Hall Ticket Number

Q.B.No. 6 2 4 3 2 1

Booklet Code : A

Marks : 100
Time : 120 minutes

2PS2C

Signature of the Candidate | **Signature of the Invigilator**

INSTRUCTIONS TO THE CANDIDATE

(Read the Instructions carefully before Answering)

1. Separate Optical Mark Reader (OMR) Answer Sheet is supplied to you along with Question Paper Booklet. Please read and follow the instructions on the OMR Answer Sheet for marking the responses and the required data.
2. The candidate should ensure that the Booklet Code printed on OMR Answer Sheet and Booklet Code supplied are same.
3. **Immediately on opening the Question Paper Booklet by tearing off the paper seal, please check for (i) The same booklet code (A/B/C/D) on each page, (ii) Serial Number of the questions (1-100), (iii) The number of pages and (iv) Correct Printing.** In case of any defect, please report to the invigilator and ask for replacement of booklet with same code within five minutes from the commencement of the test.
4. Electronic gadgets like Cell Phone, Calculator, Watches and Mathematical/Log Tables are not permitted into the examination hall.
5. **There will be ¼ negative mark for every wrong answer.** If the response to the question is left blank without answering, there will be no penalty of negative mark for that question.
6. Using Blue/Black ball point pen to darken the appropriate circles of (1), (2), (3) or (4) in the OMR Answer Sheet corresponding to correct or the most appropriate answer to the concerned question number in the sheet. Darkening of more than one circle against any question automatically gets invalidated and will be treated as wrong answer.
7. Change of an answer is NOT allowed.
8. Rough work should be done only in the space provided in the Question Paper Booklet.
9. Return the OMR Answer Sheet and Question Paper Booklet to the invigilator before leaving the examination hall. Failure to return the OMR sheet and Question Paper Booklet is liable for criminal action.

This Booklet consists of 21 Pages for 100 Questions + 2 Pages of Rough Work + 1 Title Page i.e. Total 24 Pages.

SPACE FOR ROUGH WORK

2PS2C **Booklet Code A**

Time : 2 Hours **Marks : 100**

Instructions :

i) Each question carries ***one*** mark and ¼ negative mark for every wrong answer.

ii) Choose the correct or most appropriate answer from the given options to the following questions and darken, with Blue/Black Ball Point Pen, the corresponding digit **1, 2, 3** or **4** in the circle pertaining to the question number concerned in the OMR Answer Sheet, separately supplied to you.

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1. Which of the following statements is not correct

   (1) Science is a particular way of looking at nature

   (2) Scientific laws last for ever

   (3) Science is an interdisciplinary area of learning

   (4) Science promotes scepticism and scientists are highly sceptic people

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2. The scientific method of investigation follows the essential steps in the following sequential order

   (1) Observation, experimentation, hypothesis, scientific theory

   (2) Hypothesis, observation, experimentation, scientific theory

   (3) Observation, hypothesis, experimentation, scientific theory

   (4) Hypothesis, observation, scientific theory, experimentation

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3. Match the following. Choose the correct answer from the given choices below.

a)	G.J. Mendel	p)	Model of atomic structure
b)	Mendeleev	q)	Electromagnetic induction
c)	Michael faraday	r)	Periodic table of elements
d)	Neils Bohr	s)	Laws of inheritance

	(a)	(b)	(c)	(d)
(1)	s	r	q	p
(2)	r	s	p	q
(3)	q	r	s	p
(4)	p	r	q	s

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4. Isaac Newton discovered the following scientific law

   (1) Law of electrolysis (2) Law of gravitation

   (3) Law of magnetic field (4) Law of conservation of mass

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5. Which of the following statements is correct?
   (1) All the scientific discoveries were possible only because the scientific method was followed step by step in those discoveries
   (2) All the scientific discoveries were made only by trial and error method
   (3) Most of the scientific discoveries were accidental
   (4) The scientific discoveries are possible because of the attitude of enquiry, investigation, experimentation and perseverance of the scientists

6. Read the following statements and choose the correct answer among the options given beneath the statements
   a) Science is a highly subjective discipline
   b) Science is a highly objective discipline
   c) Scientific knowledge is universal
   d) Scientific knowledge is national
   (1) a and c are correct (2) b and d are correct
   (3) b and c are correct (4) a and d are correct

