HSSC TGT Science Teacher Practice Mock

Q1. What is the role of the ozone layer in protecting the Earth from UV radiation?
(a) It absorbs UV radiation and converts it to harmless heat
(b) It reflects UV radiation back into space
(c) It scatters UV radiation and reduces its intensity
(d) It absorbs UV radiation and releases oxygen atoms, which combine with other oxygen molecules to form ozone
(e) It has no role in protecting the Earth from UV radiation

Q2. What is the main source of nitrogen oxide emissions?
(a) Industrial processes
(b) Transportation
(c) Agricultural activities
(d) Forest fires
(e) Volcanic eruptions

Q3. What is a halocarbon?
(a) A type of tree found in tropical rainforests
(b) A chemical compound used in the production of plastics
(c) A chemical compound used in the production of fertilizers
(d) A type of chemical compound containing one or more halogen atoms
(e) A type of mineral used in construction

Q4. Which of the following options correctly defines an ecosystem?
(a) A complex network of living and non-living organisms that interact with each other
(b) A team of individuals working together to achieve a shared objective
(c) A collection of rules and regulations that oversee environmental management
(d) A framework of economic activities that drive sustainability
(e) None of the above

Q5. Which of the following definitions accurately describes sustainable development?
(a) A form of development that strives to fulfill the present requirements while ensuring that future generations can fulfill their own needs
(b) A type of development that focuses on maximizing profits for corporations
(c) A development approach that prioritizes economic growth over environmental concerns
(d) A form of development that solely relies on renewable energy sources for sustainability
(e) None of the above

Q6. Choose the correct statement(s) regarding the legal framework for noise pollution.
I. Most countries have laws regulating acceptable noise levels in residential areas.
II. Violators of noise pollution laws are subject to fines and penalties.
III. There are no legal frameworks for regulating noise pollution.
(a) Only statement I and II are correct.
(b) Only statement III is correct.
(c) Statements I, II, and III are correct.
(d) Statements I and III are correct.
(e) Statements II and III are correct.

Q7. Choose the correct statement(s) regarding control of soil pollution.
I. Prevention is the most effective method of controlling soil pollution.
II. Remediation involves restoring contaminated soil to its original state.
III. Phytoremediation involves using plants to remove pollutants from contaminated soil.
(a) Only statement I and III are correct.
(b) Only statement II is correct.
(c) Statements I, II, and III are correct.
(d) Statements I and II are correct.
(e) Statements II and III are correct.

Q8. What is the concept of green building?
(a) The design and construction of buildings that are environmentally responsible and resource-efficient.
(b) The design and construction of buildings that are aesthetically pleasing but have a high environmental impact.
(c) The design and construction of buildings that are low-cost but have a high environmental impact.
(d) The construction of buildings that prioritize energy efficiency over environmental sustainability.
(e) None of the above.

Q9. What is the definition of the greenhouse effect?
(a) The process by which certain gases in the Earth's atmosphere trap heat and warm the planet's surface.
(b) The process by which heat is radiated from the Earth's surface and lost to space.
(c) The process by which ocean currents redistribute heat across the planet's surface.
(d) The process by which heat is absorbed and released by the Earth's soil and rocks.
(e) None of the above.

Q10. What is the main cause of climate change?
(a) Natural factors such as volcanic eruptions and solar radiation
(b) Human activities such as burning fossil fuels and deforestation
(c) The Earth's natural cycles
(d) None of the above
(e) Both a and b

Q11. Which of the following is a strategy to address road accidents involving commercial vehicles?
(a) Allowing longer work hours for truck drivers
(b) Decreasing safety inspections and regulations
(c) Providing education and training for safe driving
(d) Encouraging drivers to prioritize speed over safety
(e) None of the above

Q12. What is the role of education in road safety awareness?
(a) Education has no impact on road safety
(b) Education can increase awareness of safe driving practices
(c) Education encourages reckless driving behavior
(d) Education only applies to professional drivers
(e) None of the above

Q13. Choose the correct statement(s) regarding the National Road Safety Policy in India:
I. The policy aims to promote sustainable transportation options such as cycling and walking.
II. The policy encourages the use of public transport to reduce vehicular congestion and pollution.
III. The policy does not prioritize the safety of pedestrians and cyclists.
Options:
(a) Statement I and II are correct.
(b) Statement II and III are correct.
(c) Statement I and III are correct.
(d) All statements are correct.
(e) All statements are incorrect

Q14. Choose the correct option based on the given assertion and reason.
Assertion: Overloading a vehicle beyond its capacity can be dangerous.
Reason: Mobile phones can distract driver and reduces their reaction time.
Options:
(a) Both Assertion and Reason are true, and the Reason is the correct explanation of the Assertion.
(b) Both Assertion and Reason are true, but the Reason is not the correct explanation of the Assertion.
(c) Assertion is true, but the Reason is false.
(d) Assertion is false, but the Reason is true.
(e) Both Assertion and Reason are false.

Q15. Which of the following is an important consideration when driving at night?
(a) Turning off headlights to avoid blinding other drivers
(b) Turning up the radio volume to stay alert
(c) Keeping a safe distance from other vehicles
(d) Driving faster to reach your destination sooner
(e) Ignoring traffic signals and stop signs

Q16. What is the name of the scheme that provides financial assistance to the families of martyrs in Haryana?
(a) Mukhya Mantri Parivar Samman Nidhi Yojana
(b) Beti Bachao Beti Padhao Yojana
(c) Swarn Jayanti Sahari Rojgar Yojana
(d) Sukanya Samriddhi Yojana
(e) None of these

Q17. Which scheme provides financial assistance to the people who are affected by natural calamities in Haryana?
(a) Mukhya Mantri Parivar Samridhi Yojana
(b) Swarn Jayanti Sahari Rojgar Yojana
(c) Pradhan Mantri Matru Vandana Yojana
(d) Disaster Relief Fund
(e) None of these

Q18. Which famous Haryanvi poet and saint is known for his devotional hymns and is considered a spiritual guru by many in the state?
(a) Saint Ravidas
(b) Saint Kabir
(c) Saint Tulsidas
(d) Saint Surdas
(e) Saint Garibdas

Q19. Which city in Haryana is known for its production of high-quality sports goods, especially cricket equipment?
(a) Sonipat
(b) Rohtak
(c) Jind
(d) Meerut
(e) Ambala

Q20. Which famous Haryanvi singer is known for his folk and pop songs and has won several awards for his music?
(a) Sonu Nigam
(b) Hans Raj Hans
(c) Daler Mehndi
(d) Babbu Maan
(e) Gajender Phogat

