

Assignment – I  
Class – XI

- Q1 The sum of the squares of three consecutive natural nos. is 77 find the numbers.
- Q2 Simplify  $[\ .8x \ .8x \ .6x \ .6x \ +.96] + [.8x \ .8x \ + \ .6x \ .6x \ -.96]$ .
- Q3 Angle A of a triangle ABC is equal to the sum of the other two angles .Also the ratio of the angle B to C is 4:5
- Q4 If 4 students sit on each bench three benches are left vacant, and if 3 students sit on each bench, 3 students are left standing. Find the total number of students in the class.
- Q5 In what time will a train 60 m long moving at the rate of 36km/h pass a telegraph post on its way?
- Q6 From a leaking tap, A drops come out in B minutes and there are C drops in a litre. In how many hours , one litre of water will be wasted?
- Q7 In tossing of three coins find the probability of getting exactly (i) two heads (ii) at least two heads. (iii) At most two heads (iv) All heads
- Q8 In a single throw of two dice find the probability of getting a total of 700g.
- Q9 A bag contains tickets numbered from 1 to 20 two tickets are drawn. Find the probability of getting both the prime nos.
- Q10 Find the probability of an leap year having 53 Sundays.
- Q11 Find the probability of drawing two spades one after the other without replacement from a well shuffled pack of 52 cards.
- Q12 Ravi went 10 m to the east, then turned north and walked another 5m .Then he turned west and covered 15 m. How far is he from the starting point?
- Q13 If A is an acute angle and  $\cos A = \frac{12}{13}$  . Find the value of  $\sin A (1-\tan A)$
- Q14 If  $x = r \sin \theta \cos \phi$ ,  $y = r \sin \theta \sin \phi$   $z = r \cos \theta$ . Find the value of  $x^2 + y^2 + z^2$
- Q15 The angle of elevation of the top of a tower from two points distant a and b from its base and in the same st. line with it are complementary . Find the height of the tower.
- Q16 Find the sum of all natural nos with 2 digits.
- Q17 Find the sum of  $7+14+21 \dots\dots\dots+20$  terms.
- Q18 Which term of the A.p  $5,13,21 \dots\dots\dots$  is 181?
- Q19 How many 3 digit nos. are divisible by 6 in all?
- Q20 What Should be subtracted from the nos . in the ration 9:16 as to get 1:2?
- Q21 if A is  $\frac{1}{3}$  of B and B is  $\frac{1}{2}$  of c, then find A:B:C
- Q22 In a kilometre race, A beat B by 40 m or 7 seconds find the a's time over the course
- Q23 The odds are 2 to 3 against an event . Find the chance of happening of the event.
- Q24 Find the value of  $\frac{\cot 40^\circ}{\tan 50^\circ} - \frac{1}{2} \left( \frac{\cos 35^\circ}{\sin 55^\circ} \right)$
- Q25 Find the value of  $\left( \frac{\sin 49^\circ}{\cos 41^\circ} \right)^2 - \left( \frac{\cos 41^\circ}{\sin 49^\circ} \right)^2$

**PROJECT WORK (Prepare any two )**

1. **History of Maths**
2. **Trigonometry** – Generalise the concept of trigonometric ratios to trigo. Functions and study their properties. Use of trigo in different areas.
3. **Straight Line** - Is the basic of coordinate geometry Explain.
4. **Conic Sections** – Various forms and their application.
5. **Probability** – as a measure of uncertainty of various phenomenon.

Assignment – 2  
Class – XI

- Q26 The volumes of two cubes are in the ratio 8:125 . Find the ratio of their edges and surface areas.
- Q27 The speed of three cars is in the ratio of 4:3:2 . Find the ratio between the time taken by the cars to cover some dist.
- Q28 The area of right angled triangle is 30 sq. unit. determine the base and the altitude if latter exceeds the former by 7 units
- Q29 The sum of first 45 natural number will be \_\_\_\_\_?
- Q30 A train takes 36 Sec. more to cover 3.6 Km if its speed is reduced by 1/9. Find the original speed.
- Q31 When 20 is added to 20% of a number it gives no itself what is the number.
- Q32 A what time between 5 and 6 do the hands of a clock coincide?
- Q33 A number when divided by a divisor leaves a remainder of 63. If the remainder is 55 when twice the number is divided by the same divisor, what is the divisor?
- Q34 Find the value of  $\frac{1}{2} + \frac{1}{2 \times 3} + \frac{1}{2 \times 3 \times 4} + \frac{1}{2 \times 3 \times 4 \times 5}$
- Q35  $\frac{1}{1.2} + \frac{1}{2.3} + \frac{1}{3.4} + \dots + \frac{1}{n(n+1)}$
- Q36  $2 + 2,6 + 3,12 + 4,20 + 5,30 + 6, \dots ? \dots ?$
- Q37  $\frac{3}{2} + \frac{5}{4} + \frac{9}{8} + \frac{17}{16} + \dots ? \dots ?$
- Q38 Find the sum of all multiples of 7 between 320 and 442 .
- Q39 Find the sum of series  $\sqrt{2} + \sqrt{8} + \sqrt{18} + \sqrt{32} + \dots$
- Q40  $(6^{\frac{1}{2}} \times 6^{\frac{1}{3}} \times 6^{\frac{1}{8}} \dots)$  find the value.
- Q41 40% of the greater is equal to 60% of the smaller number . If their sum is 150. Find the difference between them.
- Q42 If A:B , B:C +5:9 , C:D =2:5 find the ratio A:D.
- Q43 Divide RS 432.50 among A,B,C and D so that A's share may be to B's as 3:4 to C's as 5:6 and c's to D's 11:9.
- Q44  $\frac{(856+167)^2 + (856-167)^2}{856 \times 856 + 167 \times 167}$  find it .
- Q45 The largest angle of a  $\Delta$  is twice the sum of the other two. The smallest is  $\frac{1}{4}$  of the largest. Determine angles in degree.
- Q46 In a game of bill cards, A can give B to pts in 60 and he can give C 15 in 60. How many can B give C in a game of 90.
- Q47 Out of all the integers from 1 to 100. a no. is selected. find the probability that the selected no. is not div. by 7.
- Q48 A coin is tossed 3 times. Find the probability of getting head and tail alternately.
- Q50 A right pyramid 8 cm high. has a square base each side of which is 12 cm. Find the volume and total S.S of pyramid.