7. C.V. Raman won the Nobel prize in physics for his work on
   (1) Diffraction of light (2) Refraction of light
   (3) Reflection of light (4) Scattering of light

8. J.C. Bose developed the following apparatus
   (1) Apparatus for generating microwaves
   (2) Apparatus for generating infrared radiation
   (3) Apparatus for generating visible radiation
   (4) Apparatus for generating ultraviolet radiation

9. Regarding the understanding of basic criteria of validity of science curriculum, match the following and choose the correct answer among the options given below.

a)	Cognitive validity	p)	Curriculum must convey significant and correct scientific information
b)	Content validity	q)	Curriculum must be in the wider context, local and global, so that students appreciate issues at the interface of science, technology and society
c)	Process validity	r)	Content, process, language and pedagogical process of curriculum are appropriate for a given age of the learner
d)	Environmental validity	s)	Curriculum engages learner to acquire methods that lead to generalization and validation of scientific knowledge

	a	b	c	d
(1)	r	s	p	q
(2)	r	p	s	q
(3)	s	r	p	q
(4)	s	p	q	r

10. Which of the following is not correct with regard to objectives of science curriculum at primary stage

(1) To nurture curiosity of the child about the natural environment, artifacts and people

(2) To engage the child in exploratory and hands - on activities for acquiring the basic cognitive and psychomotor skills

(3) To train the child in observation, classification and drawing inferences

(4) To make the child learn the principles and laws of science

11. Which of the following is the objective of science curriculum at the secondary stage?

(1) Systematic experimentation as a tool to verify theoretical principles

(2) Learning science as separate disciplines such as chemistry, physics and biology

(3) Learning the basic cognitive and psychomotor skills

(4) Learning historical development of science

12. Which of the following statements is correct with reference to science curriculum at higher secondary stage?

(1) The curriculum must contain only theory component of different subjects

(2) The curriculum must contain only experimental component of different subjects.

(3) The curriculum must contain theory component of different subjects and field visits

(4) The curriculum must contain theory components, experimental components of different subjects and field visits.

13. Which one of the following is the highest level of 'cognitive skills and learning behaviour' in revised Bloom's taxonomy, by Lorin Anderson and Krathwohl

(1) Synthesis (2) Create (3) Evaluate (4) Judge

14. Read the statements 'A' and 'B'. Choose the correct option accordingly

A: School, society and nation are responsible for fulfillment of 'aims' of teaching science

B: Objectives of teaching science should be specified as per the interest and competancies of the teacher.

(1) Both 'A' and 'B' are true (2) Both 'A' and 'B' are false

(3) 'A' is true but 'B' is false (4) 'A' is false but 'B' is true

15. Bloom's taxonomy of cognitive skills and learning behaviour was revised by Anderson and Krathwohl in the year

(1) 1964 (2) 2001 (3) 1989 (4) 2004

16. Which one of the following is not the dimension of 'Knowledge'?
(1) Factual (2) Conceptual
(3) Metacognitive (4) Analytical

17. Fill in the blank with the correct option among the options given.
NCF-2005 stated that 'good science education is true to the child, true to _____ and true to science.'
(1) Teacher (2) Life (3) School (4) Society

18. Read the statements 'A' and 'B' and choose the correct option accordingly.
A: Science process skills refer to six actions: observation, prediction, inference, communication, classification and measurement
B: Scientific attitude is a composite of a number of mental processes or tendencies to react consistently in certain ways to a novel or problematic situation.
(1) Both 'A' and 'B' are true (2) Both 'A' and 'B' are false
(3) 'A' is true and 'B' is false (4) 'A' is false and 'B' is true

19. Read the sentences 'A' and 'B' in context of the recommendations of the NCF 2005 and choose the correct options.
A: At the secondary stage science should be as separate disciplines with emphasis on theory.
B: At the higher secondary stage students should be engaged in learning science as a composite discipline.
(1) 'A' is true and 'B' is false (2) 'A' is false and 'B' is true
(3) Both 'A' and 'B' are true (4) Both 'A' and 'B' are false

20. 'My way is not the only way' refers to which aspect of scientific attitude and temper
(1) Open-mindedness (2) Truthfulness
(3) Secpticism (4) Objectivity

21. Read the following statements. Choose the correct answer among the options given beneath the statements.
a) Different students construct their knowledge in science differently by relating to their previous experiences.
b) All the learners in science class learn a particular topic in the same way and at the same level.
c) Each learner is different from others in terms of intellectual, emotional and social development.
d) The motivational levels of learning science are the same in all the learners.
(1) a and b are correct (2) b and c are correct
(3) a and c are correct (4) a and d are correct

22. Which of the following brings in motivation in learning science among the learners?

(1) When the learners are able to relate the classroom learning experiences to their observations and experiences outside the world.

