

Atomic Energy Education Society

Annual Examination -2018-19

Class:VIII

Time: 3 Hrs

Subject: Mathematics

Marks:80

To be filled by the student

Student's Name:.....

Name of the School:.....

Class/Sec:.....Roll No:.....

Date of Examination:.....

General Instructions:

1. This paper consists of four sections
 2. Section A has 10 multiple choice questions and each carries 1 mark
 3. Section B has 10 questions and each carries 2 marks
 4. Section C has 10 questions and each carries 3 marks
 5. Section D has 5 questions and each carries 4 marks
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SECTION-A

1. The diagonals of a Rhombus are 6.5cm and 12cm. Find its area. (1m)
(a) 78 (b) 39 (c) 37 (d) 18.5
2. U and V vary directly with each other. If $U=34, V=51$, which of the following is not a possible pair of corresponding values of U and V (1m)
(a) 2 and 3 (b) 8 and 12 (c) 15 and 20 (d) 25 and 37.5
3. The marked price of an article is Rs 80 and it is sold at Rs 76, then the discount rate is (1m)
(a) 5% (b) 95% (c) 10% (d) appx. 11%

4. The Amount at compound interest on Rs 50,000 at 4% per annum for one year compounded annually is (1m)

- (a) Rs 52,000 (b) Rs 51000 (c) Rs 51004 (d) Rs 20000

5. Coefficient of y in the term $\frac{-y}{3}$ is (1m)

- (a) -1 (b) -3 (c) $\frac{-1}{3}$ (d) $\frac{1}{3}$

6. A prism is a polyhedron whose lateral faces are (1m)

- (a) Circles (b) Triangles (c) Parallelograms (d) Rhombuses

7. The volume of a cube is 64 cm^3 . Its surface area is (1m)

- (a) 16 cm^2 (b) 64 cm^2 (c) 96 cm^2 (d) 128 cm^2

8. The area of a parallelogram is 60 cm^2 and one of its altitude is 5 cm. (1m)

The length of its corresponding side is

- (a) 12 cm (b) 6 cm (c) 4 cm (d) 2 cm

9. The factors of $2x^2 - 8$ are (1m)

- (a) 2, $(x - 2)$, $(x - 2)$ (b) 2, $(x + 2)$, $(x - 2)$ (c) 2, $(x + 2)$, $(x + 2)$ (d) 2, $(x - 4)$, $(x - 4)$

10. The reciprocal of $\left(\frac{2}{5}\right)^{-1}$ is (1m)

- a) $\frac{2}{5}$ b) $\frac{5}{2}$ c) $\frac{-5}{2}$ d) $-\frac{2}{5}$

SECTION-B

11. Find the compound interest on Rs.48,000 for one year at 8% per annum compounded annually. (2m)

12. The Areas of two circles are in the ratio 49:64. Find the ratio of their circumferences (2m)

13. A shop gives 20% discount. What would be the sale price of a bag marked at ₹ 250? (2m)

14. Using suitable Identity find the product. $(xyz - 4)(xyz + 2)$. (2m)

15. Find the value using Identity. $(10.2)^2 - (9.8)^2$ (2m)

16. The side of a square garden is 30m. If the scale used to draw its picture is 1cm: 5m, then find the perimeter of the square in the picture (2m)

17. Simplify $\left\{\left(\frac{1}{3}\right)^{-2} - \left(\frac{1}{2}\right)^{-3}\right\} \div \left(\frac{1}{4}\right)^{-2}$ (2m)

18. Factorise : $z^2 + 4z - 12$ (2m)

19. Divide $y(5y^2 - 80)$ by $5y(y+4)$ (2m)

20. If 21m5 is multiple of 9, where m is digit, what is the value of m? (2m)

SECTION -C

21. Find the value of $\frac{38^2 - 22^2}{16}$ using suitable identity. (3m)

22. The perimeter of a trapezium is 52cm and its each non parallel side is equal to 10cm. If the height of the trapezium is 8cm, find the area of the trapezium. (3m)

23. Simplify $\frac{(-2)^3 \times (-2)^7 \times 9}{3 \times 4^6}$ (3m)

24. If two cupboard boxes occupy 500cm^3 space, then how much space is required to keep 200 such boxes (3m)

25. Find the amount which Sudhir will get on Rs.4096, if he gave it for 18 months at $12\frac{1}{2}\%$ per annum, interest being compounded half yearly. (3m)

26. Verify Euler's formula for a) Triangular Pyramid b) Prism with square base. (3m)

27. There are 100 students in a hostel. Food provisions for them is for 20 days. How long will these provisions last, if 25 more students join the group? (3m)

28. The following table gives the growth chart of a child (3m)

Height (in cm)	75	90	110	120	130
Age (in years)	2	4	6	8	10

Draw a line graph for the table and answer the questions given below

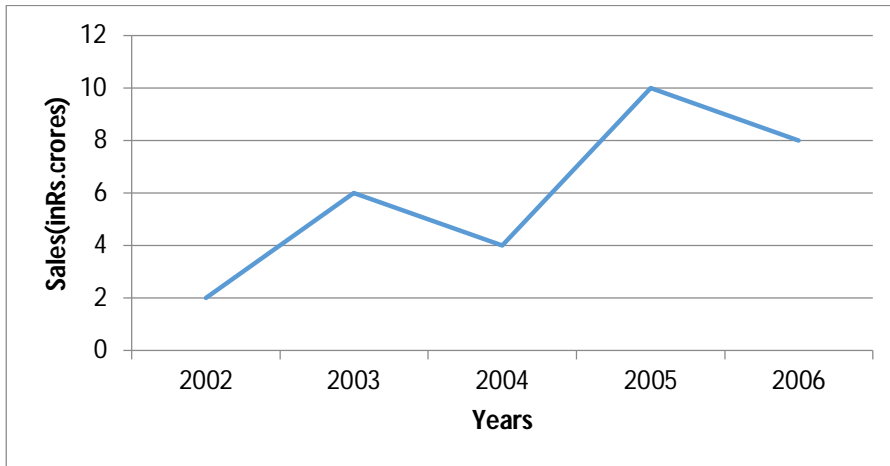
a) What is the height at the age of 5 years?

b) Between which two consecutive periods did the child grow more faster?

29. Find the values of A,B and C in the following multiplication. (3m)

$$\begin{array}{r} A \ B \\ \times \ 3 \\ \hline C \ A \ B \end{array}$$

30. The following graph shows the yearly sales figures for a manufacturing company (3m)



- What were the sales in 2004?
- Compute the difference between the sales in 2002 and 2006
- In which year was the sale maximum?

SECTION-D

31. Meenu bought two fans for Rs.1200 each. She sold one at a loss of 5% and the other at a profit of 10%. Find the selling price of each. Also find out the total profit or loss. (4m)

32. The radius and height of a cylinder are in the ratio 3:2. Its volume is $19,404\text{cm}^3$. (4m)

Find its radius and height.

33. Subtract $3a^2(a^2+b^2+c^2) - 2b^2(a^2-b^2+c^2)$ from $4a^2(a^2+b^2+c^2)+2b^2(b^2-c^2)$ (4m)

34. a) Simplify $\frac{(3^{-2})^2 \times (25)^{-3} \times (t^{-3})^2}{81^{-2} \times (125)^{-2} \times (t^{-4})^2}$ (4m)

b) Divide 293 by 10,00,000 and express the result in standard form

35. A train is moving at a uniform speed of 75 km/hr. (4m)

- How far will it travel in 20 minutes?
- Find time required to cover a distance of 250 km.