

**A12**

**Sreenidhi Institute of Science & Technology**

(An Autonomous Institution)

**Code No:3HC76**

**B. TECH. III – Year I – Semester Examinations, Dec, 2014 (Regular)**

**QUANTITATIVE APTITUDE (Common to all branches)**

**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.**

1. Which Is The smallest no divides 2880 and gives a perfect square?

(a) 1 b)2 c)5 d)6

2. There Are Two Pipes A and B. If A Filled 10 Liters in one Hour, B Can Fill 20 Liters In Same Time. Likewise B Can Fill 10, 20, 40, 80,160…. If B Filled In (1/16)th of A Tank In 3 Hours, how much time will it take to fill completely?

(a)5 Hours b)6Hours c)7hours d)4hours

3. If n is an even integer, which of the following must be an odd integer?

(a) 3n-2 (b) 3(n+1) (c)n-2 (d)n/3

4. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one liter every hour in A, it gets filled up like 10, 20, 40, 80, 160 in tank B. (At the end of first hour, B has 10 liters, second hour it has 20, and so on). If tank B is 1/32 filled after 21 hours, what is the total duration required to fill it completely?

(a) 25 hrs (b) 26 hrs (c) 5 hrs (d) 27 hrs

5. There are two water tanks A and B, A is much smaller than B. While water fills at the rate of one liter every hour in A, it gets filled up like 10, 20, 40, 80, 160... in tank B. (At the end of first hour, B has 10 liters second hour it has 20, and so on). If tank B is 1/16 filled after 4 hours, what is the total duration required to fill it completely?

(a) 8hrs (b) 25 hrs (c) 5 hrs (d) 27 hrs

6. A lady has fine gloves and hats in her closet- 18 blue- 32 red, 10 white, 25 yellow, 55 purple, 30 orange. The lights are out and it is totally dark. Inspite of the darkness, she can make out the difference between a hat and a glove. She takes out an item out of the closet only if she is sure that if it is a glove. How many gloves must she take out to make sure she has a pair of each color of blue, red, yellow?

(a) 59 (b) 8 (c) 50 (d) 42

7. 9 people meet and shake hands. The maximum number of handshakes possible if there is to be no “cycle” of handshakes is (A cycle of handshakes is a sequence of k people a1, a2, ……, ak (k > 2) such that the pairs {a1, a2}, {a2, a3}, ……, {ak-1, ak}, {ak, a1} shake hands).

(a)7 (b) 6 (c) 9 (d) 8

8. Amal bought 5 pens, 7 pencils and 4 erasers. Rajan bought 6 pens, 8 erasers and 14 pencils for an amount which was half more than what Amal had paid. What % of the total amount paid by Amal was paid for pens?

a) 37.5% b) 62.5% c) 50% d) None of these

9.The age of the two friends were in the ratio of 6:5.If the sum of their ages is 66.Then after how many years their ratio will become 7:6?

a)6 b)11 c)10 d)12

10. A pipe can fill the tank within 6hrs, but due to leak it takes 30 min more. Now the tank is full then how much time will it take to empty the tank through the leak.?

a)78 b)56 c)66 d)59

11.The total expense of a boarding house are partly fixed and partly variable with the number of boarders. The charge is Rs.70 per head when there are 25 boarders and Rs.60 when there are 50 boarders. Find the charge per head when there are 100 boarders.

a) 65 b) 55 c) 50 d) 45

12. Lost Rs.68 in two races. My second race loss is Rs.6 more than the first race. My friend lost Rs.4 more than me in the second race. What is the amount lost by my friend in the second race?

(a)Rs.42 b)Rs.41 c)rs.43 d)Rs.44

13. If 2 oranges,3 bananas and 4 apples cost Rs.15. and if 3 oranges, 2 bananas and 1 apple costs Rs 10. What is the cost of 3 oranges, 3 bananas and 3 apples.