Q21. Which famous Haryanvi folk dance is performed by women during the harvest season and is characterized by its energetic and rhythmic movements?
(a) Ghoomar
(b) Giddha
(c) Jhumar
(d) Jindua
(e) Ghumar

Q22. Which famous Haryanvi freedom fighter is known for his contributions to the Indian independence movement and is considered a hero in the state?
(a) Bhagat Singh
(b) Chandra Shekhar Azad
(c) Lala Lajpat Rai
(d) Rajguru
(e) Rao Tula Ram

Q23. Which famous Haryanvi monument is known for its architectural beauty and historical significance and is a popular tourist attraction in the state?
(a) Qutub Minar
(b) Red Fort
(c) Fatehpur Sikri
(d) Surajkund
(e) Lotus Temple

Q24. Which famous Haryanvi wrestler is a recipient of the Padma Shri and has won several gold medals for India in international competitions?
(a) Sushil Kumar
(b) Yogeshwar Dutt
(c) Bajrang Punia
(d) Sakshi Malik
(e) Vinesh Phogat

Q25. Which famous Haryanvi athlete won a silver medal in the women's shot put event at the 2016 Rio Olympics and a gold medal at the 2018 Commonwealth Games?
(a) Mary Kom
(b) Dutee Chand
(c) P. V. Sindhu
(d) Manika Batra
(e) Deepa Malik

Q26. Which famous Haryanvi dish is made from wheat flour and is a popular breakfast option in the state?
(a) Kadhi
(b) Kachri ki Sabzi
(c) Kachri ki Chutney
(d) Besan Masala Roti
(e) Bajra Roti

Q27. Which famous Haryanvi festival is celebrated during the month of Phalgun and is known for its colorful celebrations and music?
(a) Holi
(b) Diwali
(c) Teej
(d) Baisakhi
(e) Lohri

Q28. Which famous Haryanvi personality is a Padma Shri and Padma Bhushan awardee and has served as the state's Chief Minister for two terms?
(a) Om Prakash Chautala
(b) Bhupinder Singh Hooda
(c) Manohar Lal Khattar
(d) Bansi Lal
(e) Devi Lal

Q29. Which district in Haryana is known for its ancient fort and temple of the Goddess Sheetla Devi?
(a) Rohtak
(b) Hisar
(c) Panipat
(d) Kurukshetra
(e) Gurugram

Q30. Which famous Haryanvi artist is known for his unique style of painting, which features bright colors and bold lines?
(a) M. F. Hussain
(b) Tyeb Mehta
(c) Krishen Khanna
(d) Jatin Das
(e) S. H. Raza

Q31. Which river flows through Haryana and is considered sacred in Hindu mythology?
(a) Ganges
(b) Yamuna
(c) Brahmaputra
(d) Godavari
(e) Narmada

Q32. Which famous Haryanvi musician is known for his popular songs such as "Panihari" and "Chandrawal"?
(a) Hansraj Hans
(b) Harshdeep Kaur
(c) Neha Kakkar
(d) Mohit Chauhan
(e) Lakhmi Chand

Q33. Which famous Haryanvi poet is known for his works such as "Haryana ki Aawaz" and "Haryana ki Pukar"?
(a) Surdas
(b) Kabir Das
(c) Swami Dayanand Saraswati
(d) Lala Lajpat Rai
(e) Uday Bhanu Hans

Q34. Which city in Haryana is known as the "City of Weavers" due to its thriving handloom industry?
(a) Ambala
(b) Karnal
(c) Panipat
(d) Hisar
(e) Sonipat

Q35. Which district in Haryana is known for its production of the famous "Hisar Biri" tobacco?
(a) Fatehabad
(b) Rohtak
(c) Hisar
(d) Sirsa
(e) Jind

Q36. Socialization is a
(a) simple process of passing on customs and rituals of the society.
(b) a complex process that takes place in overt as well as covert manner.
(c) liners process that happens in an orderly manner
(d) formal process that is planned by the family only
(e) both (a) & (b)

Q37. For children who are in the formal operational stage teacher should-
A. Use the diagram to depict hierarchical relationships
B. Present problems that require hypothetical thinking
C. Avoid presenting abstract problems
D. give opportunities to solve problems and reason scientifically
(a) A, C, D
(b) B, C, D
(c) A, B, C
(d) A, B, D
(e) Only A

Q38. Identifying the question that tests the skill of evaluation.
(a) In what ways are the books you read today different from the Rigveda
(b) Define- 'archaeology'
(c) What metals did people in the Harappan civilization use to make tools?
(d) What was the site of the Harappan civilization discovered?\
(e) None of the above

Q39. What is the primary goal of guidance and counseling?
(a) To diagnose and treat mental health disorders
(b) To provide academic tutoring
(c) To enhance personal and social development
(d) To offer career placement services
(e) To provide financial aid

Q40. What is the primary purpose of time-tabling in a school?
(a) To schedule extracurricular activities for students
(b) To assign grades to students
(c) To ensure that all subjects are covered within the academic year
(d) To provide teacher development opportunities
(e) To organize parent-teacher conferences

Q41. What is Foundational Numeracy?
(a) The ability to perform advanced mathematical calculations
(b) The ability to count and perform basic mathematical operations
(c) The ability to read and write numbers
(d) The ability to use technology for mathematical purposes
(e) The ability to analyze complex data sets

Q42. What is the role of a leader as a coach and mentor?
(a) To ignore the development and growth of team members
(b) To provide feedback and guidance to help team members improve
(c) To focus solely on achieving personal goals and objectives
(d) To discourage team members from taking risks and trying new things
(e) None of the above

Q43. Which perspective on school leadership emphasizes the importance of maintaining order, discipline, and control in the school environment?
(a) Instructional leadership
(b) Distributed leadership
(c) Transformative leadership
(d) Transactional leadership
(e) Authoritarian leadership

Q44. Which of the following is an effective way to use achievement data to improve teaching and learning?
(a) Ignore the data and teach as usual.
(b) Use the data to create personalized learning plans.
(c) Use the data to compare students to one another.
(d) Use the data to grade students based on their performance.
(e) Use the data to punish students who are not performing well.

