

CTET 2019

20 Most Imp
Mathematics
Pedagogy Questions

1. **Direction:** Answer the following questions by selecting the correct/most appropriate options. Which one of the following is not a Problem Solving Strategy in Mathematics?
A. Trial and Error
B. Drawing
C. Solving backwards
D. Rote learning
2. **Directions:** Answer the following questions by selecting the **most appropriate** option. The step of lecture method is___
A. Planning
B. Presentation
C. Receiving
D. All of the above
3. "Self-study" builds up self-confidence in students in tackling the problems of mathematics. In this statements self-study means
A. Study in group
B. An individual studies and learn by himself
C. Study with written work
D. All of these
4. A mathematics teacher gave an assignment to his students to write an essay on "mathematics in daily life" he did so to
A. Let students share their ideas and knowledge
B. Help students connect mathematical concepts with their use
C. Test language skill
D. None of these
5. The importance/advantages of a drill work in mathematics is_____
A. Speed of learning can be adjusted according to need
B. Memory of the pupil can be checked
C. Accuracy of the learnt material can be improved
D. All of the above
6. Which of the following statements proves mathematics to be a logical and scientific subject ?
A. The philosophy of mathematics is concerned with the role of language and logic in proofs.
B. The language and tools of mathematics are used by other scientist especially. physicists and computer scientists.
C. Like other scientific subjects, mathematics requires evidences to prove the claims.
D. All of the above.
7. Which of the following steps should be taken by teacher to make the mathematics class interesting?
A. Providing opportunities for students to demonstrate knowledge
B. Motivation
C. Involving activities in mathematics
D. All of these
8. **Directions:** Answer the following questions by selecting the **most appropriate** option. In mathematics, what is the meaning of steps of supervised study?
A. Introduction for the study
B. Instruction for the study
C. Supervision by the teacher
D. All of the above
9. A teacher asked the students to collect leaves and to identify symmetry pattern. This task reflects the teacher's efforts to
A. Enhance creativity amongst students
B. Improve mathematical idea
C. Relate real life experience with mathematical concepts
D. Improve an intradisciplinary approach
10. Which is wrong about objective of geometry teaching?
A. It enable the child to understand the relationships between geometrical fact
B. It helps the learners in comprehending the geometrical concepts
C. It provides background of logical thinking
D. It does not develop power of reasoning
11. The most important person, related to the method of 'Analysis of Variance' in Statistics, was
A. R. Fisher B. Gauss
C. Laplace D. Newton
12. What are the points of formative and summative assessment?
A. Objectives
B. Tests
C. Level of generalization
D. All of the above

13. **Directions:** Answer the following questions by selecting the **most appropriate** option.
In mathematics, why oral work is so important in the initial stages to solve a problem?
A. It saves money
B. It results in the saving of time and efforts through omission of certain steps
C. Learning by this technique is retainable for a long time
D. It is very laborious technique
14. NCERT text books on Mathematics are written keeping in mind the recommendations of
A. National curriculum framework 2005
B. Syllabus provided by CBSE in 2006
C. National policy on education 1986
D. National policy on education 1968
15. **Direction:** Answer the following questions by selecting the correct/most appropriate options.
'Data Handling' at upper primary stage focuses on:
A. data collection, organization and interpretation
B. data interpretation only
C. data organization only
D. techniques of data collection
16. Which statement is true regarding objectives of geometry teaching?
A. To enable the child to understand the relationships between geometrical facts
B. To help the learners in comprehending the geometrical concepts
C. To acquaint with geometrical instruments and their uses in the construction of various types of figure
D. All of these
17. Kumar belongs to a very poor and conservative family, what teacher can do to help him?
A. A special school and classes may be opened for him
B. Special training may be given to the teacher
C. He should be treated as a normal pupil
D. He should be sympathized
18. NCF 2005 emphasis on constructivist approach of learning as it focuses on
A. Children pose and solve meaningful problem
B. To translate word problem into liner equation
C. Effective lecture and instructions by teacher
D. Active participation of learner through engaging activities
19. Consider the following statement:
"If the diagonals of a quadrilateral bisect each other, then the quadrilateral is a parallelogram."
This statement is a/an
A. definition
B. theorem
C. axiom
D. proposition
20. **Direction:** Answer the following question by selecting the correct/most appropriate options:
A good Mathematics textbook at primary level should :
A. have a lot of exercises for practice.
B. have colourful illustrations.
C. present a lot of worked out examples.
D. relate Mathematical concepts to everyday life of the child.

ANSWERS

1. Ans. D.

Rote learning is not a Problem Solving Strategy in Mathematics. Rote learning is a memorization technique based on repetition. The idea is that one will be able to quickly recall the meaning of the material the more one repeats it.

2. Ans. D.

Lecture method is a teacher centered method. In this method the teacher is an active participant and the child is a passive learner. This is not a psychological method. In this method the teacher speaks or delivers a lecture on a particular topic and the children listen. It is one-way traffic because the teacher gives ideas and the children receive them. There are three steps in the process of lecture method:

1. Planning by the teacher
2. Presentation by the teacher
3. Receiving by the learner

3. Ans. B.

In the self study, it means an individual studies and learn by himself. It enables the students to make use of their knowledge learnt in the class in solving various problems.