(a)Rs.13 b) Rs 15 c)Rs.17 d)Rs.11

14. A shopkeeper bought a Watch for Rs.400 and sold it for Rs.500. What is his profit percentage?

(a)30% b) 25% c)20% d)35%

15. Bhanu spends 30% of his income on petrol for scooter. 25% of the remaining on house rent and the balance on food. If he spends Rs.300 on petrol then what is the expenditure on house rent?

a) Rs.525 b) Rs.175 c) Rs.675 d) Rs.170

16. Anand finishes a work in 7 days, Bittu finishes the same job in 8 days and Chandu in 6 days. They take turns to finish the work. Anand on the first day, Bittu on the second and Chandu on the third day and then Anand again and so on. On which day will the work get over?

a) 3rd b) 7th c) 9th d) 6th

17. A man purchased 2 horses at the rate of Rs.60,000 each later he sold both the horses and got 20% profit on first horse and 20% loss on other horse then calculate overall profit or loss %?

a.0% b.10% c.5% d.4%

18.A man selling 2 horses at the rate of Rs.80,000 each and got 10% profit on first horse and 10% loss on other horse then calculate overall profit or loss %?

a.0% b.10% c.1% d.4%

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| 19. What is the probability that a number selected at random from the set of 3 digit numbers will be a multiple of 9 and a divisor of 900?  a)2/45 b)5/36 c)1/180 d)7/900  20.In a race of 1000 meters, if A beats B by 100 meters and C by 280 meters respectively, then at what distance B can beat C in 500 meters race?  a)400m b)200m c)320m d)280m  21. There is a square shaped metal sheet of area 784 sq.cm. If four equal sized maximum round shaped plates are cut off from the metal sheet then the area of each plate is:  a)154 sq.cm b)308 sq.cm c)218 sq.cm d)174 sq.cm    22. 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  23. A farmer rented a tractor for Rs.700 per month. Five years later he calculated that if he had purchased the tractor and paid Rs.100 as monthly service charge, he would have saved Rs.20,000. What was the purchase price of the tractor?  a) Rs.30000 b) Rs.34000 c) Rs.32000 d) Rs.42000  24. A factory had 36 machines at the beginning of the year. In April they increased the number of machines by 9 and then decreased 18 in July. They spent rs.200 per machine for every month as maintenance charge. Find how much amount they spent as maintenance charge for last four months of the year?  a) Rs.21,600 b) Rs.9,000 c) Rs.36,000 d) Rs.18,000  25. If (p2-1) varies directly as (q+2) and q = 4 when q = 3 then what will be the value of p when q = 14?  a) 6 b) 7 c) 5 d) 10  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. The sum of the digit of a two digit number is equal to 9 and the number obtained by interchanging the digits of that number is 63 less than the number. Then the ten’s place of the two digit number is \_\_\_\_\_\_\_\_\_\_.  a)1 b)8 c)9 d)3  28.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  29.The average cost of three materials is Rs.680. none of the materials is less than Rs.640. What is the greatest possible cost of one of the other, materials?  a) Rs.680 b) Rs.700 c) Rs.760 d)640  30. The average score of three candidates is 25. What is the respective difference between the greatest and least possible score of the other candidates when none of them scores less than 20 and greater than 26?  a)25 b)12 c)21 d)35  31.In a stationary shop, 5 pens are worth 8 pencils are worth 4 diaries and 7 diaries are worth 3 books. If 7 books cost Rs.203, then the approximate price of each pen is:  a) Rs.16 b) Rs.20 c) Rs.10 d) Rs.19  32. A fruit seller sells his fruits by the rate chart which shows that 6 bananas worth 2 apples, 4 apples worth 3 oranges and 2 oranges cost Rs.40. If a man buys a dozen of each fruit, then how much he spends totally.  a) Rs.500 b) Rs.400 c) Rs.480 d) Rs.510  33. If 7 times of Raju’s weight is same as 6 times of Sonu’s weight, half of Meenu’s weight is equal to Sonu’s weight and 7/9 of Vimal’s weight is same as that of Meenu’s weight and 1/3 of Vimal’s weight is 12 kg then the ratio of the weight of Raju to that of Vimal is:  a)1:3 b)2:3 c)6:7 d)7:6  34.A sphere is reformed into circular cones having equal radies 2.1 units and their heights 4.1 units, 403 units. Then what was the diameter of the sphere?  a)2.1 units b)4.2 units c)3.6 units d)1.2 units  35. If the radius of a cone is ½ of the radius of a sphere and both have equal volumes and x:y is the ratio of the height of the cone to the diameter of the sphere then the value of x & y will be:  a)1&8 b)2&3 c)8&1 d)4&1  36. A metallic cylinder of height 6cm and diameter 6cm have been melted and recast into certain number of same size spheres. Find the radius of the sphere.  a)1.5cm b)3.2cm c)5.4cm d)2cm  37. There is a group of 5 boys and 2 girls. The two groups working together can do four times as much work as a boy and a girl. Ratio of working capacities of a boy and a girl is:  a)1:3 b )1:2 c)2:1 d)2:3  38.A group of 12 men can do a piece of work in 14 days and other group of 12 women can do the same work in 21 days.They begin together but 3 days before the completion of work, men’s group leaves off.The total no. of days to complete the work is:  a)51/5 b)60 c)93/3 d)65/4  39. Vimal can do a piece of work in 20 days, Vimal and Kamal together can do in 12 days. If Kamal does the work only for half a daily then in how many days the work will be completed?  a)12 b)14 c)15 d)17  40.A and B start a business by investing in the ratio 5:6. C joined them after 6 months. If Rs.4,90,000 annual profit was earned by them with C investing an amount equal to that of B’s then the amount invested by C  a. Rs.2,10,000 b. Rs.3,20,000 c.Rs.2,80,000 d.Rs.3,80,000 |
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Directions (41-44):

