CTET 2019

20 Most Imp Mathematics Pedagogy Questions

1. Which commission has explained about placing mathematics as a compulsary subject upto higher secondary?
A. Hunter commission
B. Kothari commission
C. Mudakar commission
D. The Universal Educational Commission

2. Which characteristics are not involved in Continuous and Comprehensive Evaluation?
A. It replaces marks with grades.
B. It evaluates every aspect of the student.
C. It increases the workload on students by taking multiple tests.
D. It helps in reducing examination phobia.

3. After teaching the concept of multiplication to her class, a teacher asked her children to multiply 48 by 4. One of her students solved it orally as "To multiply 48 by 4, we first add 48 to 48, which makes 96 and then add another 96 to reach 192. So, the answer is 192".
What can you say about his/her strategy of multiplications?
A. He/She has not understood the concept of multiplication.
B. The given problem is a multiplication problem and not addition problem.
C. He/She understood multiplication as repeated addition.
D. The child used a wrong method to multiply. He/She has to use the place value algorithm to multiply the numbers.

4. The most important person, related to the method of 'Analysis of Variance' in Statistics, was
A. R. Fisher   B. Gauss
C. Laplace   D. Newton

5. Drill work is based on which principles?
A. Psychological principles such as learning by doing and law of exercise.
B. Principle of activity and individual differences
C. Modern theory of generalization of task
D. None of these

6. **Directions:** Answer the following questions by selecting the **correct/most appropriate** options.

Which of the following is not an objective of teaching mathematics at primary level according to NCF, 2005?
A. Making mathematics part of child's life experiences
B. Promoting problem-solving and problem-posing skills
C. Promoting logical thinking
D. Preparing for learning higher and abstract mathematics

7. Which of the following is not an important in 'Algebra'?
A. Visualization   B. Transposition
C. Measurement   D. Generalization

8. 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

9. Which suggestion is true regarding remove demerits of essay type tests?
A. There should be more number of questions so that the whole content can be covered by them
B. The language of questions should be simple and their meaning should be unambiguous
C. There should be less choice of question so that the actual knowledge of students could be tested
D. All of these

10. Communication in mathematics class refers to developing the ability to
A. Contradict the views of others on problems of mathematics
B. Give quick response to question asked in mathematics class
C. Interpret data by looking at line graph
D. Organize, consolidate and express mathematical thinking

11. Mathematics should be made a compulsory subject for the students up to X standard, as a part of general education is about
A. Learning problem solving techniques only
B. Gaining understanding of mathematical concept and their applications in solving problems logically

C. Learning lots of new formulae
D. Remembering solutions of mathematical problems

12. Which one of the following is not a principle of helping pupils with learning difficulties in Mathematics?
A. Devise various learning activities related to mathematics
B. Design meaningful learning situations
C. Teacher provides home tuitions in mathematics
D. Teaching preparations

13. **Directions:** *Answer the following questions by selecting the **most appropriate** option.*
The word 'curriculum' is derived from_
A. Latin language
B. French language
C. German language
D. None of these

14. **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

15. **Directions:** *Answer the following questions by selecting the **most appropriate** option.*
A teacher of mathematics applies _____ to find the difficulties and weaknesses of the students.
A. Teaching learning techniques
B. Cohesive arguments
C. Essential constituents of group work
D. Diagnostic test

16. What does not contribute factor responsible for mathematics anxiety?
A. Nature of the subject
B. Examination system
C. Gender
D. Curriculum

17. **Directions:** Answer the following questions by selecting the most appropriate option:
For evaluation, teacher should ask____
A. Essay type questions
B. Oral testing
C. Objective type questions
D. All of the above

18. Which of the following is **not** a contributing factor responsible for mathematics anxiety?
A. Nature of subject
B. Gender
C. Examination system
D. Curriculum

19. **Direction:** *Answer the following question by selecting the correct / **most appropriate** options.*
CBSE has recommended Mathematics Laboratory as part of Mathematics Curriculum at upper primary and secondary stage. The main purpose of Mathematics Laboratory is :
A. to enable students to score more marks in Mathematics.
B. to reduce Examination stress.
C. to break monotony of classroom teaching.
D. to provide opportunities for hands on learning.

20. Present NCERT text-books on Mathematics are written keeping in mind the recommendations of
A. National Curriculum Framework 2005
B. National Policy on Education 1986
C. Syllabus prescribed by CBSE in 2006
D. Syllabus prescribed by State Board in 2006

ANSWERS

1. Ans. B.
Kothari commission has explained about placing mathematics as a compulsary subject upto higher secondary. Mathematics is helpful in the mental development. Mathematics is a Science of a calculation, space and a measurement, magnitude and direction.

