Section-A

Q1: The usual form for 6.005×10^4

Q2: Factorise: $343m^2 - 7m$

Q3: Find the value of $\left(\frac{5}{8}\right)^6 \times \left(\frac{8}{5}\right)^8$.

Q4: The volume of a cubical box is 64 cm^3. Find the edge of a cube?

Q5: A die is thrown. Find the outcome of an event of getting a prime number.

Q6: What will happen to the area of a cube, if its edge is doubled?

Q7: Write the ordered pair when abscissa = 5 and ordinate = 0.

Q8: Solve 3(m + 5) = 24

Q9: Find the discount percent when M.P. = Rs 80 and S.P. = Rs 60

Q10: In a city, 55% are males, 35% are females and the remaining are children. What is the percentage of children.

SECTION-B

Q11)   Find the value of 't' if $3t + \frac{7}{5} = \frac{2}{5} + 5t$

Q12)   A die is thrown 20 times and the following scores were obtained :

1 , 6 , 5 , 3 , 2 , 6 , 4 , 3 , 1 , 5 ,

4 , 2 , 5 , 6 , 4 , 6 , 2 , 5 , 4 , 5 .

 Prepare a frequency distribution table for the above scores

Q13)   Three coins are tossed together. find the probability of getting :

- (i)   Exactly two heads
- (ii)   At least two heads
- (iii)   No head
- (iv)   At least one head and one tail

Q14)   Sudha requires 35% marks to qualify in the examination . If she secured 120 marks out of 500 , how much more marks did she need to pass ?

Q15) (i) By what number should $(-28)^{-1}$ be divided so that the quotient may be 4^{-1}?

   (ii) Show that $\left[\left(\frac{3}{5}\right)^{-1} - \left(\frac{1}{3}\right)^{-1}\right]^{-1} = \frac{-3}{4}$

Q16) (i) Simplify : $(4^{-1} + 8^{-1}) \times (\frac{3}{2})^{-1}$

(ii) Find x , if $(3^{x+2} - 9) \div 8 = 9$

Q17) A defective piece of furniture which costs Rs 1200 is being sold at a loss of 15% . If the price is further reduced by 5% , find its selling price.

Q18) From the sum of $2x - y + 7$ and $2y - 10$, subtract 4x-2y.

Q19) Draw a graph to represent the relation between the time and simple interest on a sum of Rs 200 at the rate of 5% per annum.

Q20) Two adjacent sides of a parallelogram are 12 cm and 8 cm . If the length of the altitude corresponding to the sides 12cm is 6 cm , find the length of the altitude corresponding to the side 8 cm .

SECTION-C

Q21) Solve for the value of x: $\frac{7x+4}{x+2} = \frac{-4}{3}$

Q22) Sahil is twice as old as Saksham . If four years are added to Sahil's age and six years are subtracted from Saksham's age , then Sahi'ls age will be four times Saksham's age. What are their ages?

Q23) The monthly school fee of all the schools in the city is recorded as follows:

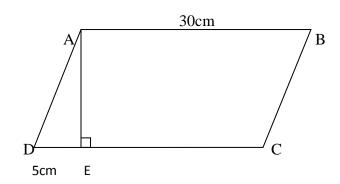| Monthly sch fee	280-320	320-360	360-400	400-440	440-480
No. of school's	10	12	18	9	6

Construct a Histogram of the above data

Q24) On a particular day the sales in Rs of different items of a bakers shop are given below :

Items	Bread	Cake	Pastries	Fruit bread	Biscuits
Sales(in Rs)	300	80	160	60	120

Draw a pie chat of the above data

Q25) I purchased a pair of shoes for Rs 243 inclusive of 8% VAT. Find the mark price of the shoes.

Q26) Sohan purchased 2 fans for Rs 1500 each . He sold one at a loss of 5% and another at a gain of 10%. Find the total profit or loss.

Q27) Mannu took a loan of Rs 32000 for 1year at 20% per annum compounded quarterly . How much he has to pay after 1 year ?

Q28) At what rate percent per annum will Rs 8000 amounts to Rs 9261 in three years compounded annually?

Q29) Multiply $\frac{2}{3} x^3 y^3$ by (3x- 15y) and verify the result for x = 2 , y = 1

Q30) Area of the parallelogram ABCD is 360 sq. cm . If AB = 30 cm and DE = 5 cm , from the given figure , find the side BC of a parallelogram .

30cm

A   B

D   C

5cm   E

Section-D

Q31: Simplify: $\dfrac{9^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$

Q32: A card is drawn at random from a pack of 52 cards. Find the probability that card drawn is:
    (a) A black queen   (b) a jack or a king
    (c) a card of diamond   (d) a face card

Q33: The volume of a cylinder is 9240 cm^3 and the circumference of its base is 88cm. Find the height of the cylinder.

Q34: Rashmi borrowed Rs 26400 from a bank to buy a scooty at the rate of 15% per annum compounded annually. What amount will she pay at the end of 2 years and 4 months to clear the loan.

Q35: The dimensions of a cuboid are in the ratio 2 : 3 : 4 and its total surface area is 468 m^2. Find the dimensions of the cuboid.

Q36: The age of A is one-third of B. Ater 15 years, the age of A will be half of the age of B. Find their present ages.

Q37: Factorise: $y^8 - 1$

Q38: Find the product $(y - 1)(3y^2 + 2y - 3)$ and verify the result when $y = -1$.

Q39: A dining table and study table were bought for Rs 15000 each. The shopkeeper made a loss of 5% on the dining table and a profit of 10% on the study table. Find the gain or loss percent on the whole transaction.

Q40: Given below is the population (in thousands) of men and women in a village in different Years . Represent the information given below on linear graph.

Years	2005	2006	2007	2008	2009	2010
No. of men	10	11.5	12	14	14.5	16
No. of women	9.2	10.6	12	14.5	13.8	14.5