

**A12**

**SET 1**

**Sreenidhi Institute of Science & Technology**

(An Autonomous Institution)

**Code No:3HC76**

**B. TECH. III – Year I – Semester Examinations, Dec, 2015 (Regular)**

**QUANTITATIVE APTITUDE (EEE & ECE)**

**Time: 2 Hours Max.Marks:50**

**Note: Answer Any 50 Questions.**

**Student can solve more than 50 questions, but maximum 50 marks will be awarded.**

**Calculator's are not allowed.**

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| --- | --- |
|  | 1) The fourth proportional to 5, 8, 15 is: |
| |  |  |  |  | | --- | --- | --- | --- | |  | a)18 b) 24 c) 19 d) 20 |  |  | |  |  |  |  | |
| 2) A man's speed with the current is 15 km/hr and the speed of the current is 2.5 km/hr. The man's speed against  the current is: | |
| |  |  |  |  | | --- | --- | --- | --- | |  | a) 8.5kmph b) 9kmph c) 10kmph d) 12.5kmph |  |  | |  |  |  |  | | |
| 3) In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in  still water (in km/hr) is: | |
| |  |  |  |  | | --- | --- | --- | --- | |  | a) 3kmph b) 5kmph c) 8kmph d) 9kmph |  |  | |  |  |  |  | | |
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4) A man borrowed a certain amount on S.I and C.I at same rate of interest. At the end of two years, he paid back Rs.1600 and Rs.1664 as S.I and C.I respectively. If he took 3 years to return the amount then what was the difference of C.I and S.I ?

a) Rs.197.12 b) Rs.128.12 c) Rs.293.12 d) Rs.179.12

5) An express A starts at 2.30 pm from Karnal station and travel towards Sirsa station at a speed of 80 km per hour. Another express B starts at 4.30 pm from Karnal to Sirsa at the speed of 100 km per hour. How far away from station Karnal will the two trains meet?

a) 400 km b) 100 km c) 800 km d) 450 km

6) A train P starts from Delhi at 8 pm, reaches its destination UP at 1 am. Another train Q starts from UP at 8 pm and reaches Delhi at 2 am. The two trains P and Q will cross each other at :

a) 10.45 pm b) 12.45 pm c) 11.45 pm d) none of these.

7) In a dance school, there are 14 girls and 15 boys. In how many ways, a group consisting of 3 girls and 7 boys can be formed for a competition?

a) 2342340 b) 2232340 c) 2132340 d) 2132840

8) A man X selects a random number from 1 to 1000 and another man Y selects a random number from 1 to 1000. What is the probability of Y getting number equal to what X has selected?

a)1/1000 b)2/1000 c)1/2000 d)2/2000

9) Let N = 80pq2pq (7digit number). If N is exactly divisible by 120 then the sum of the digits in N is equal to:

a) 18 b) 22 c) 24 d) 12

10) In a team of 8 participants, 3 can go to the final round. In the final round only 2 of them will get the medal, then how many pair of medal winners are possible?

a) 28 pairs b) 64 pairs c) 49 pairs d) 48 pairs

11) Find the probability that a number selected at random from the set of two digit numbers will not be a multiple of 12 and not a multiple of 4?

a) 29/90 b) 7/90 c) 61/90 d) 34/45

12) If X - Y = 9, X2 + Y2 = 257 and X,Y are integers then what will be the value of X and Y ?  
 a) 21,12 b)15,6 c)none of these d)cannot be determined

13) If (a2 + b2 + c2 - 81)/(-2) = (ac - ab - bc) and c - b = 4a then a = ?

a) 3 b) 9 c) 1 d) 4

14) Find the Z value in 24 x 24 x 24 + 16 x 16 x 16 / 24 x 24 + 16 x 16 - Z = 40

a) 400 b) 424 c) 384 d) 316

15) In an exam there were 200 objective type questions,where each correct answer fetches 1 mark and each incorrect answer has a penalty of one-quarter mark. Riya scores 180 marks by attending all the questions. Find the ratio of the number of correct answers to incorrect answers.

a)15:2 b)7:3 c)18:15 d)23:2

16) From the total income, A man spent Rs.30,000 as his family's expenditure, half of the remaining as his office expenditure and had Rs.4000 left. What was his total income?  
 a) Rs.36,000 b) Rs.34,000 c) Rs.42,000 d) Rs.38 ,000

17) If 85% - X = 81 3/7 % - 72 8/11 % then X is equal to

a) 0.52 b) 0. 98 c) 0.76 d) 0.65

18) Krish went for shopping and bought some taxable and non-taxable things. He paid totally Rs.25,000 for his purchase out of that Rs.300 was paid as tax which was at the rate 6%. Find the cost of the tax free items.

a) Rs.19000 b) Rs.15000 c) Rs.17900 d) Rs.19700

19) If a:b :: 2:1 then a2 + 4b2 : 4ab is::

a) 1:2 b) 2:3 c) 3:4 d) none of these

20) In a team, the ratio of number of juniors and seniors is 7:8. If 52 juniors and 13 seniors are added, the ratio becomes 11:9.Find the number of juniors initially in the team.