2. Ans. C.
Continuous and Comprehensive Evaluation work not only facilitates the learning of Mathematics but also enhances confidences in

the application of learning in Mathematics. Here, the learner is evaluated at the end of the unit and provided grades. It covers all learning experiences of the learner in curricular as well as non-cognitive areas. It reduces examination phobia and also the workload on students by taking multiple tests. So, we can say that option C is not involved in Continuous and Comprehensive Evaluation.

3. Ans. C.

A student multiply 48 by 4 by adding the numbers.

48+48+48+48 = 96 +96 = 192

This is the strategy of repeated addition. Student add numbers one by one to get the required multiple. He\she understood the concept of multiplication as repeated addition.

4. 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.

5. Ans. A.

Drill work is based on the psychological principles such as learning by doing and law of exercise. Practice may be a right synonym for drill. It provides opportunity of self-improvement. One cannot achieve speed and accuracy in solving mathematical problems without a good practice. This technique of teaching is widely used by the teachers to revise a lesson that has already been taught.

6. Ans. D.

NCF, 2005 is the National Curriculum framework. According to NCF, learning should be an enjoyable act where children should feel that they are valued and their voices are heard. NCF focused on

• learning without burden

• to develop a sense of self-reliance and dignity

• promote logical thinking

• promote democracy and unity in students

So, option D is not an objective of teaching mathematics at the primary level according to NCF, 2005.

7. Ans. C.

Measurement- is not important in this topic. Algebra is a branch of mathematics dealing with symbols and the rules for manipulating those symbols. In elementary algebra, those symbols (today written as Latin and Greek letters) represent quantities without fixed values, known as variables.

8. 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

9. Ans. D.

Having involved with several defects, the usefulness of the essay type test cannot be ignored. These tests are widely used till now. It is not possible to have a complete ban on the use of these tests. Therefore, efforts should be made to remove the defects of essay type test to make them more objective centred from the point of view of desired change in behavior. To remove the defects of these tests following suggestions may be followed:

* Before constructing the test, its objectives should be determined

* There should be more number of questions so that the whole content can be covered by them

* The language of questions should be simple and their meaning should be unambiguous

* There should be less choice of question so that the actual knowledge of students could be tested

* Essay type questions should be used as projective technique to measure the higher mental abilities of students.

10. Ans. D.

Communication in mathematics class develops the ability to organize, consolidate and express mathematical thinking of students. It makes students aware of how to take part in mathematical discussion.

11. Ans. B.

By learning mathematics, students enhance the mathematical concept and their applications in solving problems logically. Training of reasoning, thinking, discipline, self confidence and emotions are developed in students by mathematics. In absence of mathematics students intellectual development might be affected.

12. Ans. C.

The principal of teaching mathematics in school describe the mathematical understanding, knowledge, and skills that students should acquire from lower primary

section to upper primary section. It also provides proper guidance for teacher as well as students in making their decisions. Therefore, providing home tuitions in mathematics is not a principle of helping pupils with learning difficulties in Mathematics.

13. Ans. A.

The word 'curriculum' is derived from the latin language. Curriculum includes all those activities, experiences and environment, which the child receives during his educational career under the guidance of educational authorities. Thus, curriculum is the total education of the child.

14. 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.

15. Ans. D.

Just as a doctor diagnoses a patient to find the nature, type and extent of his disease before prescribing medicine, a teacher of mathematics applies diagnostic test to find the difficulties and weaknesses of the students. In it, both background and performances of the students are needed. Diagnostic tests are qualitative not the quantitative.

16. Ans. C.

It is irrelevant to the mathematics anxiety. Mathematics anxiety has been defined as feelings of apprehension and increased physiological reactivity when individuals have to manipulate numbers, solve mathematical problems, or when they are exposed to an evaluative situation which deals with mathematics.

17. Ans. D.

Evaluation is the process in which educational achievement of a teacher and a student is measured and all these type of questions help in education.

Example- Essay type questions, Oral testing, Objective type questions

18. Ans. B.

A major factor in the development of math anxiety and dislike towards math in students is the way the teachers feel about math. It is well known that good teachers love the subject they are teaching. Except for Gender, rest of all are contributing factors responsible for mathematics anxiety.

19. Ans. D.

The main purpose of the Mathematics laboratory is to provide opportunities for hands on learning. Hands-on activities in the classroom connects to real-world situations and increase in active participation of learner. When students connects these concepts to real world, his more parts of brain get activated, gained knowledge more easily transfers to long-term memory. It encourages critical thinking and problem solving skills.

20. Ans. A.

Present NCERT text-books on Mathematics are written keeping in mind the recommendations of National Curriculum Framework 2005.

The National Curriculum Framework (NCF 2005) is one of four National Curriculum Framework by the NCERT in India. The NCF 2005 document draws its policy basis from earlier government reports on education as Learning without Burden and National Policy of Education 1986-1992 and focus group discussion.

Hence, option A is correct.