Q45. The purpose of assessment as per the National Education Policy 2020 is to provide information on-
(a) how to support the students in and out of the classroom.
(b) comparison of the student's performance with her classmates.
(c) the gaps and deficiencies in student learning to accurately identify her failure.
(d) memorization capacities of the student.
(e) Both (b) & (c)

Q46. Which of the following practice is a barrier to inclusion?
(a) Classroom discipline is based on mutual respect for each other.
(b) Content is designed to meet the needs of a few students only.
(c) Pedagogy encourages the participation of all students.
(d) Students are supported to meet individual goals of learning
(e) Both (a) & (d)

Q47. Which of the following is not a risk factor for poor mental health in schools?
(a) Bullying
(b) Academic achievement
(c) Poverty
(d) Trauma
(e) Substance abuse

Q48. Section 2 of the RTE Act shows the-
(a) Introduction
(b) Glossary
(c) Rules
(d) None
(e) SMC

Q49. The term 'curriculum in the field of education refers to
(a) methods of teaching and content to be taught
(b) overall programmes of the school which students experience on a day-to-day basis
(c) evaluation process
(d) text material to be used in the class
(e) Both (a) & (b)

Q50. Play has a significant role in the development of young children for the following reasons, except—
(a) they gain mastery over their body
(b) it stimulates their senses
(c) it is just a pleasant way to spend time
(d) they acquire new skills and learn when to use them
(e) Both (a) & (b)

Q51. Which one is a pioneer in the gametophyte generation of bryophytes?
(a) zygote
(b) protonema
(c) sporangium
(d) spore mother cell
(e) spore (n)

Q52. Choose the incorrect statement from the following:
(a) Pollen tube grows through the tissues of the stigma and style to reach the ovary
(b) In plants which shed pollen in the 3-celled condition, carry 2 male gametes in the pollen tube from the beginning
(c) The synergids present at the micropylar end of the embryo sac guide the entry of the pollen tube into the embryo-sac
(d) Pollen tube discharges the male gametes into the central cell of the embryo-sac
(e) all of the above

Q53. Respiratory roots, positively aerotropic structures in mangroves are found in plant/plants
(a) Someratia
(b) Aviccinia
(c) Rhizophora
(d) All of the above
(e) None of the above

Q54. The modification of the petiole, which became a specialised structure like a leaf and carry out photosynthesis
(a) phylloclade
(b) cladode
(c) phyllode
(d) both a and b
(e) all of these

Q55. Tetradynamous condition of androecium is the characteristic feature of family
(a) Solanaceae
(b) Cruciferae
(c) Compositae
(d) Malvaceae
(e) Brassicaceae

Q56. The alleles of a gene do not show any blending and both the characters are recovered as such in the F_2 generation. This statement is
(a) Law of Dominance
(b) Law of Segregation
(c) Law of Independent Assortment
(d) Law of Natural Selection
(e) None of the above

Q57. Who suggested a simple mechanism of replication on the basis of a double helix structure?
(a) Watson
(b) Crick
(c) Watson and Crick
(d) Messelson and Stable
(e) Mendel

Q58. The part of the chromosome beyond the secondary constriction is known as
(a) telomere
(b) centromere
(c) chromomere
(d) primary construction
(e) trebent

Q59. Reena has some infection in her lungs. She visited a doctor and the doctor perform a test to diagnose her problem. Doctor told her that she is suffering from Tuberculosis. Which test did the doctor perform?
(a) Ultrasound
(b) X-ray
(c) CTscan
(d) MRI
(e) All of the above

Q60. Which pair of segments contain pharyngeal nephridia in Pheretima?
(a) 4^{th} 5^{th} and 6^{th} segments
(b) 6^{th} 7^{th} and 8^{th} segments
(c) 8^{th} 9^{th} and 10^{th} segments
(d) 3^{rd} 4^{th} and 5^{th} segments
(e) 2^{nd} 5^{th} and 7^{th} segments

Q61. 'Columns of Bertini' is a kidney of the majority of the mammalian are formed as the extension of
(a) cortex into medulla
(b) medulla into pelvis
(c) pelvis into ureter
(d) medulla into cortex
(e) both a and b

Q62. A bacteriophage contain A = 22%, T = 28%, C = 20% and cytosine = 30% bases composition. Trace the genetic material of the bacterial virus.
(a) dsDNA
(b) ssRNA
(c) dsRNA
(d) ssDNA
(e) None of the above

Q63. Angiotensin-II, a protein synthesised by the liver, functions as
(a) enzyme
(b) co-enzyme
(c) antibody
(d) platelets
(e) hormone

Q64. The mucosal lining of the food pipe of mammals is composed of
(a) simple squamous and ciliated epithelium
(b) stratified cuboidal epithelium
(c) stratified columnar epithelium
(d) simple columnar epithelium
(e) squamous epithelium

Q65. Select the correct combination of tissues that are not observed in an old trunk of a dicot tree:
(a) Collenchyma, stomata, Trichomes
(b) Sclerenchyma, Phellem, Laticifers
(c) Bark, Cork Cambium, Secondary xylem
(d) Vascular cambium, cork cambium, secondary phloem
(e) None of the above

Q66. A gymnosperm, popularly known as sago palm, possesses two cotyledons, but is not classified as dicotyledons why?
(a) due to the production of the largest multiciliate, mononucleate sperm
(b) pollination takes place by wind
(c) pollen grains are shed at 3 celled stages
(d) due to open and exposed ovules on megasporophyll
(e) none of the above

Q67. Leptocentric (ampivasal) vascular bundles, (in which the whole phloem is enclosed by the xylem) are a characteristic feature of
(a) Helianthus and Cucurbita
(b) Dracaena and Cucurbita-Monocot
(c) Ficus and Shorea-Dicot
(d) Xanthium and Acacia-Dicot
(e) Dracaena and Yucca-Monocot

Q68. The middle lamella is composed of
(a) cellulose and chitin
(b) polysaccharides and callose
(c) carbonates of calcium and magnesium
(d) pectate of magnesium and calcium
(e) hemicellulose and phosphoglycerides

Q69. Which one of the following is not observed during prophase-I of meiosis cell division?
(a) segregation
(b) recombination
(c) chiasmata formation
(d) synaptonemal complex
(e) none of the above

Q70. Which one of the following groups of cell organelles lacks its own DNA?
(a) nucleus and chloroplast
(b) lysosome and dictyosomes
(c) mitochondria and chloroplast
(d) nucleus and mitochondria
(e) ribosome and lysosome

Q71. When an acid cell is charged, then
(a) voltage of cell increases
(b) resistance of cell increases
(c) electrolyte of cell dilutes
(d) all of the above
(e) none of the above

Q72. In Lassaigne's test to detect the presence of sulphur in an organic compound, the sodium fusion extract on acidification with acetic acid and lead acetate gives a black precipitate due to:
(a) sodium sulphide
(b) lead sulphite
(c) lead sulphate
(d) lead acetate
(e) lead sulphide