(2) When the teachers sets easy questions in tests and the learners score good marks by rote learning.

(3) When the learners compete with each other in tests and examinations.

(4) When learners are afraid of the punishment by the teacher or parents, if they do not score well in science.

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23. Which of the following are the correct strategies to change the naive concepts of science among the learners. Choose the correct answer among the options given beneath the stratigies

a) Make the students memorise the laws related to the right concepts.

b) Provide learning situations, examples and experiences that support the right concept.

c) Generate conflict of learner's naive concepts with the right concepts.

d) Convince the students that a particular concept is correct because it is written in the text book.

(1) a and b are correct (2) a and c are correct

(3) b and d are correct (4) b and c are correct

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24. Which of the following statements is true regarding Lev Vygotsky's understanding of learning of children

(1) Learning takes place only by stimulation of senses in children.

(2) Children undergo profound changes in their understanding by engaging in joint activity and conversation with other people.

(3) Learning takes place through reading books.

(4) Learning takes place only through instruction by the teacher.

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25. Read the following statements of Assertion (A) and Reasoning (R). Choose the correct answer among the options given below these statements.

Assertion (A) : When students are actively involved in the teaching - learning process, learning takes place at higher cognitive levels.

Reasoning (R) : Because, less content is taught by the teacher in the given time.

(1) Both (A) and (R) are correct (2) (A) is correct, (R) is wrong

(3) (R) is correct, (A) is wrong (4) Both (A) and (R) are wrong

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26. Any psychological intervention used by teacher in teaching science must have the five basic elements. What are they?

(1) Relevance, Mastery of the Subject, Counselling, Feedback, Encouragement

(2) Individualization, Support, Reward, Knowledge, Feedback

(3) Assessment, Content mastery, Facilitation, Encouragement, Reinforcement

(4) Relevance, Individualization, Feedback, Reinforcement, Facilitation

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27. Learner's negotiation and mediation in learning process has many positive points. Which of the following statements reflect the positive points. Choose the correct answer from the options given beneath these statements

a) As learners become active partners in learning, they develop interest in learning science.

b) As learners design activities with the help of teacher, they learn by doing themselves.

c) Learners learn more content in less time.

d) Learners obtain good grades as they mediate in the assessment process also.

(1) a and c are correct (2) a and d are correct

(3) a and b are correct (4) b and d are correct

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28. Which of the following are the opposing factors to motivation for learning science? Choose the correct answer from the options given beneath these statements.

a) Fearing corporal punishment, ridicule or stigmatising labels.

b) Personal expectations of the children.

c) Lack of pre-requisite knowledge in that subject.

d) Setting higher goals of learning the subject by children.

(1) b and c (2) a and c

(3) a and d (4) c and d

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29. Students learn science best when the instructional material is

(1) of the standard appropriate to their developmental level, but not presented in interesting way.

(2) of the standard below the required standard for the developmental level of children.

(3) of the standard above the required standard for the developmental level of children, but presented in interesting way.

(4) of the standard appropriate to their developmental level and presented in interesting way.

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30. Learning in science is facilitated by social interactions and communication with others in a variety of instructional settings. Which of the following is called 'the diverse setting'?

(1) Children in small classes, personal discussions

(2) Children in laboratory settings, field trips

(3) Children with different cultures and family backgrounds in the same class

(4) Children in large classes

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31. Identify the correct sequence of the steps of curriculum development cycle for science.

(1) Analysis, implementation, design, evaluation

(2) Analysis, design, implementation, evaluation

(3) Design, analysis, implementation, evaluation

(4) Design, analysis, evaluation, implementation

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32. Match the approaches to curriculum organisation of science given in column A to their prime focus given in column B and choose the correct combination from the given options.

