

All India Maha Mock UPTET Paper-II (Mathematics and Science) 15-Jan-2022

Q1. Which of the following is not a characteristic of early childhood?

- (a) Imitation of social practices
- (b) Logical and rational thinking
- (c) Parallel play
- (d) Rapid development of language

Q2. Which of the following is true about intelligence?

- (a) Process of progressive behavior adaptation.
- (b) Magical thought process.
- (c) Original and productive thoughts.
- (d) Cannot be expressed numerically.

Q3. Learning disability that affects physical coordination is:

- (a) Dysgraphia
- (b) Dyslexia
- (c) Dysphasia
- (d) Dyspraxia

Q4. Who among the following has identified the four distinct stages of children's cognitive development?

- (a) Piaget
- (b) Kohlberg
- (c) Erikson
- (d) skinner

Q5. A gifted child is one who has an IQ score of:

- (a) Less than 110
- (b) 70 or above
- (c) 100 or above
- (d) 140 or above

Q6. When a teacher sings a rhyme in a language classroom, he/she is trying to:

- (a) Teach students to learn to sing
- (b) Teach students to read and write
- (c) Familiarize the students with the sounds
- (d) Teach learners to understand the words

Q7. Which of the following statement is correct about partial reinforcement?

- (a) It cannot be applied in an actual classroom
- (b) It works best in training animals
- (c) It is more effective than continuous reinforcement
- (d) It is less effective than continuous reinforcement

Q8. The news of a woman selling her child to obtain food may be understood best on the basis of -

- (a) Psychological theory
- (b) Theory of reinforced contingencies
- (c) Psychoanalytical theory
- (d) Theory of hierarchical needs

Q9. Heredity and environment are _____ to each other.

- A. Dependent
- B. Complementary
- C. Cooperative

- (a) Only A
- (b) Only B
- (c) Only C
- (d) All of these

Q10. Which one of the following gave the principle of construction and discovery?

- (a) Vygotsky
- (b) Jean Piaget
- (c) Kohlberg
- (d) Abraham Maslow

Q11. Piaget proposes that pre-operational children are unable to conserve. He attributes this inability to which one of the following factors?

- (a) Inability of hypothetical-deductive reasoning
- (b) Lack of high-level abstract reasoning
- (c) Personal fable
- (d) Irreversibility of thought

Q12. The _____ consists of two forms, each composed of 45 inkblots. The person is permitted only one response and the scoring is more objective.

- (a) Rorschach Testy
- (b) Holtzman Inkblot Technique
- (c) Guilford Test
- (d) California Psychological Inventory

Q13. _____ use a standard set of stimuli, such as incomplete sentence, pictures or inkblots which are relatively ambiguous.

- (a) Pencil and Paper tests
- (b) Projective methods
- (c) Personality tests
- (d) None of the above

Q14. Under which section of RTE (Right to Education) free education for children of 6 to 14 years comes up to 8th?

- (a) section 5
- (b) section 4
- (c) section 13
- (d) section 3

Q15. Which of the following is most effective mode of teaching-learning?

- (a) Observation without analysis
- (b) Imitation and repetition
- (c) Rote memorization of content
- (d) Exploration of relationships between concepts

Q16. A teacher should analyse the various errors made by students on a given task because

- (a) she can segregate those who made more errors in comparison to others.
- (b) learning is solely based on correction of errors.
- (c) she can decide degree of punishment accordingly.
- (d) understanding of errors are meaningful in the teaching-learning process

Q17. Conceptual understanding among students is likely to improve in the setting which emphasise on

- (a) frequent examinations.
- (b) inquiry and dialogue.
- (c) competitions.
- (d) textbook-centric pedagogy.

Q18. It is difficult for children to learn when

- (a) learning is socially contextualized.
- (b) content is represented through multiple ways.
- (c) information is presented in disconnected chunks.
- (d) they are intrinsically motivated.

Q19. After observing that students are struggling to proceed further on an ongoing activity, a teacher decides to provide cues and hints in form of what, why, how. According to Lev Vygotsky's theory, this strategy of teacher will

- (a) cause withdrawal tendency among students.
- (b) be meaningless in process of learning.
- (c) demotivate the children to learn.
- (d) act as a scaffold for learning.

Q20. Children with dyslexia' can be identified by

- (a) analyzing their reading and writing skills.
- (b) assessing their ability to solve complex higher-order problems.
- (c) finding out their social and cultural context.
- (d) a through physical health check-up.

Q21. A child-centered classroom is one in which

- (a) the teacher uses rewards and punishments to direct children's behavior.
- (b) the teacher is flexible and caters to needs of individual children.
- (c) the teacher uses the textbook as the only source of knowledge.
- (d) the teacher segregates the children based on their abilities.

Q22. Which of the following is a correctly matched pair of type of intelligence and end-state performance possibilities as per Howard Gardner's theory of multiple intelligences?

Types of Intelligence End-state performance Possibility

- (a) Linguistic - Sculptor
- (b) Bodily-kinesthetic - Athlete
- (c) Spatial - Therapist
- (d) Intra-personal Salesperson

Q23. According to Right of Persons with Disabilities Act (2016), which of the following term is appropriate to use?

- (a) Student with physical disability
- (b) Student with crippled body
- (c) Retarded student
- (d) Handicapped student

Q24. According to Jean Piaget, children in formal operational stage

- (a) cannot conserve, classify and segregate
- (b) begin to engage in make-believe and symbolic play.
- (c) are capable of hypothetical-deductive reasoning and propositional thought.
- (d) are bound by centration and irreversible of thought.

Q25. Personality is the dynamic organization of those psycho-physical qualities within the individual which determine his unique adjustment in the environment.' The definitions given

- (a) Skinner
- (b) S. Freud
- (c) G. W. Allport
- (d) J. E. Decile

Q26. When a person's learning of one situation affects his learning and performance in another, it is called

- (a) Contemplation
- (b) Memory
- (c) Learning transfer
- (d) Intellectual Development

Q27. The exponent of the three-dimensional theory of intelligence is

- (a) kettle
- (b) Kurt Levin
- (c) Guilford
- (d) Bine

Q28. Mental stimulation model is used for teaching to improve which of the following?

- (a) Knowledge
- (b) Application
- (c) Creativity
- (d) Motivation

Q29. A boy in your class always scores good marks also he is physically very fit but he often got get punishment for fighting in class according to you

- (a) The boy needs to work more in Cognitive development.
- (b) The boy needs to work in Affective development.
- (c) The needs to work in his social development.
- (d) The boy needs to work in Language development.

Q30. Who among the following laid great emphasis on social constructivism philosophy?

- (a) Vygotsky
- (b) Skinner
- (c) Davy
- (d) Piaget

Directions (31-50): निम्नलिखित प्रश्नों को ध्यानपूर्वक पढ़िए और प्रश्नों के उत्तर देने के लिए उचित विकल्प का चयन कीजिए।

Q31. 'मैं शिवा के लिए चाय बना रहा हूँ' इस वाक्य में कौन सा कारक है?

- (a) अधिकरण कारक
- (b) अपादान कारक
- (c) संबंध कारक
- (d) संप्रदान कारक

Q32. 'गिरीश' शब्द में कौन सी संधि है?

- (a) गुण संधि
- (b) वृद्धि संधि
- (c) यण संधि
- (d) दीर्घ संधि

Q33. महाभारत एक महान ग्रन्थ है। इस वाक्य में संज्ञा का कौन सा रूप है?

- (a) द्रव्यवाचक संज्ञा
- (b) भाववाचक संज्ञा
- (c) व्यक्तिवाचक संज्ञा
- (d) समूहवाचक

Q34. 'सर्वेक्षण' शब्द का संधि विच्छेद है-

- (a) सर्व + अक्षण
- (b) सव + ईक्षण
- (c) सर्व + ईक्षण
- (d) इनमें से कोई नहीं

Q35. वह कौन है जो रो पड़ा। इस वाक्य में सर्वनाम का कौन सा भेद है?

- (a) अनिश्चयवाचक सर्वनाम
- (b) संबंधवाचक सर्वनाम
- (c) निश्चयवाचक सर्वनाम
- (d) पुरुषवाचक सर्वनाम

Q36. निम्न में से तद्भव शब्द का चयन कीजिए।

- (a) छिद्र
- (b) उल्लास
- (c) गेहूँ
- (d) ग्रंथि

Q37. 'यथावधि' में कौन सा समास है।

- (a) अव्ययीभाव समास
- (b) तत्पुरुष समास
- (c) द्विगु समास
- (d) द्वंद्व समास

Q38. 'मैं जानता हूँ की तुम्हारे अक्षर अच्छे नहीं बनते' इसमें वाक्य का कौन सा भेद है?

- (a) सरल वाक्य
- (b) संयुक्त वाक्य
- (c) मिश्रित वाक्य
- (d) इनमें से कोई नहीं

Q39. 'अट्टहास' किसका संक्षिप्तीकरण है?

- (a) जिस हँसी से अट्टालिका भी हिल जाये
- (b) जो अपनी जगह से न डिगे
- (c) किसी बात या कथन को बड़ा-चढ़ा कर कहना
- (d) धर्म या शास्त्र के विरुद्ध कार्य

Q40. निम्न में से किस शब्द की वर्तनी अशुद्ध है?