Q73. Which compound metal cannot be replaced by Zn metal?
(a) $[Mg(NH_3)_6]^{2+}$
(b) $[Ag(CN)_2]^-$
(c) $[Au(CN)_2]^-$
(d) $Na[Ag(CN)_2]$
(e) none of the above

Q74.
$MnO_4^- + 8H^+ + 5e^- \rightarrow Mn^{2+} + 4H_2O$; E° = 1.51 V
$MnO_2 + 4H^+ + 2e^- \rightarrow M_{n^{2+}} + 2H_2O$; E° = 1.23 V
E° MnO_4^-/MnO_2 is
(a) 1.70 V
(b) 0.91 V
(c) 1.37 V
(d) 0.548 V
(e) 0.550 V

Q75. Which of the following equation is not correct?
(a) $\left(p + \frac{an^2}{V^2}\right)(V - b) = nRT$
(b) $\left(p + \frac{a}{V^2}\right)(V - b) = RT$
(c) $\left(p + \frac{an^2}{V^2}\right)(V - nb) = nRT$
(d) $p = \frac{RT}{(V-b)} - \frac{a}{V^2}$
(e) none of the above

Q76. Which of the following relation is incorrect?

(a) $\Delta G^\circ = -RT \ln k$

(b) $k = e^{\frac{-\Delta G^\circ}{RT}}$

(c) $e^{\frac{-\Delta G^\circ}{2.303\,RT}}$

(d) $\ln K = \frac{\Delta G^\circ}{RT}$

(e) All of the above

Q77. For which of the following reactions, $K_p = K_c$?

(a) $PCI_5 \rightleftharpoons PCI_3 + CI_2$

(b) $2NH_3 \rightleftharpoons N_2 + 3H_2$

(c) $2HI \rightleftharpoons H_2 + I_2$

(d) $SO_2 + O_2 \rightleftharpoons SO_3$

(e) none of the above

Q78. Nucleophilicity is highest for

(a) NH^-_2

(b) NH_2

(c) Cl^-

(d) ^-OH

(e) CH^-_3

Q79. The value of van't Hoff's factor for $Hg_2(NO_3)_2$ is

(a) 1

(b) 2

(c) 3

(d) 4

(e) 5

Q80. An antibiotic effective in treatment of pneumonia, bronchitis etc. is

(a) penicillin

(b) patalin

(c) chloromycetin

(d) tetracyline

(e) streptomycin

Q81. Which of the following is true about the two statements?

Statement I: Reactivity of aluminium decreases when it is dipped in nitric acid.

Statement II: A protective layer of aluminium nitrate is formed when aluminium is dipped in nitric acid.

(a) Both the statements are correct but II is not correct explanation of I

(b) I is correct but II is incorrect

(c) Both the statements are correct and II is also the correct explanation of I

(d) I is incorrect but II is correct

(e) None of the above

Q82. Which of the following statements is correct about XeF_4, SF_4 and CF_4?

(a) They have same molecular shape and have 1, 2 and 0 lone pair of electrons

(b) They have same molecular shape and have 0, 1 and 2 lone pair of electrons

(c) They have different molecular shape and have 2, 1 and 0 lone pair of electrons

(d) They have different molecular shape and have 1, 2 and 0 lone pair of electrons

(e) Both a and b

Q83. Which of the following is not true about an element having 2K, 8L and 5M electrons?

(a) The total number of subshells in the atom of this element is 5

(b) The total number of unpaired electrons is 3

(c) The total number of orbitals is 15

(d) The maximum number of electrons that it can hold is 18

(e) The total number of orbitals is 16

Q84. When a beam of light enters a dark room, the dust particles in its path become clearly visible. This is due to

(a) Brownian movement

(b) Tyndall effect

(c) Electrophoresis

(d) Coagulation

(e) Scattering

Q85. Nitration of aniline also gives m-nitroaniline in a strong acidic medium because
(a) in electrophilic substitution, the reactive amino group is meta-directive
(b) in spite of substituents, nitro group always goes to m-position
(c) in strong acidic medium, aniline present as anilinium ion
(d) None of the above
(e) both a and b

Q86. The ratio of the wavelength for 2 →1 transition in Li^{++}, He^{+} and H is
(a) 1 : 2 : 3
(b) 1 : 4 : 9
(c) 4 : 9 : 36
(d) 3 : 2 : 1
(e) 5 : 3 : 1

Q87. At places of high altitude water boils at low temperature because-
(a) water has strong hydrogen bond
(b) there atmospheric pressure is high
(c) water has weak hydrogen bond
(d) there water is found in pure form
(e) there atmospheric pressure is low

Q88. If velocity-time graph is parallel to time axis, then
(a) The object is moving with a constant velocity
(b) Its acceleration is zero
(c) The value of its displacement can be calculated by finding area of the graph
(d) Acceleration of body is zero
(e) All of the above

Q89. When $_{90}Th^{228}$ transforms to $_{83}Bi^{212}$, then the number of the emitted α and β-particles is, respectively
(a) 8α, 7β
(b) 4α,7β
(c) 4α, 4β
(d) 4α, 1β
(e) 5α, 2β

Q90. A radioactive substance decays to $(1/6)^{th}$ of its initial activity in 40 days. The half-life of the radioactive substance expressed in days is
(a) 2.5
(b) 5
(c) 10
(d) 20
(e) 15

Q91. Two bodies are said to be in thermal equilibrium when -
(a) both will be at same temperature
(b) both will have same amount of heat but different temperatures
(c) there is a flow of heat
(d) both will be at different temperature
(e) none of the above

Q92. A magnet makes 40 oscillations per minute at a place having magnetic field intensity B_H = 0.1 10^{-5}. At another place, it takes 2.5 s to complete one-vibration. The value of the earth's horizontal field at that place is
(a) 0.25×10^{-6} T
(b) 0.36×10^{-6} T
(c) 0.66×10^{-8}T
(d) 1.2×10^{-6} T
(e) 1.5×10^{-6} T

Q93. The coercivity of a small bar magnet is 4×10^3 A/m. If it is inserted inside a solenoid of 500 turns and length 1 m to demagnetise it, the amount of current to be passed through the solenoid will be
(a) 2.5 A
(b) 5 A
(c) 15A
(d) 10 A
(e) 8 A

Q94. The carriers of electric current when an accumulator is being changed, are
(a) H^{+}_2 and $SO^{2}_4{}^{-}$
(b) holes
(c) electrons
(d) protons
(e) neutron

Q95. If the error in the measurement of momentum of a particle is (+100%), then the error in the measurement of kinetic energy is
(a) 25%
(b) 200%
(c) 300%
(d) 400%
(e) 700%

