3, QY 19)**
 22. Draw structure of the human eye. (24)
 23. Explain defects in eye? (25)
 24. What are the causes of 'Myopia'? **(GMQP 19)**
 25. Differentiate the eye defects: Myopia and Hypermetropia. (25) **(PTA 6; Sep 21 7MARK Aug 22)**
 26. Explain simple microscope. What are the uses of simple microscope? (26) **(Sep 20)**
 27. (i) Draw the ray diagram of image formation in simple microscope. (ii) Find the position and write its nature and size of the image form **(PTA-2)**
 28. Explain the construction and working of a Compound microscope. (26) **QY-19**
 29. Explain types of Telescopes. What are the advantages and disadvantages of telescope? (27)
 30. A beam of light passing through a diverging lens of focal length 0.3m appear to be focused at a distance 0.2m behind the lens. Find the position of the object. (28) **(Sep20 2mark compulsory)**
 31. A person with myopia can see objects placed at a distance of 4m. If he wants to see objects at a distance of 20m, what should be the focal length and the power of the concave lens he must wear? (28) **(May 22, Aug 22)**
 32. The power of a lens is -2D Find the focal length of a lens. BBQ6 (29) **(PTA-4)**
 33. Why does the sky appear in blue colour? **(PTA-1)**
 34. Why are traffic signals red in colour? **(PTA-4)**
 35. A student in a class room can read a text book but she can't able to see the letters on the black board distinctly. write the name of her eye effect and what is the cause? Suggest a remedy. **(PTA-1)**
 36. An object of a height 3 cm is placed at 10 cm from a convex lens which produce an image at 20cm from its optical Centre. calculate the magnification and height of the image produced **(PTA-5)**
 37. Calculate the frequency of a visible light having wavelength 3000\AA travelling in vacuum. **(PTA-5)**
 38. In Common What is the value of least distance of distinct vision of a human? **(PTA 6)**
- & Study well book Evaluation.**

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UNIT 3 THERMAL PHYSICS

1. Define temperature. (32)
2. Define absolute temperature. (32)
3. Define thermal equilibrium. (33)
4. Convert 80F temperature into kelvin scale. (33) **(PTA-6)**
5. Define thermal energy. (33)
6. What are the characteristics features of heat energy transfer? (33)
7. Define Calorie. (34) **(GMQP 19; AUG 22)**
8. Define kilocalorie. (34)
9. Define co-efficient of linear expansion. write its equation. (34) **(PTA-1)**
10. What is co-efficient of cubical expansion? (35) **(PTA-6)**
11. What is co-efficient of superficial or areal expansion? (35) **SEP 20**
12. Explain the experiment of measuring the real and apparent expansion of a liquid with a neat diagram. (36) **(GMQP 19)**
13. Write three fundamental law of gases. **QY 19**
14. State Boyle's law & formula (36) **(GMQP 19; MAY 22)**
15. State Charles's law & formula (37)
16. State Avogadro's law & formula (37) **(SEP 21)**
17. What is real gas? (37)
18. Define ideal gas. (37)
19. Derive the ideal gas equation (37) **QY 19**
20. Keeping the temperature as constant four times of its initial pressure. The volume of gas changing from 20cc (V_1 cc) to V_2 cc. find the final volume V_2 . (39) **(PTA-3)**
21. A container of capacity 70ml is filled with a liquid up to 50ml. when it is heated the liquid level falls to 48.5ml and then rises to 51.2ml. find the apparent and real expansion. (38) **(PTA-6)**
22. Electric power lines in electrical post, hang very low in hot summer, why? **(PTA-4)**
23. State whether the following statements is true or false, justify your answer. During the process of transferring heat energy, the body at lower temperature is cooled while the body at higher temperature is heated. **(PTA 4) & Study well book Evaluation.**

4. ELECTRICITY

1. Define electric current. SI unit of current. (42,43) **MAY 22**
2. a) What is meant by electric current? b) Name and define its unit. c) Which instrument is used to measure the electric current? How should it be connected in a circuit? **(PTA 1 & 5; May 22)**
3. A charge of **12 coulomb** flows through a bulb in 5 second. What is the current through the bulb? (43) **SEP 21 4MARK ii, May 22)**
4. A charge of **10 coulomb** flows through a bulb in 5 second. What is the current through the bulb? (43 model) **(GMQP 19)**

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5. What is electric circuit. (43)
6. What is direction of current. (44)
7. Write seven electrical components used in electrical circuit and draw its symbol. (43) or
Write the symbol for the following component **(SEP 21 4MARK i)**
i)Ground connection ii)Resistor iii) Light emitting diode iv) A diode
8. Define electric potential & SI unit.(44)
9. Define volt. (44)
- 10.The work done on moving a charge of 10 C across two points in a circuit is 100J. What is the potential difference between the points?(44) **SRT 22**
11. State Ohm's law. (45) **SRT 22**
- 12.Define resistance of a conductor & SI Unit(45)
- 13.Calculate the resistance of a conductor through which a current of 2A passes, when the potential difference between its ends is 30V.(46) **(QY 19 ,AUG 22)**
- 14.Define electrical resistivity. (46)
- 15.Define electrical conductivity. (46)
- 16.Difference between resistivity and conductivity. (46) **(BBQ4 56)**
- 17.The resistance of a wire of length 10m is 2 ohm. If the area of cross section of the wire is $2 \times 10^{-7} \text{ m}^2$, determine its (i) resistivity (ii) conductance. (47)
- 18.Three resistors of resistances 5-ohm, 3 ohm and 2 ohm are connected in series with 10V battery. Calculate their effective resistance and the current flowing through the circuit. (48)
- 19.With the help of a circuit diagram derive the formula for the resultant resistance of three resistances connected: a) in series and b) in parallel. (48) **(BB DETAIL Q1 57)**
- 20.State Joule's law of heating. (50)
- 21.An electric heater of resistance 5ohm is connected to an electric source. If a current of 6A flows through the heater, then find the amount of heat produced in 5 minutes. (51) **(PTA 4; SEP 20)**
- 22.Define electric power& SI unit(51)
- 23.What are the factors of consumption of electricity. (51)
- 24.Define the unit of electrical energy consumption. **(PTA-5)**
- 25.Explain about domestic electric circuits. (51) **(SEP 20)**
- 26.Draw a picture of seven segment display for any one alpha numeric number. (53) **(PTA-3)**
- 27.What are the advantages of LED TV? (54) and List the merits of LED bulb. (53) **(PTA-6&1)**
- 28.Calculate the current and resistance of a 100W ,200V electric bulb in an electric circuit. (54) **QY 19**
- 29.A piece of wire having a resistance of 5 ohm cut into five equal parts. If the five parts of the wire are connected in parallel, then find the effective resistance of the combination? **(PTA-3)**
- 30.Does pure water conduct electricity? Justify your answer. **(PTA-5)**

