

MARTHOMA RESIDENTIAL SCHOOL, THIRUVALLA

STD. VIII

SECOND TERM EXAMINATION 2019

TIME: 2½ hrs

MATHEMATICS

MARK:80

I. QUESTION I

- a) A sum when reckoned at simple interest $2\frac{1}{2}\%$ per annum amounts to Rs.630 after 2 years. Find the sum. (3)
- b) A colour TV is marked for sale at Rs.17600 which includes sale tax at 10%. Calculate the sale tax in rupees. (3)
- c) Solve $\frac{3x+2}{4x+11} = \frac{4}{7}$ (4)

II. QUESTION II

- a) Subtract : $15x^2yz + 3x^2 + 7$ from $12x^2yz - 5x^2 - 11$ (3)
- b) If $a^2 + \frac{1}{a^2} = 20$ find the value of $\frac{a+1}{a}$ (3)
- (i) $\frac{a+1}{a}$ (ii) $a - \frac{1}{a}$
- c) Factorise
- (i) $6x^2 - 9xy + 4xz - 6yz$
- (ii) $x^2 - 11x - 60$ (4)

III. QUESTION

- a) How much time will it take for Rs.54000 to amount Rs.64125 at $7\frac{1}{2}\%$ p.a simple interest. (3)
- b) The area of a rectangular field is $25x^2 + 20x + 3$. It's length is $5x + 3$. Find it's breadth Hence find the perimeter. (3)
- c) Factorise : $25(a-b)^2 - 49(2a-b)^2$ (4)

IV. QUESTION

- a) The sides of a triangle are $5x^2 + 8x - 1$, $6x^2 - 9x + 4$ and $4x^2 - 22x + 6$. Find the perimeter of a triangle. (3)
- b) Factorise completely : $8x^3 - 18xy^2$ (3)
- c) A man borrowed Rs.7500 from a bank at 11% per annum on 30th May 2012. How much money did he give to the bank to settle the account on 11th August 2012. (4)

V. QUESTION

- Multiply $2x^2 + 7x - 3$ by $x + 3$
- Solve $16x - 35 = 7x - 8$
- Mr. Sharma lends Rs. 26000 at 14% p.a simple interest and an equal sum at 10% p.a compound interest. Find the total interest earned by Mr. Sharma in 2 years.

VI. QUESTION

- Geeta purchased face - cream for Rs.79.10 including sale tax. If the printed price of the face cream is Rs.70. Find the rate of sale tax.
- Evaluate (using formula)
 - 106×94
- if $a + b + c = 11$ and $a^2 + b^2 + c^2 = 81$. Find $ab + bc + ca$
 - If $a + b = 8$ and $ab = 15$. Find $a^3 + b^3$

VII. QUESTION

- Find the amount and compound interest on Rs.7000 in 1 year at 9% per year compounded half - yearly.
- Divide $x^2 + 3x - 54$ by $x - 6$
- Riya purchased goods costing Rs.175 on which rate of sale tax is 7% and some toothpaste soap etc. costing Rs.320 on which rate of sale tax is 11%. If she gives two thousand rupee note to the shopkeeper. What money will he return to Riya.

VIII. QUESTION

- Subtract $a^2 + ab + b^2$ from $4a^2 - 3ab + 2b^2$
- Evaluate : $(2a + 7)(7a - 8)$
- A man borrowed 1,40,000 from a bank for 2 years compounded annually. The rate of interest being 8% for the first year and 8.5% for the second year. Find amount and compound interest also find interest in the second year.