A		B	
a)	Subject-centered approach	i)	order of relevance
b)	Activity centered approach	ii)	process of science
c)	Topical approach	iii)	acquisition of factual knowledge

(1) a-i, b-ii, c-iii (2) a-ii, b-iii, c-i

(3) a-iii, b-ii, c-i (4) a-ii, b-i, c-iii

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33. In the development of the science curricular projects like the PSSC, BSCS, CHEM, which of the following approaches is used?

(1) Logical and Psychological approach (2) Subject centered approach

(3) Topical approach (4) Activity centered approach

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34. Which of the following is a comprehensive plan for implementation of educational aims of a given class. Choose the correct option among the options given below.

(1) Curriculum (2) Unit plan

(3) Lesson plan (4) Syllabus of a subject

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35. The competency based curriculum, criterion referenced curriculum and mastery learning and programmed learning are all based on the following approach

(1) Constructivist approach (2) Behaviourist approach

(3) Collaborative learning approach (4) Cognitive approach

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36. Which of the following statements is the most appropriate, regarding the science curriculum at higher secondary level?

(1) In a given subject, theory content and practical content are considered separately.

(2) The curriculum includes physics, chemistry and biology as a single subject in science.

(3) The curriculum includes theory content of physics, chemistry and biology as separate subjects and demonstration experiments related to theory.

(4) The curriculum consists of physics, chemistry and biology as separate subjects, with both theory and practical content interwoven in each subject.

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37. Match the following. Choose the correct answer from the options given below.

a)	Approach	p)	It is a skill to engage learners in teaching-learning process
b)	Strategy	q)	It is a set of actions for routine way of teaching-learning
c)	Method	r)	It is the selection of suitable pedagogical processes by means of using appropriate techniques
d)	Technique	s)	It is a way of thinking and working in a set direction so as to accomplish certain goals

	a	b	c	d
(1)	q	p	s	r
(2)	r	p	s	q
(3)	s	p	q	r
(4)	s	r	q	p

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38. Inquiry and process skills of science should be integral part of teaching-learning of science. The process skills of science are

(1) Ability to define a problem, design an experiment, reason logically, make inferences and draw conclusions.

(2) Ability to read and understand, learn concepts by memorization, reproduce the information.

(3) Ability to understand a process, write the procedure, collect the data and write the result.

(4) Ability to understand a method, memorize the method, write the experimental procedure, ability to answer questions on that method.

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39. In the constructivist approach of teaching-learning science, which of the following statements is not true?

(1) Teacher should transmit the correct information to the students.

(2) Learning should take place in authentic and real world environment.

(3) Teacher should serve as the facilitator of learning, but not as the instructor.

(4) Students should be encouraged to become self regulatory, self-mediated and self-aware of learning.

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40. In the '5 E learning model' of the constructivist approach of teaching-learning science, the (five) 5 Es are

(1) Educate, enquire, explain, establish, experience

(2) Educate, encourage, equip, evaluate, emulate

(3) Engage, explore, explain, elaborate, evaluate

(4) Engage, enquire, encourage, elaborate, evaluate

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41. In order to ensure meaningful learning through Collaborative Learning Approach (CLA), which of the following ways of forming groups is correct?

(1) The group must be homogeneous. All members can learn at the same pace and in the same style.

(2) The group must be heterogeneous. There should be learners learning with different paces and styles in a group.

(3) The teacher must nominate a group leader, who can dominate and control the group members.

(4) The grouping pattern must be rigid without any consideration for the choice of learners.

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42. Consider the topic of learning namely, 'How can we minimize the wastage of water? Which technique of collaborative learning approach can be used to learn this topic by the group?

(1) Inquiry approach

(2) Tutorial approach

(3) Task approach

(4) Brain storming

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43. Read the following statements regarding learning science through problem solving approach. Choose the correct answer from the options given below the statements.

a) Different kinds of problems may require different sequence of steps of problem solving approach to solve them.

b) Teacher guides students at every step and students follow.

c) Students learn by thinking while working on problem and struggling to find solution.

d) Teacher finally draws the conclusion and gives solution to the problem.

(1) b and d are correct

(2) c and d are correct

(3) a and c are correct

(4) a and d are correct

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44. Read the following statements regarding 'Concept maps' in teaching and learning of science. Choose the correct answer from the options given below the statements.

a) Concept mapping has three components namely, concept, linkages, labels for linkages.

b) The sequence of phases of concept mapping are: propositional phase, application, presentation of abstraction, closure.

c) Concept, mapping has four components namely, concept, linkages, labels for linkages, proposition.

d) The sequence of phases of concept mapping are: Presentation of abstraction, propositional phase, application, closure.