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31. An electric lamp of resistance 20 ohm and a resistance of 4 ohm are connected in series to a battery (a) Find the total resistance of the circuit. (b) Find the current flowing through the circuit (c) Find the potential difference across the resistance. **(7M PTA-6)**
32. How many electrons are passing per second in a circuit in which there is a current of 5A? **(BB 57(GMQP 19) & Study well book Evaluation.)**

UNIT 5 ACOUSTICS

1. Define acoustics? (59)
2. What is a longitudinal wave? **(60)**
3. Write note on Audible waves. (60)
4. Write note on infrasonic waves. (60)
5. Write note on Ultrasonic waves. (60) **(SEP 20)**
6. Difference between sound and light. (60)
7. Define reflection of sound. (62)
8. State law of reflection (62)
9. Explain the reflection at the boundary of a denser medium. (63)
10. Explain the reflection at the boundary of a rarer medium. (63)
11. Explain the reflection at curved surfaces. (63)
12. Define Echoes. (64)
13. What are the conditions necessary for hearing echo? (64) **(PTA-1)**
14. What are the application echoes? **(MAY 22)** (64) Medical application **(PTA-1, SEP 20 4M(ii))**
15. Why does an empty vessel produce more sound than a filled one? **(PTA-2)**
16. Explain why the ceilings of concert halls are curved. **(PTA-6, MAY 22)**
17. Mention two cases in which there is no Doppler effect in sound? **(GMQP 19; SEP 20)**
18. A source producing sound of frequency 90 Hz is approaching a stationary listener with a speed equal to $(1/10)$ of the speed of sound. What will be the frequency heard by the listener? **(PTA-4)**
19. A strong ultrasonic sound signal is sent from a ship towards the bottom of the sea. It is received by the receiver after 2s. calculate the depth of sea. The speed of sound in water 1450ms^{-1} . **(PTA-5)**
20. A source producing sound of frequency 500 Hz is moving towards a static listener with velocity of 30ms^{-1} . The speed of the sound is 330ms^{-1} . What will be the frequency heard by listener? **(PTA-2)**
21. At what speed should a source of sound move away from a stationary observer so that the observer finds the apparent frequency equal to the half of the original frequency? **(PTA-5)**
22. Why does sound propagate faster on a rainy season than on summer season? **(PTA-6)**
23. When a sound wave travels through air, the air particles-----**BB(70) (Sep21 2MARK)**
 - a) vibrate along the direction of the wave motion
 - b) vibrate but not in any fixed direction
 - c) vibrate perpendicular to the direction of the wave motion
 - d) do not vibrate

24.i) What is the audible range of frequency? BB 71 (SEP 21 2MARK i)

ii) What is the minimum distance needed for an echo? BB 71 (GMQP 19; SEP 21 2MARKii)

UNIT 6 NUCLEAR PHYSICS

1. Define radioactivity. (75)
2. Define natural radioactivity. (75)
3. Define artificial radioactivity or induced radioactivity (75)
4. Difference between natural radioactivity and artificial radioactivity. (76) (PTA-1, MAY 22, AUG 22)
5. Write the features of nuclear fission and nuclear fusion. (PTA-6; GMQP 19)
6. Define curie (76)
7. Define Rutherford. (76)
8. Define Becquerel. (76)
9. Define Roentgen (76)
10. Compare the properties of alpha, beta and gamma radiations. (77) (PTA-3, SEP 20 7MARK)
11. Write note on alpha decay. (78)
12. Write note on Beta decay. (78)
13. Write note on Gamma decay. (78)
14. What is meant by Dosimeter. (83)
15. Explain the uses of radioactivity in agriculture, MAY 22 medicine, PTA-2 industries, PTA-4 Archeological research. (83)
16. Write note on permitted range. (83)
17. X – rays should not be taken often. Give the reason. (PTA-5)
18. Nuclear fission of a uranium nucleus (U^{235}) as follows
 ${}_{92}U^{235} + {}_0n^1 \rightarrow X + Y + 3{}_0n^1 + Q(\text{energy})$ find out X and Y (PTA-4)
19. Write note on prevent measures of radioactivity. (84)
20. ${}_{92}U^{235}$ experiences one α -decay and one β -decay. Find number of neutrons in the final daughter nucleus that is formed. (85) (PTA-1, SEP 21 4MARK compulsory)
21. Write any three features of natural and artificial radioactivity. (PTA 1; May 22; Aug 22)
22. Give any two uses of radio isotopes in the field of agriculture? (May 22)
23. Write any four medical applications of radio activity. (PTA 2)
24. Calculate the amount of energy released when a radioactive substance undergoes fusion and results in a mass defect of 1 kg. (PTA 5)
25. Give the uses of radio isotopes in industries. (PTA 4)
26. Explain the uses of radio isotopes in medicine field. (PTA 2)

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PREPARE WELL PHYSICS PROBLEM

QUESTION-

EXAMPLE,

EXCERISE

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CHEMISTRY**UNIT 7 ATOMS AND MOLECULES**

