JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST - 1 EXAMINATION - 2025

B.Tech, B.SC - V Semester and BBA - III Semester

COURSE CODE(CREDITS): 24B11HS513(2) MAX. MARKS: 15

COURSE NAME: Logical and Quantitative Techniques-1 **Set-B**

COURSE INSTRUCTORS: AKS, SRU, HSR MAX. TIME: 1 Hours

Note: (a) All questions are compulsory and are of equal marks. (b) The candidate is allowed to make suitable numeric assumptions wherever required for solving problems. (c) Calculator is not allowed.(d) Fill OMR sheet carefully.(e) All questions belong to CO1, CO2, CO3 and CO4

---

1. The marks obtained by a student are given below.

Subject	Total Marks	Marks Obtained
Mathematics	100	100
Science	100	84
Social Science	100	67
English	50	25
Hindi	50	24

What is his total percentage in all the subjects?

a)56% b) 60% c) 75% d) 80%

2. The following table gives the income distribution of 200 households of a village:

Monthly Income	Number of Households
< 1000	25
<2000	80
<5000	170
<10000	200

What is the percentage of households whose monthly income is above Rs. 2000 but below Rs. 5000?

a)32.5 b) 45 c) 85 d) 90

3. Ratio of Rani's and Komal's ages is 3 : 5 respectively. Ratio of Komal's and Pooja's ages is 2 : 3 respectively. If Rani is two-fifth of Pooja's age, what is Rani's age?

a)10 years b) 15 years c) 14 years d) Cannot be determined

4. The ages of A and B are presently in the ratio of 5 : 6 respectively. Six years hence, this ratio will become 6 : 7 respectively. What was B's age 5 years ago?

a) 25 years b) 30 years c) 31 years d) 36 years

5. A man is aged three times more than his son Ronit. After 8 years, he would be two and a half times of Ronit's age. After further 8 years, how many times would he be of Ronit's age?

a) 2 times b) 2 1/2 times c) 2 3/4 times d) 3 times

6. The sum of present ages of a father and his son is 8 years more than the present age of the mother. The mother is 22 years older than the son. What will be the age of the father after 4 years?

a) 34 years b) 36 years c) 40 years d) 38 years

7. A tap can completely fill a water tank in 8 hours. The water tank has a hole in it through which the water leaks out. The leakage will cause the full water tank to get empty in 12 hours. How much time will it take for the tap to fill the tank completely with the hole?

a) 16 hours b) 18 hours c) 24 hours d) None of these

8. Two pipes A and B together can fill a cistern in 4 hours. Had they been opened separately, then B would have taken 6 hours more than A to fill the cistern. How much time will be taken by A alone to fill the cistern?

a) 1 hr b) 2 hrs c) 6 hrs d) 8 hrs

9. Bucket P has thrice the capacity as bucket Q. It takes 60 turns for bucket P to fill the empty drum. How many turns will it take for both the buckets P and Q, having each turn together to fill the empty drum?

a) 30 b) 40 c) 45 d) 90

10. Three pipes can fill a reservoir in 10, 15 and 20 hours respectively. If the three taps are opened one after another in the given order, with a certain fixed time gap between them, the reservoir fills in 5 hours. The time gap is

a) 15 min b) 30 min c) 45 min d) 1 hr

11. An outlet pipe can empty a cistern in 3 hours. In what time will the pipe empty 2/3 part of the cistern?

a) 3 hours b) 5 hours c) 2 hours d) 4 hours

12. Madhu takes twice as much time as Uma to complete a work and Rahul does it in the same time as Madhu and Uma together. If all three working together can finish the work in 6 days, then the time taken by Madhu to finish the work is

a) 12 days b) 14 days c) 36 days d) 40 days

13. Rosa can eat 32 rosogollas in one hour. Her sister Lila needs three hours to eat the same number. How much time will they take to eat 32 rosogollas together?

a) 45 minutes b) 75 minutes c) 90 minutes d) None of these

14. A man and a boy can do a piece of work in 24 days. If the man works alone for the last 6 days, it is completed in 26 days. How long would the boy take to do it alone?

a) 20 days b) 24 days c) 36 days d) 72 days

15. A started a work and left after working for 2 days. Then B was called and he finished the work in 9 days. Had A left the work after working for 3 days, B would have finished the remaining work in 6 days. In how many days can each of them, working alone, finish the whole work?

a)2.5 days, 7.5 days b) 5 days, 8.5days; c) 5 days, 15 days; d) None of these

16. Kim can do a work in 3 days while David can do the same work in 2 days. Both of them finish the work together and get Rs. 150. What is the share of Kim ?

a)Rs.30 b) Rs.60 c) Rs.70 d) Rs. 75

17. $44 \div 8 + 13.5 \times 2(2 \div 6 - 3) = ?$

a) 57.5 b)-57.5 c) 66.5 d) -66.5

18. If a, b, c, ...v, w, x are 24 natural numbers, then

the value of (p - a)(p - b) ..... (p - w) (p - x) is

a) 0 b) 1 c) 12 d) 24

19. Ganeshi's monthly income is twice Jassi's monthly income. Two-third of Jassi's monthly income is equal to Sukhvinder's monthly income. If Sukhvinder's annual income is Rupees 2.34 lakhs, what is Ganeshi's monthly income in Rupees?