- (a) अनन्योपाय
- (b) अनिर्वचनीय
- (c) अपकर्ष
- (d) अमानूषिक



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Q41. निम्नलिखित में से अशुद्ध वाक्य का चयन कीजिए।

- (a) आपके दर्शन कब होंगे।
- (b) सारे देशभर में अकाल है।
- (c) कुत्ते रात में भौंकते रहे।
- (d) वह कक्षा का सर्वोत्तम छात्र है।

Q42. 'ऐसी उक्ति जो परंपरागत हो' इस वाक्यांश के लिए एक शब्द का चयन कीजिए।

- (a) लोककथा
- (b) जनश्रुति
- (c) अनुश्रुति
- (d) प्रवाद

Q43. 'खून का घूंट पीना' मुहावरे के अर्थ का नीचे दिए गए विकल्पों में से चयन कीजिए।

- (a) क्रोध करना
- (b) रूठ जाना
- (c) ईर्ष्या करना
- (d) क्रोध दबाना

Q44. 'को' किस कारक की विभक्ति है?

- (a) कर्ता
- (b) अपादान
- (c) अधिकरण
- (d) संप्रदान

Q45. निम्न में से किस शब्द में द्वित्व का प्रयोग हुआ है?

- (a) संसार
- (b) मत्स्य
- (c) चिट्टी
- (d) कथन

Q46. सही विकल्प को चुनकर निम्नलिखित वाक्य के रिक्त स्थान की पूर्ति कीजिए।

घी का लड्डू _____ भी भला।

- (a) सीधा
- (b) लम्बा
- (c) टेढ़ा
- (d) उल्टा

Q47. 'परिष्कार' शब्द का संधि विच्छेद है?

- (a) परि : + कार
- (b) परीश + कार
- (c) परी : + कार
- (d) परीष् + कार



Q48. निम्न में से किस शब्द में 'अन' उपसर्ग नहीं है?

- (a) अनजान
- (b) अनमोल
- (c) अनहोनी
- (d) अनुकूल

Q49. निम्न में से अशुद्ध वर्तनी का चयन कीजिए।

- (a) भवितव्यता
- (b) तोयनिधि
- (c) सहधर्मिणी
- (d) स्प्रहा

Q50. 'पवित्र' शब्द में कौन सी संधि है?

- (a) यण संधि
- (b) वृद्धि संधि
- (c) अयाद्रि संधि
- (d) दीर्घ संधि

Q51. वह कौन से वाचन है जो गध्य में प्रयुक्त होता है, परंतु पध्य में नहीं -

- (a) मौन वाचन
- (b) आदर्श वाचन
- (c) अनुकरण वाचन
- (d) समवेत वाचन

Q52. आगमन विधि निम्न में से किस शिक्षण सूत्र पर आधारित है -

- (a) उदाहरण से नियम की ओर
- (b) अज्ञात से ज्ञात की ओर
- (c) नियम से उदाहरण की ओर
- (d) शूक्ष्म से स्थूल की ओर

Q53. भाषा अधिगम के कारण होते हैं -

- (a) भाषा विज्ञान
- (b) व्याकरण
- (c) भाषा कौशल
- (d) उपर्युक्त सभी

Q54. हिन्दी भाषा में स्वरों की संख्या होती है -

- (a) 11
- (b) 12
- (c) 13
- (d) 14



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Q55. बालक को किस सोपान से पता चलता है की उसे क्या पढ़ना है-

- (a) अनुकरण वाचन
- (b) आदर्श वाचन
- (c) प्रस्तावना
- (d) सपष्टीकरण

Q56. ध्वनि विज्ञान का संबंध किस से होता है -

- (a) पठन कौशल
- (b) श्रवण कौशल
- (c) लेखन कौशल
- (d) उपरोक्त मे से कोई नहीं

Q57. निम्न से कौन सा संरचना का रूप है -

- (a) वाक्य रूप
- (b) सूत्र रूप
- (c) कहावत रूप
- (d) ये सभी

Q58. बालक सर्वप्रथम कौन सी क्रिया सीखता है -

- (a) भाव प्रदर्शन
- (b) पढ़ना
- (c) लिखना
- (d) चलना

Q59. संरचनात्मक पद्धति मे किस पर बाल दिया जाता है -

- (a) छात्रों की क्रियाशीलता
- (b) वाचन
- (c) भाषाई विकास
- (d) उपयुक्त सभी

Q60. एक समावेशी कक्षा मे कौन सा कथन भाषा शिक्षण के सिद्धांतों के प्रतिकूल है -

- (a) व्याकरण के नियम सीखने से बच्चों का भाषा विकास जल्दी होगा
- (b) बच्चे परिवेश से प्राप्त भाषा को ग्रहण करते हुए भाषा प्रयोग के नियम बना सकते है
- (c) भाषा परिवेश मे रहकर अर्जित की जाती है
- (d) प्रिन्ट समृद्ध माहौल भाषा सीखने मे सहायक होता है

Directions (61-63): The questions below consist of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.

Q61. P- And slowly, you reach the pinnacle of self-awareness, experiencing a unity with all life.

Q- If you transform your energy positively, it naturally becomes compassion and love.

R- Once you experientially are a part of everything then nobody needs to teach you morality.

S- Then you can do something to improve the situation, but without anger.

- (a) PQRS
- (b) QPRS
- (c) RQPS
- (d) RSPQ

Q62. P-The Economic Survey highlighted the effect of labor reforms in Rajasthan, suggesting that.

Q- At a higher rate than the rest of the country after labor reforms.

R- The growth rates of firms employing more than 100 workers increased.

S-But worker organizations claim that the implementation of such stringent labor laws in most States is generally lax.

(a) PRSQ

(b) PRQS

(c) RQPS

(d) RSPQ

Q63. P- Rights rather than rushing through them.

Q-A broader consensus on any major rule changes to existing worker.

R-In such a situation, the government should be better off building.

S- For the sake of simplification.

(a) RPSQ

(b) QPRS

(c) RQPS

(d) SRQP

Directions (64-68): In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.

India's second moon mission, Chandrayaan-2, was _____ from launch just 56 minutes before its scheduled liftoff on July 15. This was owing to a technical glitch in the GSLV Mark-III rocket launcher. No _____ date has been announced for launch. This has no doubt served as a _____ on those who eagerly looked forward to India being only the fourth country to launch a mission that would land on the moon, and the very first to land and explore its south pole region. Yet, it was best that the glitch was discovered before the launch. Rocket launches always have a _____ finish. Even the GSLV-D1, the slighter predecessor to the GSLV Mark-III, suffered such a _____ when it was about to be launched for its first developmental test flight in 2001.

Q64. India's second moon mission, Chandrayaan-2, was _____ from launch just 56 minutes before

(a) pushed back

(b) hold back

(c) pulled back

(d) called back

Q65. No _____ date has been announced for launch.

(a) expiry

(b) rescheduled

(c) confirming

(d) auspicious

Q66. This has no doubt served as a _____ on those who eagerly looked forward to India being only the fourth country to launch a mission.

- (a) pioneer
- (b) crusader
- (c) proponent
- (d) damper

Q67. Rocket launches always have a _____ finish.

- (a) dud
- (b) nail-biting
- (c) hideous
- (d) head-scratching

Q68. Even the GSLV-D1, the slighter predecessor to the GSLV Mark-III, suffered such a _____ when it was about to be launched

- (a) setback
- (b) feedback
- (c) lowbrow
- (d) backlash

Directions (69-73): In the following questions, a sentence / a part of the sentence is in bracket. Below are given alternatives to the bracketed part which may improve the sentence. Choose the correct alternative. In case no improvement is required, choose "No Improvement" option.

Q69. I intend (to make) hefty returns from stock market.

- (a) to making
- (b) make
- (c) to made
- (d) No improvement

Q70. Hardly (did Kishan reached his house when) his son wished him.

- (a) Kishan reached his house when
- (b) did Kishan reach his house when
- (c) did kishan reach his house as
- (d) No improvement

Q71. What (you have been doing) in the academy since last month?

- (a) have you done
- (b) you have done
- (c) have you been doing
- (d) No improvement

Q72. If I (would have known) the truth I would have admitted it.

- (a) had known
- (b) have known
- (c) know
- (d) No improvement

Q73. Members usually meet in (one another's) homes.

- (a) anothers's
- (b) each another's
- (c) every other's
- (d) No improvement

Directions (74-76): In the following question, a sentence has been given in Direct/Indirect speech. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct speech

Q74. Kiran asked me, "Did you see the cricket match on television last night.

- (a) Kiran asked me whether I saw the cricket match on television the earlier night.
- (b) Kiran asked me whether I had seen the cricket match on television the earlier night.
- (c) Kiran asked me did I see the cricket match on television last night.
- (d) Kiran asked me whether I had seen the cricket match on television last night.

Q75. Rajesh requested me to bring him some oranges.

- (a) He said, "Rajesh, please bring me some oranges."
- (b) Rajesh said, "Will you bring me some oranges."
- (c) Rajesh said to me, "Please bring me some oranges".
- (d) "Please bring my friend some oranges", said he

Q76. He said, "I am building a robot."

- (a) He said that I am building a robot.
- (b) He said that he is building a robot.
- (c) He said that the robot is being built.
- (d) He said that he was building a robot.

Directions (77-80): In the following questions, a sentence has been given in Active/Passive Voice. Out of the four alternatives suggested, select the one which best expresses the same sentence in Passive/Active Voice.

Q77. Go away now.

- (a) You are requested to go away now.
- (b) You are suggested to go away now.
- (c) You are ordered to go away now.
- (d) You are allowed to go away now.

Q78. The guidelines provide instructions on procuring AGMARK quality items for preparation of midday meals.