1. State the findings of modern atomic theory. (91)(**SEP 20, QY 9, AUG 22, PTA-5 7MARKi**)
2. Define mass number. (92)
3. Define amu. (92)
4. Define relative atomic mass. (92) (**PTA-3, AUG 22**)
5. Define gram atomic mass. Give an example. (93)
6. Define average atomic mass. (93)
7. Calculating the average atomic mass of carbon, both of its natural isotopes such as carbon-12 and carbon-13 are 98.9% and 1.1% respectively. (93)
8. Define molecule. Explain classification of molecules. (94)
9. Define atomicity. (94) (**SEP 21, QY 19, AUG 22, MAY 22 4MARK i**)
10. Classify the following molecules based on their atomicity. (95)
Fluorine (F₂), Carbon dioxide (CO₂), Phosphorous (P₄), Sulphur (S₈), Ammonia (NH₃), Hydrogen iodide (HI), Sulphuric Acid (H₂SO₄), Methane (CH₄), Glucose (C₆H₁₂O₆), Carbon monoxide (CO).
11. Differentiate atom and molecule give an example. (96) (**MAY 22**)
12. State Avogadro's law & mathematical expression. Give an example (98) (**Sep 21 2MARK compulsory S20 7MARK ii**)
13. Explain the application of Avogadro's law. (99) (**SEP 20**)
14. Give any two examples for hetero diatomic molecule. (**AUG 22**)
15. Derive the relation between Relative molecular mass and vapour density. (**PTA-6; GMQP 19**)
16. Find the percentage of nitrogen in ammonia. (**PTA-1**)
17. Calculate the percentage of each element in Calcium carbonate. (**PTA-2**)
18. Calculate the number of moles in i) 27g of Al ii) 1.51×10^{23} molecules of NH₃Cl. (**PTA 5**)
19. Give the salient features of "Modern atomic theory". (**PTA 5; Sep 20; Aug 22**)
20. How many grams are there in the following ? (i) 2 moles of hydrogen molecule H₂ (ii) 3 moles of chlorine molecule Cl₂ (iii) 5 moles of sulphur molecule S₈ (iv) 4 moles of phosphorus molecule P₄. (**PTA-4**)
21. Calculate the percentage of Oxygen in Al₂(SO₄)₃. (**PTA-2**)
22. Find the gram molecular mass of the following from the data given: (99)
(i) H₂O (ii) CO₂ (**Sep 21 4M ii**) (iii) Ca₃(PO₄)₂
23. Calculate the number of molecules present in the 36g water. (101) (**GMQP 19**)
24. Define isotopes. Give an example. (102)
25. Define isotones. Give an example. (102)
26. Define isobars. Give an example. (102)

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27. The mass Percentage of carbon is 27.28% and the mass percentage of oxygen is 72.73% calculate the molecular mass of that compound. (PTA 4)

28. In chemical industries the following chemical reaction is used produce ammonia in large scale $N_2 + 3H_2 \rightleftharpoons 2NH_3$ Based on mole concept, calculate the mass of nitrogen gas and hydrogen gas required in kilogram to produce 1000kg of ammonia by using the above chemical equation. (PTA 3)

& Study well book Evaluation.

UNIT 8 PERIODIC CLASSIFICATION OF ELEMENTS

1. State modern periodic law. (107)
2. What is meant by modern periodic table. (107)
3. Explain the features of Periods in modern periodic table.(107)
4. Explain the features of Groups in modern periodic table. (109)
5. Define atomic radius , metallic radius, covalent radius, ionic radius. (109,110)
6. Define ionization energy. (110)
7. Define electron affinity. (111)
8. Define electronegativity. (111)
9. Electronegativity value of hydrogen is 2.1 and that of sodium is 1. Find out the nature of bonding present in the compound, when hydrogen combines with fluorine and hydrogen combines with sodium. (Electronegativity value of fluorine is 4) (111) (PTA 2)
10. Give reason for the following statements on periodic trends In modern periodic table of elements. a) Along the period, from left to right, the atomic radius values of the elements decrease whereas along the groups, from the top to bottom, the atomic radius values increase. b) The electron affinity values increase along the period from left to right and decrease down the group. C) The ionization energy values increase along the period from left to right and decrease down. (112)(PTA 6)
11. Define metallurgy, minerals, ore, mining, Gangue, Flux, Slag, Smelting. (112)
12. Write note on Hydraulic method (Gravity separation). (113)
13. Write note on Magnetic separation method. (113)
14. Write note on Froth floatation method. (113)
15. What are types of ore and example. (113)
16. Explain the physical properties of metals. (114)
17. Explain the chemical properties of metals. (114)
18. What are the ores of Aluminium. Explain extraction of Aluminium from Bauxite. (115)
19. Name the acid the renders Aluminium passive. Why? (116) [More to know] (PTA-3, QY 19)
20. What are the ores of Copper. Explain extraction of Copper from Copper pyrites. (116)
21. Copper pyrites is the prime ore of copper. It is concentrated by froth floatation method. Give its reason. (116) (PTA-4)
22. What are the ores of Iron. Explain extraction of Aluminium from Haematite. (117)
23. Chemical properties of Aluminium, copper, Iron. (115,116,117,118)

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- 24.(i) X is an element that belongs to 1st group of the modern periodic table. X is a gas and its covalent radius value is 0.37\AA . Identify and write the chemical symbol of X. (110)
- (ii) 'A' is a metal that belongs to Boron family in modern periodic table. It acts as a good reducing agent. It reduces iron oxide into iron. It is used to make household utensils. Write the balanced chemical equation for the reduction of iron oxide by 'A'. (116) **(PTA-6)**
25. Metal (A) belongs to period 3 and group 13. (A) in red hot condition reacts with steam to form (B). (A) with strong alkali forms (C). Find A, B and C with reactions. (115, 116) **(PTA-1)**
26. Copper is a reddish-brown metal, that reacts with O_2 at less than 1370 K to give A, a black coloured compound. At a temperature greater than 1370 K, Copper reacts with O_2 to give B which is red coloured compound. Write the balanced chemical equations for the formation of A and B. (117) **(PTA-4)**
27. A is reddish brown metal, which combines with O_2 at $< 1370\text{K}$ gives B, a black coloured compound. At a temperature $> 1370\text{K}$, A gives C which is red in colour. Find A, B and C with reaction. (117) **(PTA 1)**
28. What are the uses of Aluminium, copper. (116, 117)
29. What are types and uses of iron. (119)
30. What is an alloy? (119) **(MAY 22)**
31. What is an amalgam? (119)
32. What are reasons for alloying? (119) **(MAY 22)**
33. Write the methods of making alloys. (119)
34. Why alloys as solid solutions. (119)
35. What are the types of alloys? (119)
36. Write the copper alloy and its uses. (119)
37. Write the Aluminium alloys and its uses. (119)
38. Write the Iron alloys and its uses. (119)
39. What is corrosion? Types of corrosion, Methods of preventing corrosion. (120) **(SEP 20,21, 7, 4MARK ii)**
40. What is rust? Give the equation for formation of rust. (120) **(PTA-4, SEP 21)**
41. From the following clues identify the group number in the periodic table and write the names of any two elements of that group.
- the atoms of this group have very stable electronic configuration.
 - these elements are mostly unreactive. **(PTA 1) Ans: group 18 elements**
42. A is the second most abundant metal available next to Aluminium of the earth. A forms its magnetic oxide B, when steam is passed over metal A in a red-hot condition. A forms an alloy C with carbon and nickel. C is used to make aircraft parts and propeller. Identify and write names of B and C. Write the balanced chemical equation for the formation of magnetic oxide. 118 **(PTA 2) ANS: Fe**
- & Study well book Evaluation.**