a)91 b)99 c)77 d)71

21) Three numbers are in the ratio 2:3:5. If the sum of the new numbers which are formed by increasing 15%, 10% and 20% of old numbers respectively is 9860. Then what will be 2nd number before increasing?

a) 8500 b) 6875 c) 2550 d) none of these

22) The ratio of length of sides of a machine is 1/6:1/4:1/3 and the sum of length of sides is 104. If we increase each side by 3 m then the length of largest side will be:

a) 45 m b) 46 m c) 49 m d) 50 m

23) A bag contains blue and red balls in the ratio 3:4. If 20 green ball is added then the number of balls is 55. Then what is the ratio of red balls to that of green?

a) 1:2 b) 1:3 c) 1:1 d) 2:1

24) The ratio of ages of Meera and Sheela is 1:2. If the age of Veena who is 9 years old is added then the ratio becomes 2:4:3. Then what is the age of Sheela?

a) 12 b) 10 c) 6 d) 9

25) A bag contains White and black balls in the ratio 1:3, another bag contains the same colored balls in the ratio 2:3. If there are totally 20 white and 45 black balls then the total number of balls in 1st bag is:

a) 8 b) 12 c) 16 d) 40

26) If 3 more than p varies inversely as the square root of q and p = -2 when q = 4, then what will be the value of p when q = 9.

a) -7/3 b) -2/5 c) 1/9 d) -1/9

27) If a varies inversely as 1/(b+3) and a = 10 when b = 2 then express a in terms of b.  
 a) a=2(b+3) b) a=1/(b+3) c) a=(b+3) d)a=10b

28) Given m is inversely proportional to cube of n with m = 4 4/9 when n = 3 then find m when n = 8.  
 a) 2 2/9 b) 5/16 c) 15/64 d)1 1/8

29) A true discount on an amount of Rs.480 due 3 years hence is equal as simple interest on Rs.350 for 3 years at the same interest rate on true discount. Then what is the interest rate?

a) 11.34% b) 12.38% c) 10.92% d) 13.12%

30) If Rs.160 and Rs.170 are true discount and simple interest of a certain amount respectively and if the time period and interest rate are equal for both simple interest and true discount then the amount is:

a) Rs.2120 b) Rs.2140 c) Rs.2720 d) Rs.2180

31) A man bought a cell phone of Rs.24,000 in cash and he sold it at a credit of Rs.25760 to be paid after 8 months at 9% per annum. Then the profit/loss amount he earned is:

a) profit of Rs.1000 b) Loss of Rs.1500 c) Loss of Rs.1000 d) Profit of Rs.1700

32) X and Y individually can complete a task in 30 days and 40 days respectively. If X and Y worked together for 12 days and B alone worked for the remaining part of task. Then how many part of the task is completed by B alone ?

a) 2/7 b) 3/10 c) 8/15 d) 1/3

33) Two pipes P and Q together can fill a tank in 18hours. If P alone takes 1/2 of the time of thrice Q's then the time taken by Q alone to fill the tank is:

a) 29hours b) 32hours c) 28hours d) 30hours.

34) A man and his son planned to paint their own house. The man alone can do in 20 days. He paints for 4 days and then his son completed in 8 days. Find how many days will they take working together?

a) 12days b) 11days c) 7days d) 8days

35) A,B and C can complete work in 40, 20 and 30 days respectively. They begin to work together but C left after 2 days & B left 4 days before the completion of work. How long does the work last?

a) 15days b) 19days c) 15days d) 12days

36) The minimum number of digits required to form every number from 1 to 10,000 is:

a) 60 b) 9 c) 41 d) 10

37) What is the first prime number that enters in the series 12, 21, 30,... ?

a) 67 b) 73 c) 83 d) cannot be determined.

38) If 19 and 1140 are the respective HCF and LCM of two numbers, which are greater than 19 then what will be the possible number of such pair?

a) 0 b) 2 c) 3 d) 5

39) On Republic day, chocolates were to be distributed among 350 kids in a play school. But 140 kids were absent on that day and each kid present got 3 chocolates more. Find the total number of chocolates bought for the distribution.

a) 3200 b) 2750 c) 2950 d) 1575

40) If a number is much greater than the sum of its 12th and 8th parts as is less than 258. Then what will be the number?

a) 258 b) 506 c) 144 d) 129

41) Evaluate 999 + 999 1/45 + 999 2/45 + ....+ 999 9/45

a) 1/45 b) 999 c) 9991 d) 9990

42) Find the sum of all integers between 60 and 600 which are divisible by 17.

a)10608 b)26898 c)23608 d)90098

43) If ab = 121 and a and b are two integers then (a-1)(b+1) is equal to :  
 a)1 b)0 c)100 d)1000

44) If unit’s place of a two digit number is 2 more than the ten’s place and 144 is the product of the number and the sum of the digits of the number then the unit place of the number is:  
 a)4 b)1 c)5 d)3