4. Ans. B.

Like the homework, assignment is also a supplement to classroom teaching. It provides the teacher with an opportunity to direct the learning activity and developing habits of more study. The type of assignment is dependent on the nature of the work to do. By giving this assignment teacher helps students to connect mathematical concepts with their uses.

5. Ans. D.

The importance/advantages of a drill work in mathematics is that learnt material can be retained for a longer time. It is good technique of learning for beginners. Speed of the learning material can be adjusted according to need and the accuracy of the learnt material can be improved. Through it we can check the memory of a child.

6. Ans. D.

Logical thinking is a process in which one uses reasoning consistently to come to a conclusion, problems and situation that involve logical thinking call for structure. Logical thinking is an important foundational skill of mathematics.

7. Ans. D.

To make mathematics class interesting, the teacher should motivate student in class. Motivation is nothing but providing a sort of inducement to action. It is the process by which the student interest to work is maintained. Providing opportunities for students to demonstrate knowledge and involving activities in mathematics make the mathematics class interesting. The good teacher always tries to understand the inner motives of the student.

8. Ans. D.

Supervised study is presented by Morrison. It is based on the principle of activity and individual differences. Teacher solve pupil's problem by supervising his task as a friend, helper and a guide. Steps of supervised study are- introduction/preparation for the study, instruction for the study, supervision by the teacher and development of blackboard summary.

9. Ans. C.

A teacher asked students to collect leaves and to identify symmetry pattern, this task reflects the teacher's efforts to relate real life experience with mathematical concepts

10. Ans. D.

The objective of geometry teaching is to provide opportunity to the child for original and creative thinking. It develops power of logical thinking. It enables the children in comprehending the deductive method as a way of thinking and to make its use in the solution of various mathematical problems. It helps the learners in comprehending the geometrical concepts. It also enables the child to understand the relationships between geometrical facts.

11. Ans. A.

The most important person, related to the method of 'Analysis of Variance' in Statistics, was R. Fisher. He was a professor of genetics, and many of his statistical innovations found expression in the development of methodology in statistical genetics whereas his contributions in mathematical statistics are easily identified, in population genetics.

12. Ans. D.

Formative assessment is a tool used by the teacher to continuously monitor student progress in a non-threatening, supportive

environment. Summative assessment is carried out at the end of learning. It measures or 'sums-up' how much a student has learned from the course. The main points of formative and summative assessments are objectives, tests and level of generalization.

13. Ans. B.

In mathematics, oral work is not only interesting but may be effective especially in the initial stages. An appeal to the eye and ear is more effective than written work. Students generally love to listen to talks and talk to themselves in their initial stages. Oral works results in the saving of time and efforts through omission of certain steps. It helps us in mental calculations.

14. Ans. A.

The national curriculum framework 2005 is one of the four national curriculum frames published in 1975, 1988, 2000 and 2005 by NCERT in India. The framework provides the framework for making school syllabi, textbooks and teaching practices within the school education programmes in India. NCF 2005 focused on learning without burden to make learning a joyful experience and move away from textbooks to be a basis for examination and to remove stress from children.

15. Ans. A.

Data handling is one of the central activities in which real mathematicians engage: they are frequently analysing data that they have gathered in various contexts and looking for patterns and generalities within them. In schools we often undertake tasks in which we encourage children to collect data about themselves and their friends but the emphasis tends to be on presenting data in a variety of forms such as bar charts or pictograms. 'Data Handling' at upper primary stage focuses on data collection, organization and interpretation .

16. Ans. D.

The objectives of teaching of geometry are as under:

- * To provide the knowledge of various geometrical facts to the learners
- * To acquaint with geometrical instruments and their uses in the construction of various type of figure

* To provide opportunity to the child for original and creative thinking. It develops power of reasoning

* To enable the child to understand the relationships between geometrical facts

* To help the learners in comprehending the geometrical concepts

17. Ans. C.

A teacher should treat him like a normal pupil so that he can't feel the inferior complexity among the other students in the classroom. According to inclusive education, all students should be treated equally. It rejects but still provides the use of special schools or classrooms to separate students with disabilities from students without disabilities.

18. Ans. D.

NCF 2005 emphasis on constructivist approach of learning as it focuses on active participation of learner through engaging activities. It is true that most activities in the school are examination driven. When children are involved in active learning in this approach, they are able to perform well in the examinations too, because they learn how to learn. They get self motivated to learn. Facilitating students in studying and relating their learning to their everyday life experiences make the job of the teacher easier.

19. Ans. B.

This statement is a theorem. A concise explanation of the meaning of a word, phrase or symbol. A proposition deducible from basic postulates, an idea that is accepted as a demonstrable truth. A result that has been proceeded to be true is called theorem. A proposition that is not susceptible or disproof; its truth is assumed to be self-evident

20. Ans. D.

A good Mathematics textbook at primary level should relate Mathematical concepts to everyday life of the child. As for seeing the time, purchasing, planning etc child's everyday aspects involves the use of mathematics, it works like foundation brick hence Mathematics textbook should provide mathematical knowledge in a way that children can use it in their daily life.