UNIT 9 SOLUTIONS

1. Define solution.(125)
2. Define solute & solvent. (125)
3. Define dissolution. (125)
4. Define binary solution. (125) **QY-19**
5. Define ternary solution.(125)
6. Explain types of solution based on the physical state of the solute and the solvent. (126)
(Types of binary solutions)
7. Give a example each i) gas in Liquid; ii) solid in liquid iii) solid in solid iv) gas in gas. (126)
(PTA 1)
8. What are the types of solution based on the type of solvent.(126)
9. Define aqueous solution and example. (126)
10. Define non-aqueous solution and example. (126)
11. What are the types of solution based on the amount of solute.(126)
12. Define saturated solution and example. (126)
13. Define unsaturated solution and example. (127)
14. Define super saturated solution and example. (127)
15. Define concentrated solution and dilute solution. (127)
16. Write notes on various factors affecting solubility. (128) **(GMQP 19)**
17. Analyze the following statement about the formation of solution and explain with an example. "Like solvents dissolve Like solutes". (128) **(PTA 1)**
18. The aquatic animals live more in cold region why? **(128) (PTA 5)**
19. Define mass percentage & volume percentage. (129)
20. State Henry's law. (129)
21. Define water of crystallization. & hydrated salts (130)
22. Give an example of Hydrated salts. (130)
23. Explain the action of blue vitriol and Epsom salt. (130)
24. 'A' is a blue coloured crystalline salt. On heating it loses blue colour and to give 'B'. When water is added. 'B' gives back to 'A'. Identify A and B. write the equation. (130) **(QY 19, MAY 22)**
25. Compound A is a colourless, crystalline, hydrated salt of magnesium. On heating it becomes an anhydrous salt. The number of water molecules lost by compound A is equal to number of water molecules present In green vitriol on heating. i) Identify compound A. ii) Give the Chemical equation for this heating reaction. (130) **(PTA 2)**
26. What happens when $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ is heated? Write the appropriate equation. (130) **(PTA 4; Sep 21; Aug 22)**
27. Define Hygroscopy. Give an example of hygroscopic substances. (131)
28. Define Deliquescence. Give an example of Deliquescence. (131)

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29. Explain hygroscopic substances and deliquescent substances with examples. (131) **SEP 21, AUG 22 7MARK, PTA 2**
30. Classify the following substances into deliquescent, hygroscopic. Conc. Sulphuric acid, Copper sulphate penta hydrate, Silica gel, Calcium chloride and Gypsum salt. (131) **Aug 22**
31. 1.5g of solute dissolved in 15g of water to form a saturated solution at 298K. Find out the solubility of the solute at a temperature. (131, 132) **QY 19**
32. Calculate the solubility of a solute at 300K by dissolving 10g of solute in 50g of solvent. (131, 132 model) **(PTA-5)**
33. 3.5 litres of ethanol is present in 15 litres of aqueous solution of ethanol. Calculate volume percent of ethanol solution. (135) **(PTA 2)**
34. Calculate the mass of water required in grams to dissolve 10g of sucrose to produce the mass percentage of 10% of solution. (133 model) **(PTA-3)**
35. (a) A solution was prepared by dissolving 25g of sugar in 100g of water. Calculate the mass percentage of solute. (132)
- (b) True or false (If false give the correct statement) **(SEP 20)**
- i) In our daily life, solution of syrups, mouth wash, antiseptic solutions, household disinfectants etc., the concentration of ingredients of solution is expressed as w/w.
- ii) In Ointments, antacids, soaps etc., the concentration of solution is expressed as v/v.
- Answer:** b i) **false.** In our daily life, solution of syrups, mouth wash, antiseptic solutions, household disinfectants etc., the concentration of ingredients of solution is expressed as v/v.
- ii) **false.** In Ointments, antacids, soaps etc., the concentration of solution is expressed as w/w.
36. What will be the impact of temperature and pressure while dissolving carbon di oxide in water? **(PTA-5)**
37. Vinu dissolves 50g of sugar in 250ml of hot water, Sarath dissolves 50g of same sugar in 250ml of cold water. Who will get faster dissolution of sugar? And way? (135) **(PTA 6)**
- & Study well book Evaluation.**

UNIT 10 TYPES OF CHEMICAL REACTIONS

1. What happens during a chemical reaction? (138)
2. Define balanced chemical equation and example. (138)
3. What are types of chemical reactions based on the nature of rearrangements of atoms? (139)
4. Define combination reaction and example. (139)
5. Define combination reaction. With one example for an exothermic combination reaction. **(May 22)**
6. What are classes of combination reaction and give an example. (139)
7. Define decomposition reaction and example. (140)
8. Define thermal decomposition reaction and example. (Thermolysis reaction) (140) **SEP 21 7MARK i**
9. Define electrolytic decomposition reaction and example. (140)
10. Define photo decomposition reaction and example. (140)

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PRESENTATION!!!