- (a) Instructions have been provided by the guidelines on procuring AGMARK quality for preparation of midday meals.
- (b) Instructions on procuring AGMARK quality items are provided by the guidelines for preparation of midday meals.
- (c) Instructions on procuring AGMARK quality items are being provided by the guidelines for preparation of midday meals.
- (d) Instructions are being provided by the guidelines to procure AGMARK quality items for preparation of midday meals.

Q79. Let me sit.

- (a) It is suggested that I sit.
- (b) I should be sitting.
- (c) I may be allowed to sit.
- (d) I will be sitting.

Q80. The lion was running after the deer.

- (a) The deer was being run after by the lion.
- (b) The deer is being run after by the lion.
- (c) The deer was been run after by the lion.
- (d) The lion was being run after by the deer.

Directions (81-85): Read the following passage carefully and choose the most appropriate answer to the question out of the four alternatives.

The Union Environment Ministry has selected 12 beaches in India to vie for a 'Blue Flag' certification, an international recognition conferred on beaches that meet certain criteria of cleanliness and environmental propriety.

These beaches are at Shivrajpur (Gujarat), Bhogave (Maharashtra), Ghoghla (Diu), Miramar (Goa), Kasarkod and Padubidri (Karnataka), Kappad (Kerala), Eden (Puducherry), Mamallapuram (Tamil Nadu), Rushikonda (Andhra Pradesh), Golden (Odisha), and Radhanagar (Andaman & Nicobar Islands).

"To achieve the internationally recognised highest standard for the purpose of beach management, planning and execution of projects for infrastructure development, cleanliness, safety and security services, these beaches have been identified for Blue Flag certification in different States and Union Territories," reads a notification by the Ministry. The Blue Flag programme for beaches and marinas is run by the international, non-governmental, non-profit organisation FEE (the Foundation for Environmental Education). It started in France in 1985 and has been implemented in Europe since 1987, and in areas outside Europe since 2001, when South Africa joined. Japan and South Korea are the only countries in South and southeastern Asia to have Blue Flag beaches. Spain tops the list with 566 such beaches; Greece and France follow with 515 and 395, respectively.

There are nearly 33 criteria that must be met to qualify for a Blue Flag certification, such as the water meeting certain standards such as waste disposal facilities, disabled-friendly facilities, first aid equipment and no access to pets in the main areas of the beach. Some criteria are voluntary and some compulsory.

India is set to apply for certification for two beaches, at Shivrajpur and Ghoghla, by July-end. About ₹20 crore have been spent on each and the FEE jury will decide by October if these beaches meet the mark, an official in the Ministry told The Hindu.

Q81. Which organisation runs the 'Blue Flag' programme?

- (a) United Nations Environment Programme
- (b) United Nations Development Programme
- (c) Foundation for Environmental Education
- (d) World Health Organisation

Q82. Which Ministry has selected 12 beaches in India to vie for a 'Blue Flag' certification?

- (a) Union Environment Ministry
- (b) Union Ministry of Home Affairs
- (c) Union Defense Ministry
- (d) Union Finance Ministry

Q83. Which two beaches are set to apply for 'Blue Flag' certification by July-end?

- (a) Shivrajpur and Bhogave
- (b) Bhogave and ghoghla
- (c) Shivrajpur and Ghoghla
- (d) Bhogave and Miramar

Q84. How many beaches of Spain has been given the 'Blue Flag' certification?

- (a) 566
- (b) 576
- (c) 515
- (d) 395

Q85. Which among the following statements is not correct?

- (a) There are nearly 33 criteria that must be met to qualify for a Blue Flag certification.
- (b) Spain tops the list with 566 such beaches; Greece and France follow with 505 and 385, respectively.
- (c) It started in France in 1985 and has been implemented in Europe since 1987, and in areas outside Europe since 2001, when South Africa joined.
- (d) The Blue Flag programme for beaches and marinas is run by the international, non-governmental, non-profit organisation FEE.

Directions (86-90): In the following questions, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

Q86. People express their expectations (A)/ that their leaders should not (B)/ resorting to corrupt practices and nepotism, (C)/ No Error (D)

- (a) A
- (b) B
- (c) C
- (d) D

Q87. Asian culture will, sooner or later (A)/ become international norm (B)/ for entertainment industry. (C)/ No Error (D)

- (a) A
- (b) B
- (c) C
- (d) D

Q88. Hectic schedules can (A)/ take a toll on anybody and the solutions to this is (B)/ a quick holiday to any exotic location. (C)/ No error (D)

- (a) A
- (b) B
- (c) C
- (d) D

Q89. The number of marks (A) / carried by each question (B) / are indicated at the end of the question. (C) / No error (D)

- (a) A
- (b) B
- (c) C
- (d) D

Q90. Inspite that organisations are aware (A)/ of the importance of IT they often do not know (B)/ how to deploy it effectively. (C)/ No error (D).

- (a) A
- (b) B
- (c) C
- (d) D

Q91.

$$\text{If } (\sqrt{3})^5 \times 9^2 = 3^n \times 3\sqrt{3},$$

then the value of n is -

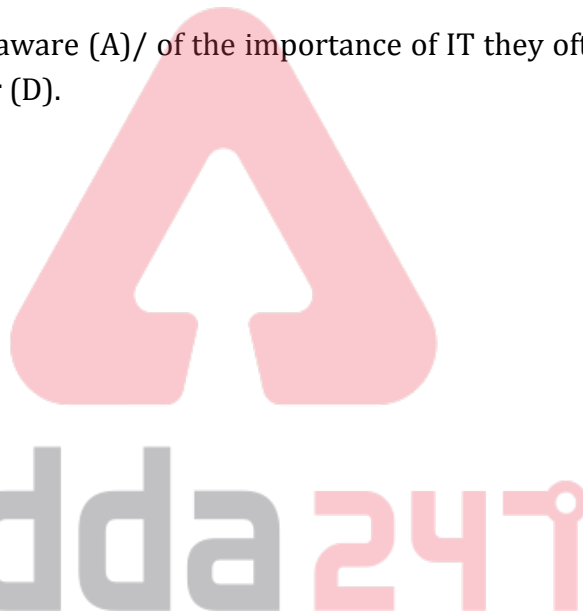
- (a) 3
- (b) 2
- (c) 5
- (d) 6

Q92. $2x + 4y - 8xy - 1 = ?$

- (a) $(1 + 4y)(2x - 1)$
- (b) $(1 - 4y)(2x - 1)$
- (c) $(1 - 4y)(2x + 1)$
- (d) None of these

Q93. If $3x + 7y = 75$, $5x - 5y = 25$, then the value of $(x + y) =$

- (a) 17
- (b) 16
- (c) 18
- (d) 15



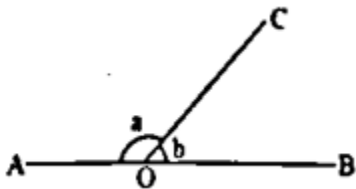
Q94. Neena and Meena started a business with investment of Rs. 30,000 and Rs. 45,000 respectively. What will be the share of Meena from the profit of Rs. 1,50,000 after 2 years ?

- (a) Rs. 30,000
- (b) Rs. 45,000
- (c) Rs. 75,000
- (d) None of these

Q95. The multiplication of the age of Rajeev, before 5 years and after 9 years, is 15. What is the present age of Rajeev ?

- (a) 6
- (b) 7
- (c) 5
- (d) 8

Q96. In the given figure \overline{AOB} is a simple line and \overline{OC} is incident on this. If $a : b = 2 : 1$, then the value of a is -



- (a) 80°
- (b) 100°
- (c) 120°
- (d) 140°

Q97. In a ΔABC if $3 \angle A = 4 \angle B = 6 \angle C$, then the value of $\angle A =$

- (a) 60°
- (b) 80°
- (c) 30°
- (d) 40°

Q98. Area of curved surface of a cylindrical pole is 264 m^2 and its volume is 1848 m^3 . what is the height of the pole? (use $\pi = \frac{22}{7}$)

- (a) 4 m
- (b) 3 m
- (c) 5 m
- (d) 6 m

Q99.

If $(4^{97} - 4^{96} + 4^{95}) = k, 4^{95}$,

then what is the value of k ?

- (a) 16
- (b) 64
- (c) 13
- (d) 4

Q100. $5a^2 + 15a - 6b - 2ab =$

- (a) $(5a + 2b)(a + 3)$
- (b) $(5a + 2b)(a - 3)$
- (c) $(5a - 2b)(a - 3)$
- (d) $(5a - 2b)(a + 3)$

Q101. A T.V. seller sold two T.V. at the rate of Rs. 9,600. Out of them, he obtained 20% profit on one T.V. and 20% loss on another T.V. How much profit or loss percentage is obtained in whole transaction?

- (a) 10% profit
- (b) 4% profit
- (c) 4% loss
- (d) Noe profit no loss

Q102. In a field 6 workers complete a task in 16 days. If this task is to be completed in 4 days, then how many workers will be required?

- (a) 20
- (b) 18
- (c) 24
- (d) 28

Q103. If simple interest is Rs. 640 in 5 years at the rate of 8%, then what will be the principal amount?

- (a) Rs. 1,280
- (b) Rs. 1,600
- (c) Rs. 3,200
- (d) Rs. 2,400

Q104. A train cover a distance of 3750 km in 25 hours, how much average distance the same train will cover in one hour ?