Study the following pie- diagrams carefully and answer the questions given below it.

PERCENTAGE COMPOSITION OF HUMAN BODY

**Proteins**

**16 %**

**Muscles**

**1/3**

**Other dry elements 14%**

**Hormones**

**and**

**enzymes**

**Skin 1/10**

**Water**

**70 %**

**Bones 1/6**

41. In the human body, what part is made of neither bones nor skin?

a) 1/40 b) 3/80 c) 2/5 d) None of these

42. What is the ratio of the distribution of proteins in the muscles to that of the distribution of proteins in the bones? a) 1 : 18 b) 1:2 c) 2:1 d) 18 :1

43. What will be the quantity of the water in the body of a person weighing 50 kg?

a) 20 kg b) 35kg c) 41 kg d) 42.5 kg

44. What percent of the total weight of human body is equivalent to the weight of the proteins in skin in human body? a) 0.016 b) 1.6 c) 0.16 d) Data inadequate

45.A train covers a distance in 50 min ,if it runs at a speed of 48kmph on an average. The speed at which the train must run to reduce the time of journey to 40min will be.

(a) 60kmph (b)70kmph (c)65kmph (d)75kmph

46.Vikas can cover a distance in 1hr 24min by covering 2/3 of the distance at 4 kmph and the rest at 5kmph.the total distance is?

(a) 6km (b)7km (c)8km (d)9km

47.Excluding stoppages, the speed of the bus is 54kmph and including stoppages, it is 45kmph.for how many min does the bus stop per hr.

(a)10min (b)20min (c)30min (d)15min

48.Two boys starting from the same place walk at a rate of 5kmph and 5.5kmph respectively. What time will they take to be 8.5km apart, if they walk in the same direction?

(a)17 hrs (b)18hrs (c)19hrs (d)20hrs

49. 2 trains starting at the same time from 2 stations 200km apart and going in opposite direction cross each other at a distance of 110km from one of the stations. What is the ratio of their speeds.

(a)9:11 (b)11:9 (c)10:11 (d)11:10

50.Two trains start from A & B and travel towards each other at speed of 50kmph and 60kmph respectively. At the time of the meeting the second train has traveled 120km more than the first. The distance between A and B is\_\_\_\_\_\_\_\_\_\_\_.