Q96. Consider the following statements:
i. The gravitational force decreases as one move from poles towards the equator.
ii. The force of gravity increases with increase in altitudes.
Which of the above statements are correct?
(a) only i
(b) only ii
(c) both i and ii
(d) neither i nor ii
(e) i is right and ii is wrong

Q97. Satellite are stable in space because
(a) kept in orbit by remote control
(b) kept in orbit by retro-rocket
(c) due to gravitational force
(d) does not require any energy for orbiting
(e) due to potential force

Q98. Which one of the following solutions will not conduct electricity?
(a) lemon juice
(b) vinegar
(c) tap water
(d) vegetable oil
(e) all of the above

Q99. The power of an earthquake is expressed in terms of a magnitude on a scale is
(a) seismograph
(b) reaumer scale
(c) barometer
(d) a and b both
(e) richter scale

Q100. What is magnetic flux density?
(a) Magnetic field experienced by a North Pole of unit strength placed in a force field
(b) Force experienced by a North Pole of unit strength placed at a point in a magnetic field
(c) Pressure experienced by a North Pole of unit strength placed in a force field.
(d) Both a and b
(e) None of the above

Solutions

S1. Ans.(a)
Sol. It absorbs UV radiation and converts it to harmless heat. The ozone layer acts as a protective shield by absorbing most of the UV radiation that reaches the Earth's surface. The ozone molecules absorb the UV radiation and convert it to heat, which is then released into the atmosphere. Without the ozone layer, the amount of UV radiation reaching the Earth's surface would be much higher, leading to increased risks of skin cancer, cataracts, and other health problems.

S2. Ans.(b)
Sol. Nitrogen oxide emissions are primarily caused by the burning of fossil fuels in vehicles and other forms of transportation. Industrial processes and agricultural activities can also contribute to nitrogen oxide emissions, but they are not the primary sources.

S3. Ans.(d)
Sol. A type of chemical compound containing one or more halogen atoms. Halocarbons are a class of synthetic chemicals that contain chlorine, fluorine, bromine, or iodine atoms. Many halocarbons are known to contribute to ozone depletion, and some are also potent greenhouse gases.

S4. Ans.(a)
Sol. An ecosystem is a community of living and non-living things interacting with each other. It includes all the living organisms (plants, animals, and microorganisms) in an area as well as the non-living factors (air, water, and soil) with which they interact.

S5. Ans.(a)
Sol. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It involves balancing economic, social, and environmental factors to create a sustainable future.

S6. Ans.(a)
Sol. Statement I is correct as most countries have laws and regulations regarding acceptable noise levels in residential areas. Statement II is correct as violators of noise pollution laws are subject to fines and penalties. Statement III is incorrect as there are legal frameworks for regulating noise pollution in many countries around the world.

S7. Ans.(c)
Sol. Statement I is correct as prevention is the most effective method of controlling soil pollution by reducing the amount of pollutants that enter the soil. Statement II is correct as remediation involves removing or treating contaminated soil to restore it to its original state. Statement III is correct as phytoremediation involves using plants to remove pollutants from contaminated soil, making it a cost-effective and sustainable method of soil remediation.

S8. Ans.(a)
Sol. The concept of green building is the design and construction of buildings that are environmentally responsible and resource-efficient, using sustainable materials and energy-efficient systems to minimize their environmental impact.

S9. Ans.(a)
Sol. The greenhouse effect is a process that occurs when heat is trapped in the Earth's atmosphere by gases like carbon dioxide, causing the Earth's temperature to rise.

S10. Ans.(e)
Sol. Both natural factors and human activities contribute to climate change, but the main cause is human activities such as burning fossil fuels and deforestation, which release greenhouse gases into the atmosphere.

S11. Ans.(c)
Sol. Providing education and training for safe driving is a strategy to address road accidents involving commercial vehicles. This can include specific training on maneuvering large vehicles, defensive driving techniques, and awareness of blind spots.

S12. Ans.(b)
Sol. Education can increase awareness of safe driving practices, such as obeying traffic laws, avoiding distractions, and wearing seat belts. This can ultimately lead to fewer accidents on the road.

S13. Ans.(a)
Sol. The National Road Safety Policy in India aims to promote sustainable transportation options such as cycling and walking. It encourages the use of public transport to reduce vehicular congestion and pollution. The policy also emphasizes the safety of vulnerable road users such as pedestrians and cyclists.

S14. Ans.(b)
Sol. Overloading a vehicle beyond its capacity can make it difficult to control and can lead to accidents. The statement in the reason is true but it does not explain why overloading a vehicle is dangerous.

S15. Ans.(c)
Sol. Maintaining a safe distance from other vehicles while driving at night is crucial for ensuring road safety. This distance provides drivers with enough time and space to respond to unexpected situations and avoid collisions. It also helps drivers to have a clear view of the road ahead and identify potential hazards early on. Therefore, it's important to always stay alert and keep a safe following distance to prevent accidents and ensure a smooth and safe driving experience.

S16.Ans (a)
Sol. Mukhya Mantri Parivar Samman Nidhi Yojana provides financial assistance to the families of martyrs in Haryana.

S17.Ans (d)
Sol. Disaster Relief Fund provides financial assistance to the people who are affected by natural calamities in Haryana.

S18. Ans. (e)
Sol. Saint Garibdas was a famous Haryanvi poet and saint who is known for his devotional hymns and is considered a spiritual guru by many in the state. He was born in the village of Haryana in 1717 and is known for his teachings on social equality and religious harmony. Saint Garibdas is also known for his contributions to the development of the Haryanvi language and is considered a significant cultural figure in the state.

S19. Ans. (d)
Sol. Meerut is a city in Uttar Pradesh, but it is known for its production of high-quality sports goods, especially cricket equipment. The city is located near the border of Haryana and is an important commercial centre for sports goods in the region.

S20. Ans. (b)
Sol. Hans Raj Hans is a famous Haryanvi singer who is known for his folk and pop songs and has won several awards for his music. He was born in the village of Shafipur, Haryana and began his singing career in the 1980s. He has released many successful albums and is considered one of the most popular singers in the state.

S21. Ans. (e)
Sol. Ghumar is a famous Haryanvi folk dance that is performed by women during the harvest season and is characterized by its energetic and rhythmic movements. The dance is performed in a circle and involves a lot of spinning and clapping. It is considered a significant part of the state's cultural heritage and is performed at various festivals and events.

S22. Ans. (e)
Sol. Rao Tula Ram was a famous Haryanvi freedom fighter who is known for his contributions to the Indian independence movement and is considered a hero in the state. He was born in the village of Rewari and played a significant role in the Indian Rebellion of 1857. He is also known for his efforts to unify the various princely states of Haryana and is considered a significant historical figure in the state.