- (a) 140 km
- (b) 175 km
- (c) 150 km
- (d) 130 km

Q105. Anil took 50 apples from a box of apples. He distributed 30 apples among his 3 friends equally. After his, he took 2 apples back from each of his friends. Find how many apples are left with Anil ?

- (a) 26
- (b) 22
- (c) 12
- (d) 32

Q106. Mohan purchased a car for Rs. 8000 and sold it after one year at a loss of 25% . Find the selling price of car :

- (a) Rs. 7000
- (b) Rs. 6000
- (c) Rs. 10000
- (d) Rs. 9000

Q107. L.C.M of 4, 6, 12, 15 = ?

- (a) 180
- (b) 60
- (c) 72
- (d) 120

Q108. The sum of three angles of a triangle is :

- (a) 180°
- (b) 360°
- (c) 90°
- (d) None of these

Q109. $\triangle ABC$ and $\triangle ADB$ are on the common base AB and on the same side of AB. $DA \perp AB$, $CB \perp AB$ and $AC = BD$. Which of the following is true?

- (a) $\triangle ABC \cong \triangle ABD$
- (b) $\triangle ABC \cong \triangle ADB$
- (c) $\triangle ABC \cong \triangle BAD$
- (d) $\triangle ABC \cong \triangle BDA$

Q110. The sides of four triangles are given below:

- (i) 20 cm, 22 cm, 24 cm
- (ii) 15 cm, 32 cm, 37 cm
- (iii) 11 cm, 60 cm, 61 cm
- (iv) 19 cm, 40 cm, 41 cm

Which of them forms a right triangle?

- (a) (i)
- (b) (ii)
- (c) (iii)
- (d) (iv)



Q111. Out of following which is not the exact characteristics of objectives of Mathematics teaching in classroom.

- (a) Should be related to life
- (b) Should be testable
- (c) Should be specific
- (d) None of these

Q112. If a student get same 42 marks out of 80 awarded by different examiners in a test of Mathematics, this shows which characteristics of evaluation out of following:

- (a) Objectivity
- (b) Validity
- (c) Reliability
- (d) Practicability

Q113. Out of the following which is not the characteristic of reasoning in Mathematics?

- (a) Accuracy
- (b) Certainty of result
- (c) Originality
- (d) Subjectivity

Q114. Out of the following, what is most important characteristic of oral work in Mathematics for school students

- (a) It develops mental process
- (b) It saves time
- (c) Not require paper pencil
- (d) Able to solve questions orally

Q115. Out of the following which gadget of Information and communication technology is particularly most useful for teaching graphs and geometry?

- (a) LCD-Projector
- (b) Interactive White Board
- (c) Slide Projector
- (d) Television

Q116. In the scope of educational diagnosis, use is made of

- (a) Formative Assessment
- (b) Diagnostic test
- (c) Observation
- (d) All of these

Q117. The lesson plan means the detailed description which a teacher completes in a

- (a) Definite period
- (b) Indefinite period
- (c) Full day
- (d) None of these

Q118. Evaluation should be done in teaching mathematics

- (a) At the time of providing experiences of learning
- (b) At the time of clarification of objectives
- (c) After the clarification of objectives and providing the experiences of learning
- (d) all the above levels.

Q119. Who is the pioneer in the field of Taxonomy of Education objectives?

- (a) A. J. Harrow
- (b) Krathwohl
- (c) Bloom
- (d) Simpson

Q120. Kitty writes Forty-five as and. 405Thirty-six as 306.What is the learning impediment of Kitty and how can the teacher help her?

- (a) Kitty has not yet learnt to count up to 100.
- (b) Kitty has not understood the concept of place value properly
- (c) Kitty feels that she can never study maths.
- (d) Kitty is a careless girl. She never pays attention to her studies.

Q121. Which is an insectivorous plant?

- (a) Cuscuta
- (b) Utricularia
- (c) Monotropa
- (d) Orabanche

Q122. Which is a red planet in Solar system?

- (a) Mercury
- (b) Venus
- (c) Mars
- (d) Saturn

Q123. Which one of the following statement is correct with reference to Luteinizing Hormone (LH)?

- (a) It stimulates Leydig cells to produce testosterone.
- (b) It is a neurohormone.
- (c) It is secreted by Graafian follicles.
- (d) It does not show synergism with FSH.

Q124. Out of the following which teaching method gives importance to the mental conclusion?

- (a) Lecture-cum-Demonstration method
- (b) Lecture method
- (c) Problem solving method
- (d) Laboratory method

Q125. An object of mass 0.75 kg is hanging from a string attached to roof. What will be the force applied by string on the object?

- (a) 8.45 N
- (b) 7.35 N
- (c) 6.85 N
- (d) 9.8 N

Q126. Which of the following temperature is not possible?

- (a) -8° F
- (b) -8° C
- (c) -8 K
- (d) All of the above

Q127. Chemical formula of Ammonium nitride is

- (a) NH_4N
- (b) $(\text{NH}_4)_2 \text{N}_3$
- (c) $(\text{NH}_4)_3 \text{N}$
- (d) $(\text{NH}_4)_3 \text{N}_2$

Q128. Monomers used to prepare artificial fibre Dacron is

- (a) Ethylene glycol and Acrylonitrile
- (b) Ethylene glycol and Vinyl Chloride
- (c) Ethylene glycol and Terephthalic Acid
- (d) Ethylene glycol and Acetonitrile

Q129. Somatostatin is a hormone secreted by which of the following?

- (a) Beta cells of Islets of Langerhans of Pancreas
- (b) Alpha cells of Islets of Langerhans of Pancreas
- (c) Neurohypophysis of Pituitary gland
- (d) Delta cells of Islets of Langerhans of Pancreas

Q130. Which of the following devices is used to study the electrical activity of human brain?

- (a) ECG
- (b) EEG
- (c) EIG
- (d) EMG

Q131. Which of the following are Omnivorous organisms?

- (a) Jackals
- (b) Tigers
- (c) Human beings
- (d) Rabbits

Q132. Parkinson's disease affects which of the following organ in human beings?

- (a) Lungs
- (b) Brain
- (c) Heart
- (d) Kidneys

Q133. Which of the following statement is false about certain phenomena in plants?

- (a) Upward growth of plant roots is seen in positive Geotropism
- (b) Respiration adds CO_2 to the atmosphere
- (c) Photosynthesis adds Oxygen to the atmosphere
- (d) Upward growth of plant shoots is seen in Negative Geotropism

Q134. Which of the following pollutant is a component of Acid rains?

- (a) HCl
- (b) HNO₃
- (c) HCHO
- (d) HCOO₃

Q135. The wave number of the limiting line of the series (visible) in hydrogen spectrum is:

- (a) 12, 186 cm⁻¹
- (b) 27,419 cm⁻¹
- (c) 1,09,677 cm⁻¹
- (d) 15,223 cm⁻¹

Q136. $\text{Ag}^{+2} + \text{Ag} \rightarrow 2\text{Ag}^{+}$ is an example of:

- (a) Precipitation reaction
- (b) Disproportionation reaction
- (c) Comproportionation reaction
- (d) Displacement reaction

Q137. Identify the pair of elastomers among the following.

- (a) Neoprene, Nylon-6
- (b) Nylon 6, 6 & Nylon-2 Nylon-6
- (c) Poly acrylonitrile, Teflon
- (d) Buna-N, Buna-S

Q138. An object is 10.64 km below the sea level. A research team sends down a sonar signal to confirm this depth. After how long can it expect to get the echo? Take speed of sound in sea water = 1520 m/s.

- (a) 21 s
- (b) 7 s
- (c) 14 s
- (d) 3.5 s

Q139. A concave mirror having a radius of curvature 40 cm is placed in front of an illuminated point source at a distance of 30 cm from it. Find the location of the image.

- (a) 50 cm from the mirror on the side of the object
- (b) 60 cm from the mirror on the side of the object
- (c) 30 cm from the mirror on the side of the object
- (d) 40 cm from the mirror on the side of the object

Q140. What is the force required to produce an acceleration of 9.8 m/s^2 on a body of weight 9.8N ? Take $g = 9.5 \text{ m/s}^2$

- (a) 1N
- (b) 9.8N
- (c) 4.9N
- (d) 19.6N

Q141. A teacher is conducting a demonstration to motivate students, but the demonstration does not result in the expected outcome. The teacher is best advised to

- (a) find out and explain the cause of failure of the demonstration by involving students
- (b) send a note the science coordinator, asking him/her come to the room
- (c) withhold the demonstration and do it again
- (d) tell the class that the demonstration failed and ask them to help/determine the reason

Q142. Somia usually takes her Class VII students on a field trip. Which of the following could be the objective?

1. It provides concrete experiences to students.
 2. She can give them assignments and projects for formative assessment.
 3. It enhances process skills of students.
 4. It saves her teaching time.
- (a) Only 1
 - (b) Only 4
 - (c) 2 and 3
 - (d) 1, 2 and 3

Q143. The learner is able to discriminate between the functions of the calyx and corolla, the parts of the flowering plant. On the above behavioural objective from which domain and objective multiple choice questions may be prepared?