a) 14625 b) 29250 c) 28230 d) 58500

20. Which of the following is an irrational number?

a) $\sqrt{127}$ b) $\sqrt{100}$ c) $\sqrt{16}$ d) $\sqrt{12/3}$

21. If the sum of two numbers is 14 and their difference is 10, find the product of two numbers?

a) 22 b) 24 c) 20 d) 8

22. A number divided by 13 leaves a remainder 1 and if the quotient, thus obtained, is divided by 5, we get a remainder of 3. What will be the remainder if the number is divided by 65?

a) 16 b) 18 c) 28 d) 40

23. After the division of a number successively by 3, 4 and 7, the remainders obtained are 2, 1 and 4 respectively. What will be the remainder if 84 divides the same number?

a) 41 b) 53 c) 75 d)80

24. If m and n are integers divisible by 5, which of the following is NOT necessarily true?

a) m+n is divisible by 10 b) m- n is divisible by 5 c) $m^2 - n^2$ is divisible by 25 d) None of these

25. Which of the following given values is divisible by 15?

a) 2365 b) 1375 c) 4365 d) 2275

26. Three numbers are in the ratio of 3: 4: 5 and their L.C.M. is 2400. Their H.C.F. is

a) 40 b) 80 c) 120 d) 200

27. An electronic device makes a beep after every 60 sec. Another device makes a beep after every 62 sec. They beeped together at 10 a.m. The next time, when they would beep together at the earliest is

a) 10.30 a.m. b) 10.31 a.m. c) 10.59 a.m. d) 11 a.m

28. The difference between the value of a number increased by 25 % and the value of the original number decreased by 30 % is 22 . What is the original number? 40 b) 36 c) 48 d) 58

29. During one year, the population of a town increased by 5 % and during the next year, the population decreased by % 5. If the total population is 9975 at the end of the second year, then what was the population size in the beginning of the first year ? 9990 b) 9970 c) 10000 d) 9975

30. How many kg of pure salt must be added to 30 kg of 2 % solution of salt and water to increase it to a 10% solution? 2kg b) 3kg c) 2.4kg d) 2 2/3 kg

31. What is 28% of 36% of 5/7th of 5000 ?

a) 420 b) 375 c) 360 d) 480

32. The ages of A and B are in the ratio 6 : 5 and the sum of their ages is 44 years. What will be the ratio of their ages after 8 years?

a) 7 : 6 b) 8 : 7 c) 9 : 8 d) 3 : 4

33. After reading 3/5th of the biology homework on Monday night, Sanjay read 1/6th of the remaining homework on Tuesday night. What fraction of the original homework would Sanjay have to read on Wednesday night to complete the assignment?
a) 4/30 b) 1/6 c) 1/5 d) 7/30

34. What part of an hour elapses from 5.57 P.M. to 6.33 P.M.?
a)1/4 b)1/2 c) 3/5 d) 3/4

35. Solve $\sqrt{10+\sqrt{25+\sqrt{108+\sqrt{154+\sqrt{225}}}}}$
a)4 b) 6 c) 8 d) 10

36. What is the least number which should be subtracted from 0.000326 to make it a perfect square?
a) 0.002 b) 0.0002 c) 0.000002 d) 0.00002

37. By what least number 5760 be multiplied to obtain a perfect cube number?
a) 125 b) 300 c) 600 d) 200

38. One-forth of a herd of camels was seen in the forest. Twice the square root of the herd had gone to mountains and remaining 15 camels were seen on the bank of a river. Find the total number of camels.
a) 32 b) 34 c) 35 d) 36

39. If the product of four consecutive natural numbers increased by a natural number p, is a perfect square, then the value of p is
a) 1 b) 2 c) 4 d) 8

40. While solving a mathematical problem, Samidha squared a number and then subtracted 25 from it rather than the required i.e., first subtracting 25 from the number and then squaring it. But she got the right answer. What was the given number?
a)13 b) 38 c) 48 d) Cannot be determined

41. How many minutes does Haresh take to cover a distance of 400 m, if he runs at a speed of 20 km/hr?
a) 5/6 b) 6/5 c) 1/5 d) 2/5

42. Which of the following trains is the fastest?
a) 25 m/sec b) 1500 m/min c) 90km/hr d) None of these

43. The mileage of a motorbike A and a motorbike B is 42 km per litre and 52 km per litre respectively. Motorbike A covered 294 km and motorbike B covered 208 km. If the cost of 1 litre of petrol is Rupees 48, how much amount in Rupees would be spent on petrol to cover the total distance by both the motor bikes together?
a) 480 b) 528 c) 576 d) Cannot be determined

44. A monkey climbing up a pole ascends 6 meters and slips 3 meters in alternate minutes. If the pole is 60 meters high, how long will it take the monkey to reach the top?
a)31 min b) 33 min c) 35 min d) 37 min

45. If H.C.F. of p and q is x and q = xy, then the L.C.M. of p and q is
a) pq b) qy c) xy d) py