S23. Ans. (d)
Sol. Surajkund is a famous Haryanvi monument that is known for its architectural beauty and historical significance and is a popular tourist attraction in the state. It is an ancient reservoir that was built in the 10th century and is located in the district of Faridabad. The reservoir is surrounded by hills and is considered a significant cultural and historical site in the state. Every year, the Surajkund International Crafts Mela is held here, which attracts a large number of tourists from all over the world.

S24. Ans. (c)
Sol. Bajrang Punia is a famous Haryanvi wrestler who is a recipient of the Padma Shri and has won several gold medals for India in international competitions. He was born in the village of Khudan, Jhajjar and has won many accolades in his career. He won a gold medal at the 2018 Asian Games and a bronze medal at the 2019 World Wrestling Championships. He is considered one of the most successful wrestlers in India and a pride of Haryana.

S25. Ans. (e)
Sol. Deepa Malik is a famous Haryanvi athlete who won a silver medal in the women's shot put event at the 2016 Rio Olympics and a gold medal at the 2018 Commonwealth Games. She was the first Indian woman to win a medal at the Paralympic Games, where she won a silver medal in shot put at the 2016 Summer Paralympics. She is also a recipient of the Arjuna Award and the Padma Shri for her contributions to sports.

S26. Ans. (d)
Sol. Besan Masala Roti is a popular Haryanvi dish that is made from wheat flour and is a popular breakfast option in the state. It is a type of flatbread that is stuffed with a spicy mixture of gram flour, onions, and spices. It is usually served with curd, butter, or pickle and is considered a staple breakfast dish in the state.

S27. Ans. (a)
Sol. Holi is a famous Haryanvi festival that is celebrated during the month of Phalgun and is known for its colorful celebrations and music. It is a spring festival that is celebrated by throwing colors and water on each other and is considered a symbol of love and happiness. It is celebrated with great enthusiasm and joy in Haryana, and people gather to sing, dance, and play music during the festival.

S28. Ans. (b)
Sol. Bhupinder Singh Hooda is a famous Haryanvi personality who is a Padma Shri and Padma Bhushan awardee and has served as the Chief Minister of the state for two terms. He is a prominent politician and a member of the Indian National Congress. He has contributed significantly to the development of Haryana, especially in the fields of agriculture and education. During his tenure as Chief Minister, he implemented.

S29. Ans. (e)
Sol. Gurgaon district in Haryana is known for its ancient fort and temple of the goddess Sheetla Devi. The temple is believed to be over 500 years old and is visited by thousands of devotees every year, especially during the Sheetla Ashtami festival.

S30. Ans. (e)
Sol. S. H. Raza is a famous Haryanvi artist who is known for his unique style of painting, which features bright colors and bold lines. He is considered one of the leading modernists in Indian art and is known for his use of the bindu, a small dot that represents the seed of creation in Hindu philosophy.

S31. Ans. (b)
Sol. The Yamuna River flows through Haryana and is considered sacred in Hindu mythology. It is one of the seven sacred rivers in India and is associated with Lord Krishna, who is believed to have spent his childhood in the region.

S32. Ans. (e)
Sol. Lakhmi Chand is a famous Haryanvi musician who is known for his popular songs such as "Panihari" and "Chandrawal". He is considered one of the pioneers of the Haryanvi music industry and has contributed significantly to the development of the genre.

S33. Ans. (e)
Sol. Uday Bhanu Hans is a famous Haryanvi poet who is known for his works such as "Haryana ki Aawaz" and "Haryana ki Pukar". He is considered one of the leading voices of Haryana and has contributed significantly to the development of Haryanvi literature.

S34. Ans. (c)
Sol. Panipat city in Haryana is known as the "City of Weavers" due to its thriving handloom industry. The city is known for producing high-quality textiles, including carpets, blankets, and shawls, which are sold across India and abroad.

S35. Ans. (c)
Sol. Hisar district in Haryana is known for its production of the famous "Hisar Biri" tobacco. The tobacco is grown in the fertile lands of Hisar and is known for its unique flavor and aroma.

S36. Ans.(b)
Sol. Socialization is a complex process that takes place in overt as well as covert manners.

S37. Ans.(d)
Sol. For children who are in the formal operational stage, teachers should give opportunities to solve problems and reason scientifically

S38. Ans.(a)
Sol. In what ways are the books you read today different from the Rigveda

S39. Ans.(c)
Sol. The primary goal of guidance and counseling is to enhance personal and social development, helping individuals to better understand themselves and their relationships with others.

S40. Ans.(c)
Sol. The primary purpose of time-tabling in a school is to ensure that all subjects are covered within the academic year and that students have enough time to learn and practice the necessary skills.

S41. Ans.(b)
Sol. Foundational Numeracy refers to the ability to count and perform basic mathematical operations, providing a strong foundation for further mathematical learning and development.

S42. Ans.(b)
Sol. To provide feedback and guidance to help team members improve. A leader as a coach and mentor must be able to provide constructive feedback and guidance to help team members improve their skills and grow professionally. They must also create a safe and supportive environment that encourages team members to take risks and try new things.

S43. Ans.(c)
Sol. Transactional leadership views leadership as a series of transactions between leaders and followers. Transactional leaders use rewards and punishments to maintain order, discipline, and control in the school environment. They focus on maintaining the status quo rather than creating change. While this approach can be effective in the short term, it may not promote long-term improvements in teaching and learning.

S44. Ans.(b)
Sol. By analyzing achievement data, teachers can create individualized learning plans that are tailored to each student's unique strengths and weaknesses. This helps to ensure that every student has the opportunity to succeed and reach their full potential.

S45. Ans. (a)
Sol. NEP- 2020 emphasizes transforming assessment for optimizing the learning and development of all students with a focus on the following: Assessment must be regular, formative and competency-based. Promote learning and development of students. Focus on 'assessment for learning.
The purpose of assessment as per the National Education Policy 2020 is to provide information on how to support the students in and out of the classroom.

S46. Ans. (b)
Sol. Content is designed to meet the needs of a few students only is a barrier to inclusion.

S47. Ans.(b)
Sol. Academic achievement is not a risk factor for poor mental health in schools. However, academic stress and pressure can negatively impact mental health. The other options are known risk factors that can lead to poor mental health in students.

S48. Ans.(b)
Sol. Section 2 defines words and expressions used in the Act.