- (a) connective domain and perceptual abilities
- (b) cognitive domain and comprehension
- (c) affective domain and valuing
- (d) none of the above

Q144. Science and art exhibitions, music and dance shows and bringing out school magazines are meant to

- (a) provide a creative channel for learners
- (b) train students for various professions
- (c) establish a name for the school
- (d) satisfy the parents

Q145. NCERT science textbooks for upper primary classes include large number of daily life related questions which have been left unanswered. This has been done, so that

- (a) teachers have a good pool of questions for assessment purpose
- (b) students can send these questions to scientists to get the answer
- (c) teachers can use these questions for home assignment
- (d) students can seek answer to these questions by Exploring different resources

Q146. As per NCF 2005, at the upper primary stage, the teaching of science should have maximum focus on

- (a) relating classroom learning and life outside the school
- (b) memorising all scientific terms used in textbook
- (c) providing answers of all questions given in textbook exercises
- (d) improving performance of students in examination

Q147. Right to Education Act, 2009 specifies the minimum number of working hours per week for the teachers as

- (a) 40 h
- (b) 45 h
- (c) 50 h
- (d) 55 h

Q148. A Xth grade history teacher is introducing a long-term project with several components. Students will be required to conduct research and interviews on a self-selected topic, write a report and make an oral presentation.

At this point in instruction, the teacher can best promote all student's ability to achieve the goals of the project by using which of the following strategies?

- (a) Assigning students partners to provide support throughout the project and scheduling regular times for the partners to meet
- (b) Reasoning students that they possess all of the skills and abilities needed to complete the project tasks.
- (c) Organising project tasks in a step by step sequence and providing students with directions and reminders for completing each step
- (d) Explaining to students how the objectives of the projects fit into a larger instructional plan

Q149. In the innovative method of teaching some and method is adopted.

- (a) traditional, general
- (b) old, useful
- (c) new, useful
- (d) old, traditional

Q150. Kavita has to teach importance of water to class VII students. Which of the following activities she should take up to sensitise students to the issue?

- (a) ask the students to collect news articles
- (b) show them a film on drought and asking them to write an article, poem or story based on it
- (c) ask them to study reference books on water from the school library
- (d) ask them to internet surfing and collect information on water shortage

Solutions

S1. Ans.(b)

Sol. The correct answer is option B, i.e., logical and rational thinking is not a characteristic of early childhood stage. The developmental characteristics of early childhood includes: increase in physical strength, use of motor skills to handle exterior environment, rapid development of language, perfection and practicing of existing skills, use of language for communication, illogical problem solving, prevalence of magical and fantasized thinking, parallel play (i.e., playing in presence of, rather than in interaction with, other children), imitation and learning of social roles, relations and practices, etc.

S2. Ans.(c)

Sol. The correct answer is option C, i.e., original and productive thoughts. Only statement in option C is correct, rest all are incorrect. Intelligence is not a process, but an ability to learn and understand the world and its complexities using one's thoughts and experiences, to effectively deal with the challenges of life. Its abilities include: adaptability to a new environment, ability to comprehend relationships, capacity for reason and abstract thoughts, capacity for original and productive thoughts and ability to judge and evaluate. Intelligence is guided by reason and logic, thus there is no magical thought process involved in it.

S3. Ans.(d)

Sol. Dyspraxia affects physical coordination. It is not related to intelligence, but it can sometimes affect cognitive skills. Sometimes it is used interchangeably with developmental coordination disorder. It affects fine and gross motor skills, coordination, and motor planning.

S4. Ans.(a)

Sol. The correct answer is option A, i.e., Piaget. Jean Piaget has introduced the four distinct stages of a child's cognitive development. Piaget proposed that a human goes through four distinct stages in the procedure of development. The four developmental stages are- The Sensorimotor stage, the Preoperational stage, the concrete operational stage, and the formal operational stage. Through these four stages, he talks about the physical and mental development that occurs in a human body and how children acquire knowledge and it also understands the nature of intelligence

S5. Ans.(d)

Sol. A gifted child is one who has an IQ score of 140 or above. The gifted child has an ability that lies within the range of the upper two or three percent of the population. The novelty in expression and curiosity are signs of giftedness

S6. Ans.(c)

Sol. When a teacher sings a rhyme in a language classroom, he/she is trying to familiarize the students with the sounds. The recurrence of the same sequence of sounds helps students to understand the sounds of language.

S7. Ans.(c)

Sol. Partial reinforcement is used at certain intervals or ratios of time, instead of reinforcing the behavior every single time. This form of scheduling reinforcement after a certain number of correct responses is also termed intermittent reinforcement.

S8. Ans.(d)

Sol. Maslow's hierarchy of needs is a theory of motivation which states that five categories of human needs dictate an individual's behavior. Those needs are physiological needs, safety needs, love and belonging needs, esteem needs, and self-actualization needs.

S9. Ans.(d)

Sol. Heredity and environment are dependent, complementary and cooperative to each other

S10. Ans.(b)

Sol. Every child is active to make their experiences meaningful. He is trying to know whether his thoughts are harmonious or not. Children periodically search and build those behaviors and ideas. He never thought of ideas before.

S11. Ans.(d)

Sol. Irreversibility of thought

S12. Ans.(b)

Sol. The Holtzman inkblot technique, also known as the Holtzman inkblot test, is an ink blot test aimed at detecting personality and was conceived by Wayne H. Holtzman and colleagues. It was first introduced in 1961 as a projective personality test similar to the Rorschach. The HIT is a standardized measurement.

S13. Ans.(b)

Sol. Projective methods use a standard set of stimuli, such as incomplete sentence, pictures or inkblots which are relatively ambiguous. Projective techniques allow respondents to project their subjective or true opinions and beliefs onto other people or even objects. The respondent's real feelings are then inferred from what s/he says about others. Projective techniques are normally used during individual or small group interviews.

S14. Ans.(d)

Sol. Main streams of RTTE

Section-3: Free education up to 8th standard for children of 6 to 14 years.

Section 4: Admission to class according to age.

S15. Ans.(d)

Sol. Exploration of relationships between concepts is the most effective mode of teaching-learning. Effective teaching can be defined in many ways together with teacher behavior (warmth, civility, clarity), teacher knowledge (of subject matter of students), teacher beliefs, and so on. Here we describe effective teaching as the ability to improve student achievement as shown by research.

S16. Ans.(d)

Sol. A teacher should analyze the various errors made by students on a given task because understanding of errors is meaningful in the teaching-learning process. In order to have mastery of their teaching content, they should appreciate how student's best learning concepts, content and skills. Effective teachers use their knowledge of learning processes to determine which will be most effective to help the particular students in their classes learn productively.

S17. Ans.(b)

Sol. Conceptual understanding among students is likely to improve in the settings which emphasis on inquiry and dialogue. According to Conceptual understanding among students is likely to improve in the setting which emphasize on. (1) Inquiry and dialogue. (2) Competitions.

S18. Ans.(c)

Sol. It is difficult to learn when information is presented in disconnected chunks because it becomes difficult for a child to connect the diverse concepts. Emotions are inextricably intertwined with motivation and learning hence presenting disconnected chunks of knowledge would deviate the attention of the child.

S19. Ans.(d)

Sol. Scaffolding for learning implies that Instructional scaffolding is a procedure through which a teacher adds supports for students in order to improve learning and aid in the mastery of tasks. The teacher does this by methodically building on students experiences and knowledge as they are learning new skills.

S20. Ans.(a)

Sol. The correct answer is option A, i.e., Children with 'dyslexia' can be identified by analyzing their reading and writing skills. Dyslexia is a disability to read and write things properly. The disability due to weakness in phonological processing with poor self-expression is called dyslexia. Learners with dyslexia face trouble with word recognition, differentiating between left and right, remembering new vocabulary, delayed ability to speak, poor spelling, poor in sequence and numbers, etc.

S21. Ans.(b)

Sol. The correct answer is option B, i.e., A child-centered classroom is one in which the teacher is flexible and caters to needs of individual children. A teacher uses rewards and punishments to direct children's behavior in Skinner's theory of behaviorism and conditioning. A teacher segregates the children based on their abilities to help child with special needs. This is called ability-grouping.

S22. Ans.(b)

Sol. The correct answer is option B.-Bodily-kinesthetic - Athlete. The Theory of Multiple Intelligence was given by Howard Gardner. His book, "Frames of Mind: The Theory of Multiple Intelligence" proposed eight theories of intelligence. He believed that development of intelligence is affected by both biological and cultural aspects

S23. Ans.(a)

Sol. Students with physical disability is one of term applicable with the Right to persons with disabilities act 2016. In this act every person with or without any physical disability has a right to education.

S24. Ans.(c)

Sol. The children in formal operational stage are capable of hypothetical-deductive reasoning and propositional thought. Piaget gave four stages of cognitive development of children: Sensorimotor Stage, Pre-Operational Stage, Concrete Operational Stage and Formal Operational Stage.

S25. Ans.(c)

Sol. G. W. Allport- This definition was given by Allport in relation to personality.

S26. Ans.(c)

Sol. Learning from one situation to another. Influencing its learning and performance in a situation is called learning transfer.

S27. Ans.(c)

Sol. Guilford (1959, 1961, 1967) and his colleagues presented an explanation of the structure of intelligence on the basis of three mental abilities. This intelligence structure theory of Guilford is called the three-pronged intellectual model.

S28. Ans.(c)

Sol. The use of brainstorming model for teaching is used to improve creativity.

S29. Ans.(c)

Sol. The needs to work in his social development as he is physically fit and scores good marks yet he gets punishment for not well behaving in class.

S30. Ans.(a)

Sol. Vygotsky was a Russian psychologist. His research was related to the development and structure of human consciousness. Vygotsky emphasized on the cognitive psychological approach. From the perspective of cognitive development.