11. Define single displacement reaction and example. (141) **(SEP 20 7MARK i)**
12. Explain the types double displacement reaction with examples. (142) **(SEP 20 7MARK ii)**
13. Explain the factors influencing the rate of a reaction. **(PTA-5)**
14. Differences between combination and decomposition reaction. (142)
15. Define combustion reaction and example. (143)
16. Define precipitation reaction and example. (142)
17. Define Neutralization reaction and example. (142)
18. Classify the following reactions based on rearrangement of atoms and justify your answer.
 - a) $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$
 - b) $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$
 - c) $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$
 - d) $\text{Na}_2\text{SO}_4 + \text{BaCl}_2 \rightarrow \text{BaSO}_4 + 2\text{NaCl}$ **(139-142) (PTA 1)**
19. Define reversible reaction and example. (144)
20. Define irreversible reaction and example. (144)
21. Differences between reversible and irreversible reactions. (145) **(PTA 1; Sep21; Aug 22 7MARK ii)**
22. Define rate of a reaction. **(145)**
23. Explain factors influencing the rate of a reaction. **(145)**
24. Generally, the rate of a chemical reaction increases on raising the temperature. Why? (146) **(BB153) (GMQP 19, PTA-6)**
25. Define ionic product of water & mathematical expression. (148)
26. Define pH an expression of pH (148)
27. Give pH of vinegar, coffee, Orange, milk of magnesia (148) study all pH Value. (148)
28. If the pH value of a solution is zero then what will be the nature of the solution? Give reason. (148) **(PTA-3)**
29. Calculate the pH of 0.01 M HNO_3 ? (150)
30. What is the pH of 1.0×10^{-5} molar solution of KOH. (150 Example 3 model) **PTA-6**
31. Calculate the pH of 1.0×10^{-4} molar solution of HNO_3 . (154) **(PTA-1; GMQP 19)**
32. The hydroxyl ion concentration of a solution is 1×10^{-9} M. What is the pH of the solution? (150)
33. The hydroxide ion concentration of a solution is 1×10^{-11} M. What is the pH of the solution? (154) **(PTA-5)**
34. Write one example each for chemical reactions to be faster and chemical reactions to be slower in your daily life activities. **(PTA-3)**
Answer: i) Burning of petrol is an example of fast chemical reaction.
ii) Rusting of iron is an example of slow chemical reaction.
35. From the value of ionic product of water at 25°C , Find out the concentration of hydroxyl ions. (At 25°C concentration of hydrogen ions in water is 10^{-7} mol/dm^3) (148 MODEL) **(PTA-4)**

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36. What is the role of manganese dioxide in the heating reaction of potassium chlorate for the production of oxygen gas? (146) **(PTA-6)** **Answer:** Catalyst
37. Which one of the following reactions is feasible? Give support to your answer. **(PTA-3)**
 (a) $2\text{NaCl} + \text{F}_2 \rightarrow 2\text{NaF} + \text{Cl}_2$ (b) $\text{NaF} + \text{Cl}_2 \rightarrow \text{NaCl} + \text{F}_2$
38. Which one of the following chemical reactions is a neutralization reaction? Reason out. (142,143)
 $\text{NaOH}_{(\text{aq})} + \text{HCl}_{(\text{aq})} \rightarrow \text{NaCl}_{(\text{aq})} + \text{H}_2\text{O}_{(\text{l})}$ $\text{C}_3\text{H}_{8(\text{g})} + 5\text{O}_{2(\text{g})} \rightarrow 3\text{CO}_{2(\text{g})} + 4\text{H}_2\text{O}_{(\text{g})} + \text{Heat}$ **(PTA-4)**
39. A solution has a pOH of 11.76. What is the pH of this solution? (150)
40. Calculate the pH of 0.001 molar solution of HCl. (150)
41. What would be the pH of an aqueous solution of sulphuric acid which is 5×10^{-5} mol litre⁻¹ in concentration? (150)
42. Calculate the pH of 1×10^{-4} molar solution of NaOH. (150)
43. Calculate the pH of a solution in which the concentration of the hydrogen ions is 1.0×10^{-8} mol litre⁻¹. (151)
44. If the pH of a solution is 4.5, what is its pOH? (151)
45. When an aqueous solution of potassium chloride is added to an aqueous solution of silver nitrate, a white precipitate is formed. Give the chemical equation of this reaction. (153) **(PTA 6)**

& Study well book Evaluation**UNIT 11 CARBON AND ITS COMPOUNDS**

1. Explain General characteristics of organic compounds. (155)
2. Explain classification of organic compounds. (156)
3. Classify the following compounds based on the pattern of carbon chain and give their structural formula: i) Propane ii) Benzene iii) Cyclobutane iv) Furan. (156) **(May 22)**
4. What is meant by hydrocarbon? How are classified? (157)
5. Explain Characteristics of hydrocarbons. (158)
6. How to identify saturated and unsaturated compounds. (158)
7. Define functional groups? What is the functional group of alcohols, aldehydes, ketones, carboxylic acids, ester, ether. (158,159)
8. Write the functional group and the suffix used for the following class of compounds. (159) **(M 22)**

Class Of the Compound	Functional Group	Suffix used
Alcohol		
Aldehyde		
Ketone		
Carboxylic Acid		

9. Name the simplest ketone and give its structural formula. (159) **(PTA 2)**
10. Define homologous series. Characteristics of homologous series. (159)
11. Write the structure of following compounds. **PTA-2**

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i) Ethane ii) Heptane iii) propene iv) propanal v) butanone vi) butyne vii) bromopropane viii) butanol ix) propanoic acid x) methoxy methane xi) ethanol xii) furan xiii) cyclopropane xiv) acetaldehyde xv) acetic acid xvi) benzene. (163)

12. Applying IUPAC rules, derive the structural formula of the following compounds.

a) Pentanoic acid. b) 2-methyl-butan-2-ol. (PTA 2)

13. The molecular formula of an alcohol is $C_4H_{10}O$. The locant number of its $-OH$ group is 2. i) draw its structural formula. ii) Give its IUPAC name. iii) Is it saturated or unsaturated? (PTA 1)

14. Fill in blanks in the table using IUPAC nomenclature of organic compounds. (PTA 2)

Name of The Compound	Structural Formula	Function group present
Propan-2-ol		
Ethanal		
Butanone		
Butanoic acid		

15. Explain manufacture of ethanol from molasses. (163)

16. Define fermentation. Give an example (164)

17. Explain chemical properties of ethanol. (164)

18. Compound A is a colourless liquid having burning taste. When the vapour of compound A is passed over heated copper at 573K, it is dehydrogenated to acetaldehyde. What is compound 'A'? What is the role of copper in this chemical reaction? Write the balanced chemical equation of this reaction. (164) (PTA 6)