(a)1120km (b)1320 km (c)1220 (d)1330km

51. A thief steals a car at 2.30pm and drives it at 60kmph.the theft is discovered at 3pm and the owner sets off in another car at 75kmph when will he overtake the thief

(a) 5 pm (b)6pm (c)7pm (d)4pm

52. In covering distance, the speed of A & B are in the ratio of 3:4. If A takes 30min more than B to reach the destination, the time taken by A to reach the destination is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(a)1hrs (b)2 hrs (c)3hrs (d)4hrs

53. The average ages of three persons is 27 years. Their ages are in the proportion of 1:3:5.What is the age in years of the youngest one among them.

(a)7 (b)8 (c)9 (d)10

54. Find L.C.M of 852 and 1491.

(a)5864 (b)5744 (c) 5964 (d)5956

55. The Value of √24 + 3√64 + 4√28 is

(a)10 (b)14 (c) 12 (d)16

56. A batsman in his 18th innings makes a score of 150 runs and thereby increasing his Average by 6. Find his average after 18th innings.

(a)32 (b)36 (c) 40 (d) 42

57. Find the H.C.F of 777 and 1147.

(a) 37. (b)39 (c)41 (d)35

58. What is the number of zeros at the end of the product of the numbers from 1 to 100?

(a)117 (b)127 (c) 129 (d)139

59. A fast typist can type some matter in 2 hours and a slow typist can type the same in 3 hours. If both type combinedly, in how much time will they finish?

(a)1 hr14 min (b)1 hr10 min (c) 1 hr 12 min (d)1 hr 16 min

60. A rectangular plate with length 8 inches, breadth 11 inches and thickness 2 inches is available. What is the length of the circular rod with diameter 8 inches and equal to the volume of the rectangular plate?

(a) 2.5 inches (b)3.0 inches (c)4.5 inches (d) 3.5 inches

61. What is the sum of all numbers between 100 and 1000 which are divisible by 14 ?

(a)35392 (b) 35390 (c) 35394 (d)35396

62. If s(a) denotes square root of a, find the value of s(12+s(12+s(12+ ...... upto infinity.

(a) 4 (b)5 (c)6 (d)8

63. The diameter of the driving wheel of a bus is 140cm. How many revolutions per minute must the wheel make in order to keep a speed of 66 kmph?

(a)250 (b)260 (c)270 (d)280

64. Vivek travelled 1200km by air which formed 2/5 of his trip.One third of the whole trip, he travelled by car and the rest of the journey he performed by train. The distance travelled by train was?

(a)800km (b)750km (c)700km (d)850km

65. Two trains 200mts and 150mts are running on the parallel rails at this rate of 40km/hr and 45km/hr. In how much time will they cross each other if they are running in the same direction.

(a)250sec (b)248sec (c)246sec (d) 252sec

66. From height of 8 mts a ball fell down and each time it bounces half the distance back. What will be the distance travelled if it bounces three times.

(a)22 (b)26 (c) 24 (d)28

67. If a man walks at the rate of 5kmph, he misses a train by only 7min. However if he walks at the rate of 6 kmph he reaches the station 5 minutes before the arrival of the train. Find the distance covered by him to reach the station.

(a)4km (b)6km (c)8km (d)10km

68. The average ages of three persons is 27 years. Their ages are in the proportion of 1:3:5. What is the age in years of the youngest one among them.

(a)7 (b)8 (c)9 (d)10

69. The average of 11 numbers is 50. If the average of first 6 numbers is 49 and that of last 6 is 52. Find the 6th number.

(a)46 (b)36 (c)52 (d) 56

70. 13 sheeps and 9 pigs were bought for Rs. 1291.85.If the average price of a sheep be Rs. 74. What is the average price of a pig.

(a) )Rs. 36.55 (b)Rs. 36.50 (c) Rs. 36.60 (d)Rs. 36.65

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