S31. Ans.(d)

Sol. 'मैं शिवा के लिए चाय बना रहा हूँ' इस वाक्य में संप्रदान कारक है। संप्रदान कारक -जिसे कुछ दिया जाए या जिसके लिए क्रिया की जाए, उसे संप्रदान कारक कहते हैं। इसके दो चिह्न हैं 'को' एवं 'के लिए'। उदाहरण - अमित ने भिखारी को वस्त्र दिए। मैं गुरुजी के लिए फल लाया।

S32. Ans.(d)

Sol. 'गिरीश' शब्द में दीर्घ संधि है। दीर्घ संधि -जब दो शब्दों की संधि करते समय (अ, आ) के साथ (अ, आ) हो तो 'आ' बनता है, जब (इ, ई) के साथ (इ, ई) हो तो 'ई' बनता है, जब (उ, ऊ) के साथ (उ, ऊ) हो तो 'ऊ' बनता है। जैसे: पुस्तक + आलय : पुस्तकालय बनता है। यहाँ अ+आ मिलकर आ बनाते हैं।

S33. Ans.(c)

Sol. इस वाक्य में 'महाभारत' का प्रयोग एक किताब के रूप में हुआ है इसलिए यह एक व्यक्तिवाचक संज्ञा है। व्यक्तिवाचक संज्ञा - जो शब्द केवल एक व्यक्ति, वस्तु या स्थान का बोध कराते हैं उन शब्दों को व्यक्तिवाचक संज्ञा कहते हैं। जैसे- भारत, चीन (स्थान), किताब, साइकिल (वस्तु), सुरेश, रमेश, महात्मा गाँधी (व्यक्ति) आदि।

S34. Ans.(c)

Sol. 'सर्वेक्षण' शब्द का संधि विच्छेद 'सर्व + ईक्षण' है।

S35. Ans.(b)

Sol. वह कौन है जो रो पड़ा। इस वाक्य में संबंधवाचक सर्वनाम का प्रयोग हुआ है। जिस सर्वनाम से वाक्य में किसी दूसरे सर्वनाम से सम्बन्ध ज्ञात होता है उसे सम्बन्धवाचक सर्वनाम कहते हैं। जैसे : जो-सो, जहाँ-वहाँ, जैसा-वैसा, जौन-तौन ।

S36. Ans.(c)

Sol. गेहूँ एक तद्भव शब्द है इसका तत्सम शब्द गोधूम है। अन्य तीनों तत्सम शब्द हैं।

S37. Ans.(a)

Sol. 'यथावधि' का सामासिक विग्रह 'अवधि के अनुसार' है। इसमें अव्ययीभाव समास है। अव्ययीभाव समास - इस समास में पहला पद (पूर्व पद) प्रधान होता है और पूरा पद अव्यय होता है, इसमें पहला पद उपसर्ग होता है जैसे अ, आ, अनु, प्रति, हर, भर, नि, निर, यथा, यावत् आदि उपसर्ग शब्द का बोध होता है

S38. Ans.(c)

Sol. 'मैं जानता हूँ की तुम्हारे अक्षर अच्छे नहीं बनते' यह एक मिश्रित वाक्य है। मिश्रित वाक्य – जिन वाक्यों में एक मुख्य या प्रधान वाक्य हो और अन्य आश्रित उपवाक्य हो, उन्हें मिश्रित वाक्य कहते हैं।

S39. Ans.(a)

Sol. 'अट्टहास' संक्षिप्तीकरण है - 'जिस हँसी से अट्टालिका भी हिल जाये'।

S40. Ans.(d)

Sol. शब्द की शुद्ध वर्तनी है – अमानुषिका।

S41. Ans.(b)

Sol. यहाँ 'सारे देशभर में अकाल है' के स्थान पर 'सारे देश में अकाल है' का प्रयोग उचित है।

S42. Ans.(c)

Sol. 'ऐसी उक्ति जो परंपरागत हो' इस वाक्यांश के लिए एक शब्द 'अनुश्रुति' है।

S43. Ans.(d)

Sol. 'खून का घूंट पीना' मुहावरे का अर्थ क्रोध दबाना है।

S44. Ans.(d)

Sol. 'को' सम्प्रदान कारक की विभक्ति है।

S45. Ans.(c)

Sol. 'चिट्ठी' शब्द में द्वित्व का प्रयोग हुआ है। द्वित्व का अर्थ = यदि दो समान व्यंजनों के बीच कोई स्वर न हो तो वह व्यंजन-गुच्छ द्वित्व कहलाता है। जैसे अड्डा, पट्टी, बच्चू, कुत्ता आदि।

S46. Ans.(c)

Sol. यहाँ 'टेढ़ा' शब्द का प्रयोग उचित है। यह एक मुहावरा है, "घी का लड्डू टेढ़ा भला" का तात्पर्य है कि गुणवान व्यक्ति या वस्तु का रूप, रंग नहीं देखा जाता, उसकी विशेषता देखी जाती है।

S47. Ans.(a)

Sol. 'परिष्कार' शब्द का संधि विच्छेद 'परि : + कार' है।

S48. Ans.(d)

Sol. अनुकूल शब्द में 'अन' उपसर्ग नहीं है इसमें 'अनु' उपसर्ग है।

S49. Ans.(d)

Sol. शब्द की शुद्ध वर्तनी है – 'स्पृहा'।

S50. Ans.(c)

Sol. 'पवित्र' शब्द में अयाद्री संधि है, पवित्र = पो + इत्र।

S51. Ans.(a)

Sol. मौन वाचन वह वाचन है जो गद्य में प्रयुक्त होता है, परंतु पद्य में नहीं। गद्य वाचन में व्यक्ति मौन रहकर भी पाठ को पढ़ सकता है, लेकिन पद्य वाचन में बालक को कविता पाठ करना होगा जो मौखिक वाचन के अंतर्गत आएगा।

S52. Ans.(a)

Sol. आगमन विधि उदाहरण से नियम की ओर शिक्षण सूत्र पर आधारित है, आगमन विधि कक्षा शिक्षण की महत्वपूर्ण विधि है, इस विधि में विषयवस्तु के प्रस्तुतीकरण के दौरान सबसे पहले उदाहरण दिए जाते हैं, उसके बाद सामान्य सिद्धांत का प्रस्तुतीकरण किया जाता है।

S53. Ans.(d)

Sol. भाषा अधिगम का कारण है- भाषा विज्ञान, व्याकरण और भाषा कौशल आदि। अधिगम का अर्थ है, सीखना एवं अर्जन का तात्पर्य है अर्जित करना, अधिगम को प्रभावित कार्य वाले कारक हैं- बुद्धि, स्वास्थ्य, वातावरण और परिपक्वता।

S54. Ans.(a)

Sol. हिन्दी वर्णमाला स्वर और व्यंजन से मिलकर बनती है। हिन्दी में वर्णों की कुल संख्या 52 है, जिसमें 11 स्वर और 41 व्यंजन होते हैं। आइ वर्णों के व्यवस्थित एवं क्रमबद्ध समूह को वर्णमाला कहती है। वर्ण हिन्दी भाषा की सबसे छोटी एकाई होती है।

S55. Ans.(c)

Sol. बालक को अपने पाठ में प्रस्तावना से पता चलता है कि उसे क्या पढ़ना है। प्रस्तावना में पाठ में क्या क्या पढ़ना होता है, बच्चे को पता चल जाता है कि पाठ किस बारे में है।

S56. Ans.(b)

Sol. ध्वनि विज्ञान का संबंध श्रवण कौशल से है। ध्वनि का अर्थ आवाज है, और आवाज सुनी जाती है, श्रवण कौशल के द्वारा।

S57. Ans.(d)

Sol. वाक्य रूप, सूत्र रूप और कहावत का रूप, तीनों ही संरचना के रूप हैं।

S58. Ans.(a)

Sol. बालक सर्वप्रथम भाव प्रदर्शन सीखता है, सबसे पहले बच्चा जब बोल नहीं पता, वह अपने विचारों को भाव प्रदर्शन द्वारा ही व्यक्त करता है, उसके बाद ही वह चलना, पढ़ना, लिखना आदि अन्य क्रियाएँ सीखता है।

S59. Ans.(d)

Sol. संरचनात्मक पद्धति पर छात्रों की क्रियाशीलता, उनके विचारों, उनके वाचन तथा उनके भाषाई विकास पर पूरा ध्यान दिया जाता है। संरचनावादी तरीके को विभिन्न क्षेत्रों जैसे समाजसत्र, साहित्य, आलोचना में भी लागू किया जाता है।

S60. Ans.(a)

Sol. एक समावेशी कक्षा में ऐसा जरूरी नहीं कि बच्चा जब व्याकरण के नियम सीखेगा तब ही उसका भाषा का विकास जल्दी होगा, व्याकरण सीखने से उसका विकास और अच्छा होगा पर यह जरूरी नहीं कि जल्दी होगा।

S61. Ans.(b)

Sol. The correct sequence is 'QPRS'.

S62. Ans.(b)

Sol. The correct sequence is 'PRQS'.

S63. Ans.(c)

Sol. The correct sequence is 'RQPS'.

S64. Ans.(c)

Sol. Pull back: to back away, withdraw, or retreat.

S65. Ans.(b)

S66. Ans.(d)

Sol. Damper: a person or thing that has a subduing or inhibiting effect.

Crusader: a person who campaigns vigorously for political, social, or religious change; a campaigner.

S67. Ans.(b)

Sol. Dud: not working or meeting standards; faulty.

Hideous: extremely unpleasant.

S68. Ans.(a)

Sol. Setback: a reversal or check in progress.

Lowbrow: not highly intellectual or cultured.