19. Write a reaction which is used for the identification of alcohol. (164) (SEP 20 2MARK)

20. Explain uses of ethanol. (165) (SEP 21 two uses 2MARK)

21. Explain preparation, physical properties, chemical properties and uses of ethanoic acid. (165)

22. An organic compound 'A' is widely used as a preservative and has the molecular formula $C_2H_4O_2$. The compound reacts with ethanol to form a sweet-smelling compound 'B'. i) Identify the compound 'A'. ii) Write the chemical equation for its reaction with ethanol to form compound 'B'. iii) Name the process. (165) (PTA 5)

23. Explain uses of organic compounds in daily life. (166)

24. Define soap and explain types of soap. (166)

25. Explain manufacture of soap. (Kettle process) (166)

26. Explain the effect of hard water on soap. (167)

27. Define Detergents and preparation of detergents. (167)

28. Explain the mechanism of cleansing action of a soap. (167) PTA-6

29. Explain advantages and disadvantages of Detergents. (168)

30. How do detergents cause water pollution? Suggest remedial measures to prevent this pollution. (168) (PTA 3)

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- PLAN!** **PREPARE!!** **PRESENTATION!!!**
- 31.Explain why micelles formation take place with a diagram when soap is added to water? (168) **PTA-5**
- 32.Differentiate soaps and detergents. (169) **(PTA 3; GMQP 19; Sep 20)**
- 33.Read and categorize the following statement that are suitable for ethanol and ethanoic acid a) 95.5% of the compounds water solution is called rectified spirit. b) Pure form of this compound change into ice like crystals on freezing. c) This compound undergoes decarboxylation on heating with soda lime. **(PTA 4)** **& Study well book**

Evaluation

BIOLOGY

UNIT 12 PLANT ANATOMY AND PLANT PHYSIOLOGY

- What is meant by Tissues? (173)
- What are tissue system in plants. (173)
- Explain Tissue system and its functions. (174)
- What are the functions of Dermal tissue system. (174)
- Write note on ground Tissue system. (174)
- What is Vascular bundle? **(PTA-1)**
- Explain Vascular Tissue system. (174)
- Explain Internal structure of Dicot Root (Bean) (175) **(PTA-6)**
- Explain Internal structure of Dicot Root (sunflower) (176)
- Differences between Dicot and Monocot root. (177) **(SEP 20 4MARK)**
- Explain internal structure of Dicot (mango)(178)
- What is meant by plastids. (180)
- What are the types of plastids? (180)
- Explain structure of chloroplast. (180)
- Draw the structure of mitochondria and label the parts **QY 19**
- What are the functions of chloroplast. (180)
- Define photosynthesis and where does photosynthesis occur in cell? (181) **(SEP 21, PTA-3 4MARK i)**
- Write note on photosynthetic pigments? (181)
- Write note on role of sunlight in photosynthesis. (181)
- Write the reaction for photosynthesis. **(MAY 22)**
- What are factors affecting Photosynthesis. (182) **(AUG 22)**
- What is meant by Aerobic respiration. (183)
- Write note on anaerobic respiration. (184)
- Differentiate Aerobic and Anaerobic respiration. (183) **(GMQP 19; SEP 21,AUG 22 4MARK ii)**
- What is Respiratory Quotient. (184) **(SEP 21, MAY 22, AUG 22, PTA-1 2MARK)**
- What is the common step in aerobic and anaerobic pathway? **(PTA 5)**
- What is the end product of light and dark reaction of photosynthesis? **(PTA 5)**

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28. Draw and label the different types of Conjoint vascular bundles. (PTA 4)
29. Draw the structure of a dicot root and label the parts. (OR) Explain the internal structure of dicot root with a neat diagram. (PTA 6)& Study well book Evaluation

UNIT 13 STRUCTURAL ORGAISATION OF ANIMALS

1. How does leech respire? (PTA 1)
2. Write the dental formula of rabbit. (GMQP 19)
3. How is diastema formed in rabbit? (PTA 6)
4. Why is the teeth of rabbit called heterodent? (PTA 4)
5. How does leech suck blood from the host? (PTA 2)
6. Why are the rings of cartilages found in trachea of rabbit? (PTA- 4; SEP 2020)
7. List out the parasitic adaptations in leech (GMQP-2019)
8. How does locomotion take place in leech? (PTA-5)
9. How is the digestive system of rabbit suited for herbivorous mode of feeding? (PTA-3)
10. What are the glands embedded in the Rabbit skin to regulate the body temperature? (PTA-3)

UNIT 14 TRANSPORTATION IN PLANTS AND CIRCULATION IN ANIMALS

1. Define diffusion. (201)
2. Write note on active transport. (201)
3. Define osmosis. (201)
4. What is meant by plasmolysis & imbibition? (201)
5. Draw and explain root tip with Root Hairs. (201)
6. Write note on Apoplast pathway. (202)
7. Write note on Symplast pathway. (202)
8. Define transpiration pull. (202) AUG 22
9. What is the importance of Transpiration? (203) AUG 22
10. Draw and label the parts of process of Transpiration. AUG 22
11. Write note on Root pressure. (203)
12. Write note on uptake of minerals. (203)
13. Write note on translocation of mineral ions? (203)
14. Write note on Phloem transport. (203)
15. Write note on translocation of sugars. (203)
16. What are components of Blood? (204)
17. Enumerate the functions of blood? (206) (Aug 22; Sep 21 7MARK i)
18. What are the Agranulocytes in blood?
19. Transpiration is necessary evil in plants. Explain. (PTA-3)
20. Write note on Erythrocytes. (205)
21. Write note on Leucocytes. (205)
22. Draw the picture of Granulocytes. (May 22; AUG 22)
23. What are the types of Granulocytes? (205)
24. Guard cells are responsible for opening and closing of stomata. (SEP 21)

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PRESENTATION!!!