45) Find the sum upto n-th term of the series 2(-1) + 2(-2) + 2(-3) + ..... + 2(-n)  
 a)1 - 1/2n b)1/2n c)1 + 1/2n d)n/2n

46) On dividing (18377)10 by 11 the remainder will be  
 a)1 b)10 c)9 d)2

47) What will be the remainder when 3+(121121) is divided by 5! ?

a) 2 b) 5 c) 8 d) 4

48) On dividing (28 + 3019 + 90828) by 29 the remainder will be \_\_ .

a) 1 b) 2 c) 28 d) 0

49) 3 boys working 8 hours a day can complete a work in 2 days. How many hours a day must 4 boys work to complete the work in 1 day?  
 a) 12 b) 20 c) 40 d) 24

50) If 18 men can build 18 pillars in 18 days, then how many days will 3 men will require to build 8 pillars?  
 a) 8/3 b) 3/8 c) 54 d) 48

51) If n is an even-odd number then which of the following must be false?  
 (A number is called "even-odd" if it is halfway between an even integer and an odd integer.)

a) n/2 is not an integer b) (2n)2 is an integer c) 4n is an odd integer d) none

52) A mixture of alcohol and water contains 10% water. How much of alcohol will be added to 40 litres of mixture to reduce this water level to 4% ?

a) 20 litres b) 40 litres c) 60 litres d) 80 litres

53) How many litres of milk worth Rs.12 per litre must be mixed with 60 litres of milk worth Rs.8 per litre so as to gain 20% by selling the mixture at Rs.10.80 per litre?  
 a)40 b)20 c)25 d)45

54) Let the length of a rectangle be equal to the side of a square and breadth of the rectangle is 20% less than its length then find the ratio of the area of rectangle to that of the square.

a) 1:2 b) 4:5 c) 3:7 d) 2:5

55) If 1:2 and 1:3 are the ratios of radius and height of two different cones then which of the following is the ratio of their volumes?

a) 1:1 b) 2:3 c) 1:12 d) 1:3

56) The number of small rectangular bricks of length 15 cm and breadth 10 cm required to build a square shaped wall of length 1.5 m, is :

a) 300 b) 150 c) 75 d) 125

57) Mr.A starts a bike at 11am and rides at 60kmph and Mr.B starts a car at 11.30 am and drives at 75kmph. Find at what time will Mr.B overtake Mr.A?

a)12.00 pm b)11.45 am c)1.30 pm d)1.00 pm

58) At the end of 3 years, a man gets Rs.2540 as C.I at the rate of 100/6 % for certain sum of money.Find the amount which he got as S.I at the same rate and period for same amount.

a) Rs.2160 b) Rs.1440 c) Rs.2480 d) Rs.2250

59) The average age of the children and adults in a family is 29/2 years and 29.8 years. If there are twice as many children as adults then find the average age(in months) of the whole family.

a)254 b)235 c)234 d)298

60) The average of four numbers is 62.5. If none of them is less than 50 then the greatest possible value of summation of two of them is:  
 a)150 b)64 c)130 d)125

61) If the average of 4 consecutive odd numbers is 92, then the least number of those numbers is:  
 a) 89 b) 71 c) 81 d) 91

62) If the sum of five consecutive even numbers is 1580, then find the average of the next five consecutive even numbers  
 a) 326 b) 312 c) 325 d) 318

63) A man can swim against the stream at 6 km/hr and along the stream at 12 km/hr. Then what will be the speed of man and stream?

a) 9km/hr & 3km/hr b)10km/hr & 12km/hr c) 12km/hr & 9km/hr d) 12km/hr & 6km/hr

64) The speed of the boat in still water is 18 km/hr. If the speed of the boat in downstream is thrice the speed of the upstream, then what will be the rate of current ?

a) 19 km/hr b)12 km/hr c)8 km/hr d)9 km/hr

65) Aakash and Barath are partners in a business. Aakash invests 1/4 of the capital for 1 year and 3 months and Barath received two-third of the profit.Find how long Barath's money was used ?

a)12 months b)11 months c)10 months d)9 months

66) Vinay and Raju invested in a business, in a ratio 27:40 and their profit for 12 months is in the ratio 9:8. If Vinay has invested for 10 months then for how many months did Raju invested his amount?

a)5 months b)6 months c)7 months d)8 months

67) Mr.P, Mr.Q and Mr.S starts a business by investing for 1 1/6, 2/3 , 7/12 years respectively and shared profit in the ratio 5:7:8. Find the ratio of their investments.

a)12:13:14 b)11:8:23 c)62:46:23 d)20:49:64

68) Ravi had one child three years ago. Currently he has two children. Sum of their ages is an even number and their product is 24. The difference between the ages of two children are.

a) 23 years b) 2 years c) 5 years d) 10 years

69) What is ‘a percent of b’ divided by ‘ b percent of a’?

a) a b) b c) 1 d) 10

70) If two numbers are in the ratio5:7and their least common multiple is 315, then their product is

a) 2835 b) 2538 c) 2358 d) 2385

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