Backlash: a strong negative reaction by a large number of people, especially to a social or political development.

S69. Ans.(d)

S70. Ans.(b)

Sol. "Hardly + did + subject + V1 +When +" is the correct format of inversion case.

S71. Ans.(c)

Sol. The structure of the sentence will be as follows: 'Have + Subject + been + Verb + ing?' The sentence is in Present Perfect Continuous Tense.

S72. Ans.(a)

Sol. In 'if' condition 'Had + verb's 3rd form' is followed by 'would have + verb's 3rd form'.

S73. Ans.(d)

S74. Ans.(b)

S75. Ans.(c)

Sol. 'Please' is changed into request when changing into indirect form. Here indirect form has request in it so 'please' has to come in direct form.

S76. Ans.(d)

Sol. Present continuous is change into past continuous in indirect form.

S77. Ans.(c)

Sol. Since the given sentence is an 'order' hence only option (c) is apt.

S78. Ans.(b)

Sol. An active voice in Present Indefinite tense changes into passive voice as follows:

Verb in active voice: **V1**

Verb in passive voice: **is/are/am + V3**

S79. Ans.(c)

S80. Ans.(a)

Sol. An active voice in Past continuous tense changes into **(was/were+ being + V3)** while converting it into a passive voice.

S81. Ans.(c)

Sol. Refer to “ The Blue Flag programme for beaches and marinas is run by the international, non-governmental, non-profit organisation FEE (the Foundation for Environmental Education)”.

S82. Ans.(a)

Sol. Refer to the first line of the passage “The Union Environment Ministry has selected 12 beaches in India to vie for a ‘Blue Flag’ certification”.

S83. Ans.(c)

Sol. Refer to the last paragraph “India is set to apply for certification for two beaches, at Shivrajpur and Ghoghla, by July-end”.

S84. Ans.(a)

Sol. Refer to “Spain tops the list with 566 such beaches; Greece and France follow with 515 and 395, respectively”.

S85. Ans.(b)

Sol. Greece has 515 ‘Blue Flag’ certified beaches while France has 395 such beaches.

S86. Ans.(c)

Sol. Replace 'resorting' with 'resort' because modals (should, would, could...) take first form of verb.

S87. Ans.(c)

Sol. The word ‘the’ after ‘for’ is to be inserted. Here we are pointing towards a particular industry so it should be made specific thus it should be “the entertainment industry”.

S88. Ans.(b)

Sol. ‘solutions’ should be replaced by ‘solution’ so that the sentence becomes correct because only one solution has been provided in the statement.

S89. Ans.(c)

Sol. “The number” takes singular verb with it, thus, in part (c) “are” should be replaced with “is”.

S90. Ans.(a)

Sol. Here, In spite of the fact that/ Despite the fact that.... should be used.

S91. Ans.(c)**Sol.**

$$(\sqrt{3})^5 \times 9^2 = 3^n \times 3\sqrt{3}$$

$$\text{Or, } 3^{5/2} \times 3^4 = 3^n \times 3 \times 3^{1/2}$$

$$\text{Or, } 3^{5/2+4} = 3^n \times 3^{1+1/2}$$

$$\text{Or, } 3^{13/2} = 3^n \times 3^{3/2}$$

$$\text{Or, } \frac{3^{13/2}}{3^{3/2}} = 3^n$$

$$\text{or, } 3^{\frac{13}{2} - \frac{3}{2}} = 3^n$$

$$\text{or, } 3^{10/2} = 3^n$$

$$\text{or, } 3^5 = 3^n$$

$$\text{So, } n = 5$$

S92. Ans.(b)**Sol.**

$$2x + 4y - 8xy - 1 = ?$$

$$\text{Or, } 2x - 8xy + 4y - 1$$

$$\text{Or, } 2x(1 - 4y) - 1(1 - 4y)$$

$$\text{Or, } (2x - 1)(1 - 4y)$$

S93. Ans.(a)

$$\text{Sol. } 3x + 7y = 75 \text{ -----(i)}$$

$$5x - 5y = 25$$

$$\text{Or, } 5(x - y) = 25$$

$$\text{Or, } x - y = 5 \text{ -----(ii)}$$

On multiplying equation (ii) by 7 and adding to equation (i) we get

$$3x + 7y = 75$$

$$7x - 7y = 35$$

$$10x = 110$$

$$\text{Or, } x = 11$$

By putting the value of x in equation (ii), we get

$$11 - y = 5$$

$$\text{Or, } y = 6$$

So,

$$X + Y = 6 + 11$$

$$= 17$$

S94. Ans.(d)

Sol. Neena and Meena started a business with investment of Rs. 30000 and Rs. 45000

Then, the ratio of investment of neena and Meena = 30000 / 45000

$$= 2:3$$

Total profit after two years = 1,50,000

Then, Share of Meena from profit = 150000 x 3/5

$$= 30000 \times 3$$

$$= 90000$$

Hence, the correct answer is option (d) None of these

S95. Ans.(a)

Sol.

let present age of Rajeev = x

$$\text{So, } (x-5)(x+9) = 15$$

$$\text{Or, } x^2 + 9x - 5x - 45 = 15$$

$$\text{Or, } x^2 + 4x - 60 = 0$$

$$\text{So, } x = 6$$

S96. Ans.(c)

Sol. 120°

S97. Ans.(b)

Sol. In $\triangle ABC$,

$$3\angle A = 4\angle B = 6\angle C$$

$$X = 3\angle A$$

$$\angle A = x/3 \dots\dots\dots(i)$$

$$X = 4\angle B$$

$$\angle B = x/4 \dots\dots\dots(ii)$$

$$X = 6\angle C$$

$$\angle C = x/6 \dots\dots\dots(iii)$$

By using angle sum property

$$\angle A + \angle B + \angle C = 180^\circ$$

Put the values of $\angle A$, $\angle B$, $\angle C$

$$x/3 + x/4 + x/6 = 180^\circ$$

Let us find the L.C.M of 3, 4, 6 i.e. 12

$$(4x + 3x + 2x) / 12 = 180^\circ$$

$$9x = 2160$$

$$X = 240^\circ$$

Substitute the value of x in equation (i), (ii) and (iii)

$$\angle A = x/3$$

$$\angle A = 240/3$$

$$\text{So, } \angle A = 80^\circ$$

S98. Ans.(b)

Sol.

$$\text{Curved Surface area} = 264 \text{ m}^2$$

$$= 2 \times 22/7 \times r \times h = 264$$

$$\text{Or } rh = 42 \dots\dots\dots(i)$$

$$\text{Now, volume} = 1848 \text{ m}^3$$

$$22/7 \times r \times h = 1848$$

$$\text{Or, } r \times h = 588$$

$$R \times 42 = 588 \dots\dots\dots(\text{by equation (i)})$$

$$R = 14 \text{ m}$$

In equation 1

$$R \times h = 42$$

$$\text{Substitute value of } r = 14 \times h = 42$$

$$\text{So, } h = 3 \text{ m}$$



S99. Ans.(c)

Sol. 13

S100. Ans.(d)

Sol.

$$\begin{aligned} & 5a^2 + 15a - 6b - 2ab \\ &= 5a^2 + 15a - 2ab - 6b \\ &= 5a(a+3) - 2b(a+3) \\ &= (5a - 2b)(a+3) \end{aligned}$$

S101. Ans.(c)

Sol.

$$\begin{aligned} & 20 - 20 - 20 \times 20 / 100 \\ &= 0 - 4 = -4 \\ &= 4\% \text{ loss} \end{aligned}$$

S102. Ans.(c)

Sol.

By using, $M_1 d_1 / M_2 d_2$

$$\begin{aligned} & x \cdot 16 = 4 \times X \\ & X = 6 \times 16 / 4 \\ & X = 6 \times 4 \\ & X = 24 \text{ workers} \end{aligned}$$

S103. Ans.(b)

Sol.

$$\begin{aligned} SI &= \frac{PRT}{100} \\ 640 &= \frac{P \times 8 \times 5}{100} \\ \text{Or, } P &= 1600 \text{ /-} \end{aligned}$$

S104. Ans.(c)

Sol.

$$\begin{aligned} & 3750 / 25 \\ &= 150 \text{ km} \end{aligned}$$

S105. Ans.(a)

Sol. 26

S106. Ans.(b)

Sol.

$$\begin{aligned} SP &= \frac{100 - \text{Loss}}{100} \times CP \\ &= \frac{75}{100} \times 8000 \\ &= 3/4 \times 8000 \\ &= 6000 \end{aligned}$$



S107. Ans.(b)

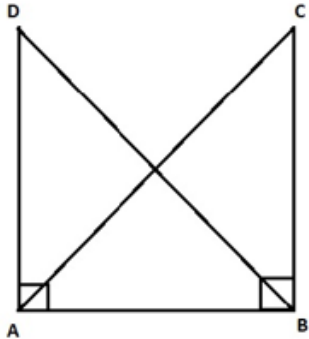
Sol. LCM of 4, 6, 12, 15 is 60

S108. Ans.(a)

Sol. 180°

S109. Ans.(c)

Sol.



$AB = BA$, $BC = AD$ and $\angle ABC = \angle BAD$

So, $\triangle ABC \cong \triangle BAD$

S110. Ans.(c)

Sol.

By Pythagoras theorem:

$$= (\text{Hypotenuse})^2 = (\text{Perpendicular})^2 + (\text{Height})^2$$

Option 1 :

20 cm, 22 cm, 24 cm

$$\text{Or, } 24^2 = 22^2 + 20^2$$

$$\text{Or, } 576 = 484 + 400$$

So, 576 not equal to 884

Not Satisfied.