(1) b and c are correct (2) a and b are correct

(3) c and d are correct (4) a and d are correct

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45. Which of the following is the correct sequence of stages of experiential learning?

(1) Active experimentation, concrete experience, abstract conceptualization, reflective observation

(2) Concrete experience, reflective observation, abstract conceptualization, active experimentation

(3) Reflective observation, active experimentation, concrete experience, abstract conceptualization

(4) Concrete experience, abstract conceptualization, active experimentation, reflective observation

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46. In order to facilitate learning the concept of 'Rusting of iron' among the students of seventh class, which of the following is the right approach?

(1) Problem solving approach (2) Experiential learning

(3) Inquiry based learning (4) Concept mapping

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47. While teaching the topic 'Rutherford model of atom', Which of the following is used?

(1) Problem solving approach (2) Inquiry based learning

(3) Concept mapping (4) Analogy strategy

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48. Which of the following is used as a strategy to bring in a conceptual change from naive concepts to right concepts in science learning?

(1) Concept mapping (2) Analogy strategy

(3) Cognitive conflict (4) Experiential learning

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49. While teaching the concept of gravitational force of the earth, the teacher conducted an activity of 'Throwing the ball upwards' by the students to facilitate learning of the concept. This method is categorized as

(1) Experiential learning (2) Inquiry based learning

(3) Concept mapping (4) Analogy strategy

50. In the classroom dynamics of science teaching and learning, which of the following strategies by the teacher is the most appropriate, in a learner centered approach?

(1) Teacher goes to the class with a teaching learning strategy and implements it as it as.

(2) Teacher goes to the class with a few teaching learning strategies and implements them as planned.

(3) Teacher goes to the class without the plan of any strategy and finds out the strategy during the classroom interaction.

(4) Teacher goes to the class with a plan of a few strategies, spontaneously modifies the strategies or discovers the new strategies based on interaction with students and implements them accordingly.

51. A well stated instructional objective has four characteristics. Which one of the following does not belong to those four characteristics?

(1) Measurable behaviour of learner

(2) Observable behaviour of teacher

(3) Conditions specified under which it occurs

(4) Minimum acceptable level of performance to be specified

52. Which of the following is not an objective of the psychomotor domain

(1) Precision (2) Organization (3) Articulation (4) Manipulation

53. Which of the following is not an objective of the affective domain

(1) Adaptation (2) Valuing

(3) Characterization (4) Responding

54. Which of the following are the steps in teaching according to Friedrich Herbart?

(1) Introduction, information, analysis, discussion, recapitulation

(2) Comprehension, demonstration, analysis, application, recapitulation

(3) Preparation, presentation, association, generalization, application, recapitulation

(4) Preparation, presentation, application, analysis, recapitulation

55. In the learner-centred approach, which of the following is the first step in the lesson plan at secondary level of teaching science?

(1) Learning objectives (2) Motivation

(3) Preparation (4) Introduction

56. Read the quotation below and identify its source from the options given below

"Science has added a new dimension to education and to its role in the life of a nation, but central to all this is the quality of education. If science is poorly taught and badly learnt, it is little more than burdening the mind with dead information, and it could degenerate even into a new superstition".

(1) NCF 2005 (2) Mudaliar Commission 1952-53

(3) Kothari commission 1964-66 (4) National policy on education 1986

57. Read the statements A and B and choose the correct option from the options given below

A) A lesson plan helps in good classroom management

B) A lesson plan gives a teacher a sense of confidence

(1) (A) and (B) are true (2) (A) is false (B) is true

(3) (A) is true (B) is false (4) (A) and (B) are false

58. Read the statements (A) and (B) and choose the correct option from the options given below

A) A unit plan comprises of a chunk of interlinked competencies/concepts/content which have some common basis or characteristics

B) A unit of instruction may be thought of as a system and individual lessons within the unit are its components parts

(1) (A) is true and (B) is false (2) (A) is false and (B) is true

(3) Both (A) and (B) are true (4) Both (A) and (B) are false

59. Read the statements A and B and choose the correct option from the options given below:

A) Lesson plan is the plan of action prepared by a teacher for a particular class and period to achieve the desired objectives.