25. The movement of substances in the phloem can be in any direction (PTA-4)
26. Minerals in the plants are not lost when the leaf falls. (PTA-2)
27. Mature RBC in mammals do not have cell organelles. (PTA-4)
28. Explain the functions of blood. (206)
29. Differentiate Artery and Veins (PTA-5)
30. Differentiate Systemic and pulmonary circulation ? (PTA-2)
31. What is the importance of valves in the heart ? (PTA 2; MAY 22)
32. Draw external structure of Human heart and label the parts (207) (SEP 20 4MARKS)
33. Explain distribution of Antigen and antibody in different blood groups. (212)
34. What is cohesion? (PTA 1)
35. What is the circulation in man referred to as double circulation? (PTA 1)
36. Who discovered Rh factor? Why was it named so? (PTA 6)
37. How are arteries and veins structurally different from one another? (PTA 5)
38. Why is the Sinoatrial node called the pacemaker of heart? (PTA 5; GMQP 19)

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UNIT 15 NERVOUS SYSTEM

1. Name the parts of the hind brain (PTA – 2)
2. What are the structures involved in the protection of brain? (PTA – 4)
3. Define reflex arc. (PTA – 4)
4. Differentiate Between Voluntary and Involuntary actions (PTA – 4)
5. Differentiate Between Medullated and Non-medullated nerve fibre. (PTA – 3)
6. With a neat labeled diagram explain the structure of a neuron. (GMQP – 2019)
7. Illustrate the structure and functions of brain. (PTA – 1)
8. 'A' is a cylindrical structure that begins from the lower end of medulla and extend downwards. It is enclosed in bony cage 'B' and covered by membranes 'C'. As many as 'D' pairs of nerves arise from the structure 'A'. (PTA – 6)
9. Write the functions of cerebellum. (PTA – 6)
10. Describe the types of neuron on the basis of their functions. (PTA – 3)
11. Name the three types of neurons and find its location. (Sep – 2020)

UNIT 16 PLANT AND ANIMAL HORMONES

1. What is meant by plant Hormones? (229)
2. What are types of plant Hormones? (230)
3. What are Synthetic Auxins? Give examples. (PTA – 4; MAY 22)
4. How Auxins are classified. (230)
5. Explain physiological effects of Auxins. (230)
6. Explain physiological effects of Cytokinins. (231)
7. Name the gaseous plant hormone. Mention any three of its physiological effects in plants. (232) SEP 21 4MARK
8. Explain physiological effects of Ethylene. (232) (PTA-3)

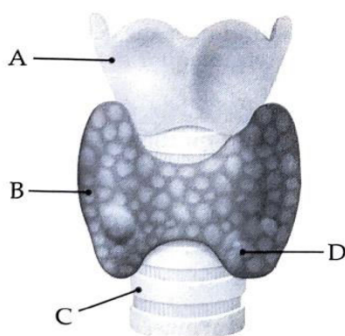
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PRESENTATION!!!

9. State Endocrinology. (233)
10. What are the endocrine glands? (233)
11. Which gland is called as the 'master gland'? Give reason. **QY 19**
12. What are the hormones secreted by anterior pituitary gland? (233) **(PTA-2)**
13. Explain the functions of thyroid hormones. (235)
14. Why are thyroid hormones referred as personality hormones? **(GMQP – 2019; Aug 22)**
15. Functions of Insulin (236)
16. Identify the parts A, B, C and D in the given diagram. (234) **Sep20 2MARK**



17. Functions of Glucocorticoids. (237)
18. Functions of Testosterone. (238)
19. Functions of Thymosin. (238)
20. Functions of Progesterone. (238)
21. What is bolting? How can it be induced artificially? **(GMQP- 2019)**
22. What are the hormones secreted by posterior lobe of the pituitary gland? Mention the tissues on which they exert their effect. **(PTA – 2)**
23. Identify the disorder with which the person shown in the figure is suffering. **(PTA – 1)**
24. What is parthenocarpic fruit? Give an example. **(PTA – 6)**
25. How is Corpus luteum formed? Name the hormones secreted by corpus luteum. **(PTA – 2)**

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UNIT 17 REPRODUCTION IN PLANTS AND ANIMALS

1. Write note on androecium. (245)
2. Write note on Gynoecium. (246)
3. What is meant by micropyle. (246)
4. What is pollination. (246) **Sep21 4MARK i**
5. State the importance of pollination. **(247) Sep21 4MARK ii**
6. Write note on self-pollination. (246)
7. Advantages of self-pollination. (246)
8. Disadvantages of self-pollination. (247)
9. What is meant by cross pollination? (247)
10. Advantages of cross-pollination. (247)
11. Disadvantages of cross-pollination. (247)
12. Draw the structure of pollen grains and label the parts **Sep 20**

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PRESENTATION!!!

13. Explain the process of Fertilization in plants. (248)
14. How does developing embryo get its nourishment inside the mother's body? **PTA – 6**
15. Draw and label the parts of a sperm. (250) **Sep21 2MARK**
16. Draw the structure of Ovum. (250)
17. Define triple fusion. (**GMQP – 2019; QY 19, May 22**)
18. Name the secondary sex organs in male. **May 22**
19. Write a note on UTI. **Sep 20**
20. What is Vegetative propagation practice for growing some type of plants? **PTA – 1**
21. How can menstrual hygiene be maintained during menstrual days? **PTA – 4**
22. Explain menstrual cycle – process of ovulation. (251) **PTA – 3**
23. Explain personal Hygiene, Body Hygiene, toilet hygiene, Menstrual and Napkin Hygiene (255)
24. Why is vegetative propagation practiced for growing some type of plants? (**PTA – 1**)
25. Write the Characteristics of insect pollinated flowers. (**PTA – 6**)
26. What is colostrum? How is milk production hormonally regulated? (**PTA – 2**)
27. Identify the parts A, B, C and D. (**GMQP – 2019; Aug – 2022**)
28. What are the phases of menstrual cycle? Indicate the changes in the ovary and uterus. (**PTA – 3**)

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UNIT 18 GENETICS

1. Define genetics. (261)
2. Why did Mendel select pea plant for his experiments? (262) **May 22**
3. What do you understand by the term phenotype and genotype? **Aug 22**
4. What are alleles? **PTA-2, QY-19**
5. Monohybrid cross-Inheritance of one gene. (262)
6. Dihybrid Cross- Inheritance of two genes and Law of Independent Assortment (263)
7. Explain Mendel's laws. (264)
8. A pure tall plant (TT) is crossed with pure dwarf plant (tt), what would be the F1 and F2 generations? Explain. **PTA-5**
9. Define Chromosomes & explain structure of chromosome. (265) **Sep21, PTA-6 4MARK**
10. Define diploid, haploid (266)
11. Explain structure of DNA. (266) **QY-19**
12. Explain Watson and Crick model of DNA (266)
13. State the application of DNA Fingerprinting technique. (267) **Sep20 2MARK**

Any 2 Points

2x1=2

- ❖ Used in forensic applications the crime investigation such as identifying the culprit.
- ❖ It is used for paternity testing in case of disputes.
- ❖ It helps in the study of genetic diversity of population, evolution and speciation.