Option 2:

15 cm, 32 cm, 37 cm

$$\text{Or, } 37^2 = 15^2 + 32^2$$

$$\text{Or, } 1369 = 225 + 1024$$

Or, 1369 not equal to 1249

Not Satisfied.

Option 3:

11 cm, 60cm, 61cm

$$\text{Or, } 61^2 = 60^2 + 11^2$$

$$\text{Or, } 3721 = 3600 + 121$$

So, $3721 = 3721$

Hence Satisfied

Option 4:

19 cm, 40 cm, 41 cm

$$\text{Or, } 41^2 = 40^2 + 19^2$$

$$\text{Or, } 1681 = 1600 + 361$$

So, 1681 not equal to 1961

Not Satisfied.



S111. Ans.(d)

Sol. All the given options are the characteristics of objectives of Mathematics teaching in classroom.

S112. Ans.(c)

Sol. Reliability

S113. Ans.(d)

Sol. All the given options like Accuracy, Certainty of result and Originality are the characteristic of reasoning in Mathematics, but only option (d), which is Subjectivity is not the characteristic of reasoning in Mathematics.

S114. Ans.(a)

Sol. Mathematics develops mental process of students in school.

S115. Ans.(b)

Sol. An interactive whiteboard, also known as interactive board or smart board, is a large interactive display board in the form factor of a whiteboard. Interactive whiteboard is particularly most useful for teaching graphs and geometry.

S116. Ans.(d)

Sol. The process of determining the causes of educational difficulties is known as educational diagnosis. The scope of educational diagnosis is much larger than the use of tests and examination. Other Definition- Educational Diagnosis is made of Formative Assessment, observation, and diagnostic tests. Besides observation, the purpose of the diagnostic test in education is to assess the current state of a student's progress in a particular area.

S117. Ans.(a)

Sol. A lesson plan is a concise and organized structure which provides answers to important questions. Questions about how a teacher can maintain a standard pattern of teaching. A lesson plan is a teacher's detailed description of the course of instruction or learning trajectory for a lesson that they have to complete in a definite time period.

S118. Ans.(d)

Sol. At all the above levels Evaluation in teaching is important at every stage.

S119. Ans.(c)

Sol. Bloom's taxonomy is a set of three hierarchical models used to classify educational learning objectives into levels of complexity and specificity. The three lists cover the learning objectives in cognitive, affective and sensory domains.

S120. Ans.(b)

Sol. Kitty has not understood the concept of place value properly. The teacher should use a number of manipulators to give her hands-on experiences of learning maths.

S121. Ans.(b)

Sol. Insectivorous plants are the plants that derive their nutrition by feeding on insects and other organisms. From the given options Utricularia is an Insectivorous plant.

S122. Ans.(c)

Sol. Mars is often called the 'Red Planet' because it appears in the sky as an orange-red star.

S123. Ans.(a)

Sol. Luteinizing hormone (LH) is an important hormone that both men and women produce. This hormone is known as a gonadotropin, and it affects the sex organs in both men and women. For women, it affects ovaries, and in men, it affects the testes. LH plays a role in puberty, menstruation, and fertility. Hence, option (a) It stimulates Leydig cells to produce testosterone is correct.

S124. Ans.(c)

Sol. Problem solving method gives importance to the mental conclusion.

S125. Ans.(b)

Sol. The force applied by string on an object is known as tension as tension $T = mg$

Here m is mass of object which is 0.75 kg

G is the gravitational force exerted by Earth which is 9.8

Now $T = 0.75 \times 9.8 = 7.35 \text{ N}$

Hence the force applied by string on the object will be 7.35 N

S126. Ans.(c)

Sol. -8° R

S127. Ans.(c)

Sol. Chemical formula of Ammonium nitride is $(\text{NH}_4)_3\text{N}$

S128. Ans.(c)

Sol. The monomer of dacron is Ethylene glycol and Terephthalic acid

S129. Ans.(d)

Sol. Somatostatin (SST) is secreted by islet δ -cells and by extraislet neuroendocrine cells.

S130. Ans.(b)

Sol. Electroencephalogram (EEG) This is a diagnostic test that uses electrodes placed over the scalp to record the electrical activity of the brain, especially the cerebral cortex.

S131. Ans.(c)

Sol. Humans eat plants in the form of different vegetables. They also eat the flesh of animals and fish products. Hence, humans are said to be omnivorous.

S132. Ans.(b)

Sol. Parkinson's disease affects the nerve cells in the brain that produce dopamine. Parkinson's disease symptoms include muscle rigidity, tremors, and changes in speech and gait.

S133. Ans.(a)

Sol. Upward growth of plant parts, against gravity, is called negative geotropism, and downward growth of roots is called positive geotropism.

S134. Ans.(b)

Sol. Acid rain, or acid deposition, is a broad term that includes any form of precipitation with acidic components, such as sulfuric or nitric acid (HNO_3) that fall to the ground from the atmosphere in wet or dry forms.

S135. Ans.(b)

Sol. Calculation:

The wave number for the second line and limiting line of H – atom of Balmer series is
For Balmer series:

$$\bar{\nu} = 109677 \left[\frac{1}{n_1^2} - \frac{1}{n_2^2} \right]$$

For second line,

$$n_1 = 2 \text{ and } n_2 = 4$$

$$\bar{\nu} = 109677 \left(\frac{1}{4} - \frac{1}{16} \right)$$

$$\bar{\nu} = 109677 (0.1875)$$

$$\bar{\nu} = 20564.43 \text{ cm}^{-1}$$

For limiting line,

$$n_1 = 2 \text{ and } n_2 = \infty$$

$$\bar{\nu} = \bar{\nu} = 109677 \left(\frac{1}{4} - \frac{1}{\infty} \right)$$

$$\bar{\nu} = \bar{\nu} = 109677 \left(\frac{1}{4} - 0 \right)$$

The wavelength for the second line of H – atom of Balmer series is 20564.43 cm^{-1}

S136. Ans.(c)

Sol. The reaction $\text{Ag} + 2 + \text{Ag} \longrightarrow 2\text{Ag} +$ is an example of symproportionation or comproportionation reaction.

It is a chemical reaction in which two reactants, containing the same element in different oxidation state, will form a product in which the elements reach the same oxidation state.

S137. Ans.(d)

Sol. Elastomers:

- It may be defined as material that may be stretched by 100% and on the release of the stretching force it retracts or springs back, rapidly.
- The term is a contraction of the words elastic polymer. For example rubber, Buna –N, Buna-S

S138. Ans.(c)

Sol. Depth = 10.64 km = 10640 m

Speed of sound in water = 1520 m/s

Total distance covered by the sound wave and echo to reach surface = 2 x depth

$$2 \times 10640 \text{ m} = 21280 \text{ m}$$

Also, Time = Distance / Velocity

$$\text{So, Time} = 21280 / 1520 = 14 \text{ sec.}$$

S139. Ans.(b)

Sol. Given, Radius of curvature of concave mirror (R) = -40cm

So, focus = $R/2 = -40/2 = -20$ cm

Object is placed in front of mirror (u) = -30 cm

Image positive (v) = ?

We know that,

$$\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$$

$$\text{Or, } \frac{1}{v} = \frac{1}{f} - \frac{1}{u}$$

$$\text{Or, } \frac{1}{v} = \frac{1}{-20} - \frac{1}{-30} = \frac{-3+2}{60} = -\frac{1}{60}$$

$$\frac{1}{v} = -\frac{1}{60}$$

$$\text{Or, } v = -60 \text{ cm}$$

The image is formed at 60 cm in front of mirror or on the side of object.

S140. Ans.(b)

Sol. Given,

Acceleration (a) = 9.8 m/s^2

Weight of the body = 9.8 N

Since, weight of the body = mg

Or, Mass = weight / g = $9.8/9.8 = 1$ kg

We know that,

$$F = m \times a$$

$$F = 1 \times 9.8$$

$$F = 9.8 \text{ Newton.}$$

Hence, the amount of force required is 9.8 Newton.

S141. Ans.(c)

Sol. The teacher is advised to withhold the demonstration and do it again.

S142. Ans.(d)

Sol. Field trip can provide concrete experiences, assignments and projects for formative assessment can be given based on the trip and enhance process skills of students. So, statements 1, 2 and 3 are correct.

S143. Ans.(b)

Sol. Multiple choice questions can be prepared from the cognitive and comprehension domain.

S144. Ans.(a)

Sol. All these activities provide a creative channel for learners. These are part of co-curricular activities of school curriculum.

S145. Ans.(d)

Sol. NCERT Science textbooks for upper primary classes include large number of daily life related questions which have been left unanswered. This has been done, so that students can seek answer to these questions by exploring different resources.

S146. Ans.(a)

Sol. As per NCF 2005, the maximum focus in teaching science at the upper primary stage should be on relating classroom learning and life outside the school.

S147. Ans.(b)

Sol. According to RTE Act, 2009 the minimum numbers of working hours per week for the teachers is 45 hours.

S148. Ans.(c)

Sol. Organising project takes in a step by step sequence and providing students with directions and reminders for completing each step will be helpful in achieving the goals of the projects.

S149. Ans.(c)

Sol. In the innovative method of teaching, some new and useful method is adopted.

S150. Ans.(b)

Sol. Showing film, asking to write article, poem or story based on importance of water provide a better learning experience to students. It also affect cognitive, affective as well as psychomotor domain of child.