B) A lesson plan is a written guide for teachers in order to achieve the intended learning outcomes.

(1) (A) and (B) are true

(2) (A) and (B) are false

(3) (A) is true (B) is false

(4) (A) is false (B) is true

60. Which of the following statements is correct, regarding the place of information and communication technology (ICT) in the lesson plan

(1) Using ICT, teacher must be able to give more information in the classroom

(2) Through the use of ICT, students learn totally by themselves in the classroom

(3) ICT will confuse the students at school level. So, use of ICT must not be included in the lesson plan at school level

(4) ICT must be integrated appropriately in the lesson plan, which makes the learning process more interactive

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61. In teaching-learning science, laboratory work is essentially based on the principle of

(1) Learning by observation (2) Learning by doing

(3) Learning by imagination (4) Learning by discussion

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62. Regarding the use of laboratory as a learning resource in teaching science, which of the following statements are correct? Choose the correct answer from the options given beneath the statements

a) Laboratory work facilitates process skills

b) Laboratory work facilitates scientific attitude

c) Laboratory work facilitates learning in affective domain

d) Laboratory work facilitates obedience and discipline

(1) b and c are correct (2) b and d are correct

(3) a and b are correct (4) a and d are correct

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63. In a higher secondary school, there are only 6 sets of 5 different equipments. Each equipment can be used to perform 3 different experiments. In total 15 experiments are to be performed. There are 30 students in the class. Which is the most appropriate way to design learning experiences of students?

(1) 5 students are formed into a group and group experiments are planned, using only one equipment in a given class

(2) Teacher demonstrates the experiment. Students stand in front of the equipments and observe the demonstration of the experiment

(3) Group experiments with 5 students in a group are planned. Each of the students is asked to take a few measurements by turn

(4) All the 5 different equipments are simultaneously used. All the 6 sets of each equipment are used. At a time, 5 different experiments, one by each equipment, are planned. Every student performs the experiment independently

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64. A school does not have a science laboratory. Which are the most appropriate ways to design instructional material in sciences at secondary level? Choose the correct answer from the options given below

a) Using improvised teaching aids

b) Collecting low cost and no cost materials from the community around the school

c) Using charts

d) Drawing diagrams on the board and using them

(1) a and c are correct (2) a and d are correct

(3) b and c are correct (4) a and b are correct

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65. Match the following choose the correct answer from the options given below

	Inexpensive material from the community		Material/chemical that can be used as teaching aid
a)	Used primary batteries	p)	Paraffin
b)	Filament in incandescent light bulb (broken)	q)	Sodium carbonate
c)	Washing soda	r)	Zinc metal
d)	Candle	s)	Tungsten

	a	b	c	d
(1)	r	s	q	p
(2)	r	s	p	q
(3)	s	r	q	p
(4)	s	r	p	q

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66. Regarding the role of science kits in teaching-learning science, which of the following statements are correct? Choose the correct answer from the options given below.

a) Science kits are useful in teaching science only in schools, that do not have science laboratory

b) Science kits are useful for all schools, including those with a science laboratory

c) Science kits are useful only for demonstration experiments done by the teacher

d) Science kits do not give opportunity to students for performing other open-ended experiments, which promote inquiry skills

(1) b and c are correct (2) b and d are correct

(3) a and d are correct (4) a and c are correct

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67. 'e-pathshala' of NCERT enables the educators with the following services.
    (1) digital textbooks exhibition
    (2) Enhance quality through curricular documents, e-contents, participate in research activities.
    (3) Access digital textbooks, participate in exhibitions.
    (4) Nurture creative talents through curricular documents.