Ans:

14. What is meant by DNA Replication. (268)

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15. Write note on Significance of DNA. (268) **Sep20 7MARK i**
16. Explain Sex Determination in Human. (269)
17. What are Okazaki fragments? (PTA – 4)
18. Pure-bred tall pea plants are first crossed with pure-bred dwarf pea plants. The pea plants obtained in F1 generation are then selfed to produce F2 generation of pea plants.
 - a) What do the plants of F1 generation look like?
 - b) What is the ratio of tall plants to dwarf plants in F2 generation?
 - c) Which type of plants were missing in F1 generation but reappeared in F2 generation.**(GMQP – 2019)**
19. Differentiate Phenotype and genotype. (PTA – 4)
20. If we cross two different parents with the genotype of $Tt \times tt$, what would be the genotype ratio in its F1 generation? (PTA – 3) **& Study well book Evaluation**

19. ORIGIN AND EVOLUTION OF LIFE

1. Explain Theories on origin of life. (274)
2. What is Evolution. (276) **Sep21 2MARK**
3. Explain Use and Disuse theory (or) Lamarckism. (277)
4. Explain Darwinism or Theory of natural selection. (277)
5. Define, aspects, Importance Ethnobotany. (281) **(Sep20; 4MARKS; PTA – 2; Aug 22)**
6. The degenerated wing of a kiwi is an acquired character. Why is it an acquired character? (PTA – 3)
 - d) How can you determine the age of the fossils? **(GMQP – 2019; Sep 20)**
7. Natural selection is a driving force for evolution - How? (GMQP – 2019; PTA – 6)
8. How does fossilization occur in plants? (PTA – 1)
9. Arun was playing in the garden. Suddenly he saw a dragon fly sitting on a plant. He observed the wings of it. He thought it looked similar to a wing of a crow. Is he correct? Give reason for your answer. (PTA – 2)
10. Octopus, cockroach and frog all have eyes. Can we group these animals together to establish a common evolutionary origin. Justify your answer. (PTA – 4)

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20. BREEDING AND BIOTECHNOLOGY

1. Write note on Green Revolution. (286)
2. Explain Methods of Plant Breeding for Crop Improvement. (288)
3. Write note on Animal Breeding, Inbreeding, out breeding.
4. Write note on Heterosis. (291)
5. Explain Biotechnology in Medicine. (293) **Sep21 4MARK**
6. Explain Gene Therapy. (293) **Sep20 4MARK**
7. Name the types of stem cells. (PTA – 2)
8. What are transgenic organisms? (PTA – 6)
9. Discuss the method of breeding for disease resistance. (PTA – 6)

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10. Name three improved characteristics of wheat that helped India to achieve high productivity. (PTA – 4)
11. Name two maize hybrids rich in amino acid Lysine. (GMQP – 2019; May – 22)
12. Distinguish between somatic gene therapy and germ line gene therapy. (PTA – 1; Sep 21)
13. State the applications of DNA finger printing technique. (PTA – 3; Sep 20)
14. What are the effects of hybrid vigour in animals? (PTA – 1&5)
15. Discuss the importance of biotechnology in the field of medicine. (Sep 21; May 22)
16. Explain about Gene Therapy. (Sep 20) & Study well book Evaluation

21. HEALTH AND DISEASES

1. Child Abuse, Sexual Abuse, Child Sexual Abuse. (301)
2. Explain Approaches for protection of an abused child. (302) Sep20 7MARKiii
3. Write note on Drug De-addiction. (303)
4. Explain Smoking Hazards and effects of Tobacco. (304)
5. Explain Harmful effects of alcohol to health. (304)
6. Suggest measures to overcome the problems of an alcoholics. (305) Sep21 7MARK i
7. Explain Obesity, Prevention and control of obesity. (305) Sep21 7MARK ii
8. Explain Preventive measures for cancer. (309)
9. How is cancer cell different from normal cell? (PTA – 4; Sep21 2MARK)
10. Explain Symptoms and treatment of AIDS. (310)
11. Explain Prevention and control of AIDS. (310)
12. What are psychotropic drugs? (PTA – 2)
13. What are the contributing factors for obesity? (PTA – 5; Sep 21; Aug 22)
14. What are the various routes by which transmission of human immuno deficiency virus takes place? (PTA – 1)
15. Differentiate between Type – 1 and Type – 2 diabetes mellitus. (PTA – 4)
16. What precautions can be taken for preventing heart diseases? (GMQP – 2019; Sep 20)
17. Suggest measures to overcome the problems of an alcoholic. (Sep 21; May 22)
18. What are the role of fat in the cause of atherosclerosis?. (PTA – 3)
19. Regular physical exercise is advisable for normal functioning of human body. What are the advantages of practicing exercise in daily life? (PTA – 6)
20. How can informational efforts change people's HIV knowledge and behaviour? (PTA – 5)
21. Mention any two approaches for protection of an Abused child. (Sep 20)

& Study well book Evaluation

UNIT 22 ENVIRONMENTAL MANAGEMENT

1. Write note on Nonrenewable energy sources, renewable energy sources. (318)
2. Explain shale gas.
3. Explain water energy.
4. Explain Tidal energy.
5. Explain Rainwater Harvesting.

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6. Explain Electrical energy
7. E-wastes and its management.
8. What are the agents of soil erosion? (PTA – 2)
9. Why fossil fuels are to be conserved? (PTA – 4; Aug 22)
10. How are e-wastes generated? (PTA 6; Sep 21)
11. What is the importance of rainwater harvesting? (PTA – 4; May 22)
12. What are the advantages of using biogas? (PTA –1)
13. How will you prevent soil erosion? (PTA –3)
14. Enumerate the importance of forest. (GMQP – 2019)
15. List out the advantages of tidal energy. (PTA –5)
16. What is 4R approach. (PTA –1)

23 VISUAL COMMUNICATION

1. What is Scratch?
2. Write a short note on editor and its main parts?
3. What is stage? (Sep2020)
4. What is sprite?

DON'T STRESS !

DO YOUR BEST !!

FORGET THE REST!!!

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