S49. Ans.(b)
Sol. 'Curriculum' refers to the knowledge and skills students In education, a curriculum is broadly defined as the totality of student experiences that occur in the educational process. The term often refers specifically to a planned sequence of instruction, or to a view of the student's experiences in terms of the educator's or school's instructional goals
are expected to learn, which includes the learning standards and learning objectives on a day-to-day basis.

S50. Ans. (c)
Sol. Play has a significant role in the development of young children for the reasons given in the questions, except it is just a pleasant way to spend time.

S51. Ans.(e)
Sol. Haploid spore (n) is considered a pioneer in the gametophytic generation of bryophytes.
These haploid pioneer structures of gametophytic generation are formed from spore mother cells by meiosis which in turn are produced within the sporangium.

S52. Ans.(d)
Sol. The pollen grains are the haploid and unicellular body that comprises a single nucleus.
After pollination, if the pistil accepts the pollen then the pollens are transferred to the ovary with the help of a pollen tube. The pollen tube is germinated through one of the germ pores. The pollen tube grows through the tissues of the stigma and style to reach the ovary.
Plants which shed pollen in the 3-celled condition, carry 2 male gametes in the pollen tube from the beginning. The synergids present at the micropylar end of the embryo sac guide the entry of the pollen tube into the embryo sac. The synergids cells possess a special cellular thickening at the micropylar tips called filiform apparatus. It plays a significant role in guiding pollen tubes to reach synergids.
Pollen tube discharge the male gametes into the synergid cells.

S53. Ans.(d)
Sol. Respiratory roots are characteristics feature of mangroves, halophytes, Sonneratia, Aviccinia and Rhizophora all are mangrove vegetation.

S54. Ans.(c)
Sol. The modification of petioles in leaf-like flattened structures in some species of Acacia performs photosynthesis. This modification of the petiole is carried out due to the absence of leaf lamina. This flattened petiole is known as a phyllode.

S55. Ans.(e)
Sol. Tetradynamous condition is a unique feature of stamens length and is found in the family Brassicaceae. In this condition, out of six stamens, 4 are long, while two are short.

S56. Ans.(b)
Sol. The alleles of a gene do not show any blending and both the characters are recovered as such in the F_2 generation. This statement is related to the Law of Segregation. This law is given by Mendel.

S57. Ans.(c)
Sol. Watson and Crick suggested a simple mechanism of DNA replication on the basis of its double helix structure. The replication method of DNA is described as semiconservative because the molecule of daughter DNA is hybrid, which conserves the one parental polynucleotide chain and forms the second one.

S58. Ans.(e)
Sol. Chromosomes carry genetic formation from parent to offspring.
Trabant – Part of chromosomes beyond secondary constriction
Telomere – Terminal part of the chromosome, i.e., end of chromosome
Centromere – Part of the chromosome during primary constriction.

S59. Ans.(b)
Sol. X-rays are widely used in medicines. Some of its applications are described below.
- X-rays in medicine
- These are used in the detection of bone fractures
- These are used in the diagnosis of infections present in the lungs like tuberculosis, pneumonia, etc.
- These are used in the detection and treatment of tumours
- These are used by the dentist to cure dental issues
- It can also detect abnormalities in the heart such as congestive heart failure
- It can be used to diagnose osteoporosis and arthritis

S60. Ans.(a)
Sol. Pharyngeal nephridia lie in three paired tuft, which is located on either side of the anterior region of the gut in segments 4^{th}, 5^{th} and 6^{th}. Those tufts of nephridia also contain blood glands.

S61. Ans.(a)
Sol. In the majority of mammals (except rabbits) the renal column Bertini are more in number and is extended up to cortex medial border (cortex) of the medulla and divides it into almost separate pyramids. Each such pyramids separately project towards the hilus as renal papilla.

S62. Ans.(d)
Sol. Double-stranded helical DNA would have a base composition in which adenine is always equal to thymine and cytosine equal to guanine. The given DNA does not contain such a base composition.
So virus must not contain dsDNA as genetic material. Being pyrimidine (C and T) and purine (A and G), the genetic material of bacteriophages is ssDNA.

S63. Ans.(e)
Sol. Angiotensin-II works as hormone. In blood rennin, a chemical reaction converts a plasma called angiotensinogen to a peptide called angiotensin-II.

S64. Ans.(a)
Sol. The mucosal lining of the oesophagus in mammals is composed of simple squamous and ciliated epithelium. The mucosal lining is covered by simple column epithelium in the rest of the human gut.

S65. Ans.(a)
Sol. Collenchyma, Stomata, and Trichomes are not observed in an old trunk of a dicot tree.
Collenchyma: These are found in layers below the epidermis in most of the dicotyledonous plants. It provides mechanical support to the growing parts of the plant.
In the epidermis of leaves, stomata are present which regulate the process of transpiration and gaseous exchange.
Trichomes are unicellular or multicellular appendages that are an extension of epidermal cells in plants.

S66. Ans.(d)
Sol. Cycas are popularly known as Sagopalm, and possess two cotyledons. It is a member of the order Cycadales of division gymnosperm.
The later are characterised by the presence of exposed ovules on megasporophyll, i.e., naked seed. Therefore, Cycas are not included in dicotyledons.

S67. Ans.(e)
Sol. Laptocentric vascular bundles are one type of concentric bundle. In that type of bundle, xylem tissue surrounds the phloem tissue. It is also found in Dracaena, Yucca and other monocots and some dicots. Another type of concentric bundle is amphicribal where phloem surrounds the xylem and is found in ferns.

S68. Ans.(d)
Sol. Middle lamella is composed of pectate of magnesium and calcium. Generally, cells of plant tissues are cemented together by this intercellular matrix. It is also composed of lignin and protein with pectin of calcium and magnesium.

S69. Ans.(a)
Sol. During prophase-I of meiosis cell division, recombination, chiasmata formation and synaptonemal complex take place during the anaphase stage. Actual reduction and disjunction occur at this stage.

S70. Ans.(b)
Sol. Lysosomes, single membranes and dictyosomes, well known as Golgi apparatus are devoid of their own DNA molecules.
While chloroplast nucleus and mitochondria possess their own DNA. Mitochondria and chloroplast are called autonomous cell organelles.

S71. Ans.(a)
Sol. Charging results in increase voltage.

S72. Ans.(e)
Sol. In Lassaigne's test to detect the presence of sulphur in an organic compound, the sodium fusion extract on acidification with acetic acid and lead acetate gives a black precipitate due to Lead Sulphide

S73. Ans.(a)
Sol. Zn being less reactive than Mg cannot replace Mg from its salts.