68. Which of the following is a group of DTH channels, in which 'IIT professor-assisted learning' programs in biology, chemistry and physics and telecast
    (1) DD-Gyan Darshan
    (2) Swayam Prabha
    (3) NPTEL
    (4) Swayam

69. Which of the following is the IT platform in India that facilitates hosting of free on-line courses taught in classrooms from 9^{th} standard till postgraduation?
    (1) Swayam
    (2) Edx
    (3) Khan academy
    (4) Ajim Premji Academy

70. Which of the following is the most effective way in learning concepts and process skills in science?
    (1) Observing a simulated experiment using a computer
    (2) Watching the experiment through a you-tube video several times
    (3) Performing the experiment by the student himself/herself
    (4) Discussing the results of the experiment in the group

71. Which of the following statements is the most appropriate way, regarding the use of tools of ICT in teaching-learning of science effectively?
    (1) Teacher uses as many ICT tools as possible and transmits the information
    (2) Teacher uses a few appropriate ICT tools and transmits the information
    (3) Teacher explains the lesson after presenting a video lesson from the Internet to the students
    (4) Teacher makes the class highly interactive by appropriately integrating ICT into classroom teaching-learning

72. Which of the following statements present characteristics of a good science textbook at secondary level? Choose the correct answer from the options given below.

a) It is written in a teacher-centered approach, starting with definitions, then derivations and procedures

b) It is written in a learner-centered approach, starting with questions, activities, then bringing out generalizations and definitions

c) It gives 'theoretical questions' as an exercise at the end of the lesson

d) It consists of self assessment problems and question within the text and problem solving exercises in a variety of situations at the end of the lesson

(1) a and c are correct (2) a and d are correct

(3) b and d are correct (4) b and c are correct

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73. The process of quantifying observations about a quality of a thing or person is known as _____

(1) Measurement (2) Evaluation

(3) Testing (4) Assessment

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74. Which one of the following is not a 'recognition type' of test item

(1) Multiple choice question (2) Match the columns

(3) Alternative (4) Rearrangement

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75. Which of the following statements is correct, regarding an achievement test?

(1) Achievement test is conducted to measure the aptitude of students in a given subject

(2) Achievement test is conducted to plan remedial instruction in a given subject

(3) Achievement test is conducted to identify the weakness of students in a given subject

(4) Achievement test is conducted to measure skills and knowledge learned in a given grade level after planned instruction

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76. Which of the following is not the characteristic of formative evaluation

(1) To evaluate teaching effectiveness (2) To evaluate curriculum material

(3) To evaluate learning environment (4) To evaluate finished process

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77. Which of the following is an evaluation tool of the seholastic domain

(1) Checklist (2) Observation

(3) Question paper (4) Rating scale

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78. Choose the correct statement w.r.t to criteria of a good tool of evaluation

(1) A test should not measure when is supposed to measure but something else

(2) The test should cover only specified syllabus which it is supposed to cover

(3) The test should be difficult in scoring with the help of answer keys

(4) It is the consistency of scores obtained by an individual on different time on the same test

79. What is the weightage of formative assessment in CCE?

(1) 50% (2) 40%

(3) 30% (4) 60%

80. Which of the following are considered for assessment of laboratory work of students at higher secondary level? Choose the correct options among the options given below

a) Knowledge of the experiment through a written quiz

b) Procedure of the experiment

c) Measurement of data

d) Interpretation of results and conclusion

(1) a and d are correct (2) c and d are correct

(3) b and d are correct (4) b and c are correct

81. For assessment in cognitive domain, what are the characteristics of a good test paper?

(1) Creativity, universality, objectivity, measurability

(2) Subjectivity, creativity, validity, precision

(3) Accuracy, objectivity, creativity, precision

(4) Objectivity, reliability, validity, usability

82. Redemption of 'ROBOT' means

(1) Making the man as a machine

(2) Machine dominating the man

(3) Liberating the man from machine characteristics

(4) Machine controlling the man

83. Implementation of CCE in schools in India has began in the year

(1) 2007 (2) 2008

(3) 2009 (4) 2010

84. Continues comprehensive evaluation facilitates the teacher to know

(1) the entry level of the student

(2) the exit level of the student

(3) the performance of the student

(4) the motivation level of the student

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85. Regarding science education for the students with Special Educational Needs (SEN), which of the following statements are correct. Choose the correct answer from the options given below:

a) Students with SEN must be segregated from students without SEN and be given science education separately

b) Students with SEN must be given science education along with students without SEN in the same class

c) Teacher must pay the same attention uniformly to the needs of all the students, with SEN or without SEN

d) Teacher must be sensitive to the needs of students with SEN in an inclusive class and organize learning experiences suitable to their needs also

(1) a and c are correct

(2) b and d are correct

(3) b and c are correct

(4) a and d are correct

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86. Which of the following statements are correct, in order to meet the needs of students with exceptionally high abilities in science at higher secondary level? Choose the correct answer from the options given below

a) Such students are segregated from the rest and given special science education

b) Such students are given the same kind of learning experiences along with other students in the same class for the sake of uniformity

c) Besides giving them learning experiences with others in the class, they are challenged with difficult problems to be solved by them

d) Such students are motivated to take up investigative projects

(1) a and d are correct

(2) b and c are correct

(3) b and d are correct

(4) c and d are correct

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87. Which of the following strategies are correct to provide science education for students with visual impairment? Choose the correct answer from the options given below

a) Using sign language, power point presentations

b) Provide materials in large font or Braille print

c) Involve students dynamically in activities and experiments

d) Training students on using computers through auditory mode to learn science

(1) b and c are correct (2) a and d are correct

(3) b and d are correct (4) c and d are correct

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88. Which of the following strategies are used in teaching science in case of students experiencing difficulty with retaining and retrieving of information? Choose the correct answer from the options given below

a) Teacher gives choices and alternatives for the tests and activities

b) Teacher makes use of multimedia to transact the same concept

c) Teacher shows relationship among concepts through graphs, concept map

d) Teacher facilitates students to study various reference materials

(1) b and c are correct (2) a and b are correct

(3) b and d are correct (4) c and d are correct

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89. Which of the following is the best strategy in group activities in improving the self efficacy of students with Special Educational Needs (SEN)?

(1) Students with SEN are formed into a separate group

(2) Students with SEN are mixed with students without SEN in forming group

(3) In the group consisting of students with SEN and without SEN, students with SEN are given first choice to choose their role in group activity

(4) In the group consisting of students with SEN and without SEN, a student belonging to SEN, who is competent enough, is made group leader of the given specific group activity

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90. Which of the following strategies are used in teaching science to the students with writing difficulty? Choose the correct answer from the options given below

a) Training him/her to use computer for word processing, spelling and grammar check

b) Adopting pre-reading and post-reading drills

c) Using visuals for description

d) Repeated short writing assignments

(1) a and c are correct (2) a and d are correct

(3) c and d are correct (4) b and d are correct

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91. Which of the following strategies are used in teaching science to the students with hearing difficulty? Choose the correct answer from the options given below

a) Encourage students to speak at their own pace

b) Using visual cues, demonstrations, drawings, powerpoint presentations

c) Provide notes on classroom presentation in advance so that the student concentrates on the teacher while explaining lesson

d) Provide opportunities to change activities or tasks frequently

(1) a and c are correct (2) b and d are correct

(3) b and c are correct (4) a and d are correct

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92. Which of the following strategies are used in teaching science to students with reading difficulty? Choose the correct answer from the options given below

a) Using audio devices along with text

b) Giving repeated writing assignments

c) Identifying main ideas, highlighting texts, passages and key concepts

d) Giving enough scope and opportunities for speaking

(1) a and c are correct (2) a and d are correct

(3) a and b are correct (4) b and c are correct

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93. Which among the following is not a scientifically correct practice

(1) Washing hands before eating (2) Washing vegetables after cutting

(3) Washing fruits before eating (4) Brushing teeth before sleeping

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94. Which is the best source of instant energy?

(1) Glucose (2) Ghee

(3) Water (4) Milk

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95. 'Retinol' is commonly known as

(1) Vitamin A (2) Vitamin B

(3) Vitamin C (4) Vitamin D

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96. 'Insulin' is secreted by the following organ

(1) Liver (2) Small Intestine

(3) Pancreas (4) Spleen

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97. Which one is not a natural blood thinner

(1) Turmeric (2) Garlic

(3) Ginger (4) Cashewnut

98. Vinegar, that is used in kitchens, is chemically _____

(1) Dilute Hydrochloric Acid (2) Dilute Sodium Hydroxide

(3) Dilute Acetic Acid (4) Dilute Sodium Chloride

99. Which of the following science centers is not under the administrative control of National Council of science museums?

(1) B.M. Birla science centre, Hyderabad

(2) Nehru science centre, Bombay

(3) Visweswaraya Industrial & Technological Museum, Bangalore

(4) Raman Science centre and planetarium, Nagpur

100. Due to the alkalinity of the soap, a turmeric stain changes to the following colour from its natural yellow colour

(1) Green (2) Brown

(3) Red (4) Blue

SPACE FOR ROUGH WORK