S74. Ans.(a)
Sol. For the reaction,

$$MnO^-_4 + 4H^+ + 3e^- \rightarrow MnO_2 + 2H_2O$$

$$-E_3 = \frac{-1.51\times5+2\times1.23}{3} = 1.70\ V$$

S75. Ans.(a)
Sol.

Van der Waals' equation is $\left(p + \frac{an^2}{V^2}\right)(V - nb) = nRT$

For 1 mol, n = 1

$\left(p + \frac{a}{V^2}\right)(V - b) = RT$

or $p = \frac{RT}{(V-b)} - \frac{a}{V^2}$

S76. Ans.(c)
Sol.

$\Delta G^\circ = -RT \ln K$

$\ln k = -\frac{\Delta G^\circ}{RT}$

$k = e^{-\Delta G^\circ}/RT$

S77. Ans.(c)
Sol.

For, $2HI \rightleftarrows H_2 + I_2$

$\Delta n_g = 2 - 2 = 0$

$K_p = K_c\,(RT)^{\Delta n_g} = K_c$

S78. Ans.(e)
Sol. A less electronegative atom is more nucleophilic. Thus, nucleophilicity is highest for CH^-_3 among the given.

S79. Ans.(c)
Sol.

$Hg_2(NO_3)_2$ ionises as

$Hg_2\,(NO_3)_2 \rightarrow \underbrace{Hg_2^{2} + 2NO_3^-}_{3\ ions}$

So, van't Hoff factor, i = 3

S80. Ans.(c)
Sol. Chloromycetin is the antibiotic that is effective for treating pneumonia, bronchitis etc.

S81. Ans.(b)
Sol. When aluminium is dipped in nitric acid a layer of aluminium oxide is formed on the metal. This happens because nitric acid is a strong oxidizing agent. The layer of aluminium oxide prevents further reaction of aluminium. Due to this, the reactivity of aluminium decreases.

S82. Ans.(c)
Sol.

Shape of XeF_4 = Square planar – 2 lone pair

Shape of SF_4 = Trigonal bipyramidal – 1 lone pair

Shape of CF_4 = Tetrahedral – 0 lone pair

S83. Ans.(e)
Sol. The total number of orbitals that the element has is 9 as K shell as one orbital, L has three orbitals and M has five orbitals.

S84. Ans.(b)
Sol. The Tyndall effect is light scattering by particles in a colloid or in a very fine suspension. Also known as Tyndall scattering, it is similar to Rayleigh scattering, in that the intensity of the scattered light is inversely proportional to the fourth power of the wavelength, so blue light is scattered much more strongly than red light.

S85. Ans.(b)
Sol. Nitro group goes always to metal position, in aromatic compounds, irrespective to the substituents.

S86. Ans.(c)
Sol.

Using $\frac{1}{\lambda} = RZ^2\left(\frac{1}{n_1^2} - \frac{1}{n_2^2}\right)$

$\Rightarrow \lambda \propto \frac{1}{Z^2}$

$\Rightarrow \lambda_{Li} : \lambda_{He^+} : \lambda_H = \frac{1}{9} : \frac{1}{4} : \frac{1}{1}$

$= 4 : 9 : 36$

S87. Ans.(e)
Sol. When atmospheric pressure is lower, such as at a higher altitude, it takes less energy to bring water to the boiling point. Less energy means less heat, which means water boil at a lower temperature at a higher altitude.

S88. Ans.(e)
Sol. When velocity time graph is parallel to time axis, velocity = constant, i.e., acceleration of body is zero.

S89. Ans.(d)
Sol.

$z - 90\ Th^{A-228} \rightarrow {}_{z'-83}\ Bi^{A'-212}$

Number of α – particles emitted

$n_\alpha = \frac{A-A'}{4} = \frac{228-212}{4} = 4$

Number of β – particles emitted

$n_\beta = 2n_\alpha - Z + Z' = 2 \times 4 - 90 + 83 = 1$

S90. Ans.(c)
Sol.

$N = N_0 e^{-\lambda t}$

$\frac{N_0}{2} = N_0 e^{-\lambda T_{1/2}}$ or $\frac{1}{2} = e^{-\lambda T_{1/2}}$

$2 = e^{\lambda T_{1/2}}$ or $\log_e 2 = \lambda T_{1/2}$

Again $\frac{1}{16} N_0 = N_0 e^{-\lambda t}$ or $16 = e^{\alpha t}$

$\lambda t = \log_e 16$

$\therefore \frac{t}{T_{1/2}} = \frac{\log_e 16}{\log_e 2} = \frac{\log_e (2)^4}{\log_e (2)}$

$\frac{40}{T_{1/2}} = 4 \frac{\log_e 2}{\log_e 2} = 4$ or $T_{1/2} = 10$ days

S91. Ans.(a)
Sol. When two objects are in thermal equilibrium they are said to have the same temperature. During the process of reaching thermal equilibrium, heat, which is a form of energy, is transferred between the objects.

S92. Ans.(b)
Sol.

By using $T = 2\pi \sqrt{\frac{I}{MB_H}}$

$\Rightarrow \frac{T_1}{T_2} = \sqrt{\frac{(B_H)_2}{(B_H)_1}}$

$\Rightarrow \frac{60/40}{2.5} = \sqrt{\frac{(B_H)_2}{0.1 \times 10^{-5}}}$

$\Rightarrow (B_H)_2 = 0.36 \times 10^{-6}$ T

S93. Ans.(e)
Sol. The coercivity of a small bar magnet
H = ni

$i = \frac{H}{n} = \frac{4 \times 10^3}{500} = 8A$

S94. Ans.(a)
Sol. The change carries in accumulator are H^+ and SO^{2-}_4.

S95. Ans.(c)
Sol.

Relation between E_R and P is $E_k = \frac{p^2}{2m}$

When, P is doubled, E_R becomes four times

So, E_R is increases by 300%.

S96. Ans.(a)
Sol. The force of gravity decreases with the increase in altitude on earth. It increases as one goes towards the pole from equator, i.e., gravitational force is highest at the poles and least at the equator.

S97. Ans.(c)
Sol. The satellite either it is a natural or an artificial are stable in the nature in the orbit due to balance of gravity and the centrifugal force by the earth.

S98. Ans.(d)
Sol. Liquids which conduct electricity are tap water, lemon juice, vinegar, salt solution, etc.
Liquids which are bad conductors of electricity are distilled water, honey, milk, vegetable oil, etc.

S99. Ans.(e)
Sol. The Richter scale is a scale which ranging from 1 to 10, for indicating the intensity of an earthquake.

S100. Ans.(b)
Sol. Magnetic flux density is defined as the force experienced by a North Pole of unit strength placed at a point in a magnetic field.