

QUANTITATIVE TOPIC WISE EXAM (SI, CI, MIXTURE, TIME & WORK, PIPES)

1. Mosses invested Rs. 20,000 in a scheme at simple interest @ 15% per annum. After three years he withdrew the principal amount plus interest and invested the entire amount in another scheme for two years, which earned him compound interest @ 12% per annum. What would be the total interest earned by Mosses at the end of 5 years?

- A. Rs. 16377.6
- B. Rs. 10152.3
- C. Rs. 11012.14
- D. Rs. 12500
- E. None

2. A certain sum is invested for certain time. It amounts to Rs. 600 at 10% per annum. But when invested at 5% per annum, it amounts to Rs. 400. Find the time.

- A. 40 years
- B. 75 years
- C. 50 years
- D. 60 years
- E. None

3. A lent Rs. 8000 to B for 2 years and Rs 6000 to C for 4 years on simple interest at the same rate of interest and received Rs 1840 in all from both of them as interest.

The rate of interest per annum is

- A. 4.6%
- B. 8.4%
- C. 6.3%
- D. 10%
- E. None

4. A Man lends Rs. 1540 for five years and Rs. 1800 for four years. If he gets Rs. 1788 as interest on both amounts, what is the rate of interest ?

- A. 10%
- B. 12%
- C. 15%
- D. 8%
- E. None

5. If a sum of Rs.8000 lended for 20% per annum at compound interest then the sum of the amount will be

Rs.13824 in

- A. 2 years
- B. 1year
- C. 3years
- D. 4years
- E. None

6. What will be the amount if sum of Rs.10,00,000 is invested at compound interest for 3 years with rate of interest 11%, 12% and 13% respectively?

- A. Rs.14,04,816
- B. Rs.12,14,816
- C. Rs.11,35,816
- D. Rs.16,00,816
- E. None

7. Two persons P and Q borrowed Rs.40,000/- and Rs.60,000/- respectively from R at different rates of simple interest. The interest payable by P at the end of the first four years and that payable by Q at the end of the first three years is the same. If the total interest payable by P and Q for one year is Rs.8,400/- then at what rate did Q borrow the money from R?

- A. 8
- B. 10
- C. 12
- D. 9
- E. None

8. In what time will Rs 390625 amount to Rs 456976 at 4% compound interest?

- A. 4
- B. 5
- C. 8
- D. 6
- E. None

9. The difference between C.I. and S.I. on a certain sum of money at 10% per annum for 3 years is Rs. 620. Find the principal if it is known that the interest is compounded annually.

- A. Rs. 2,00,000
- B. Rs. 20,000

- C. Rs. 10,000
- D. Rs. 1,00,000
- E. None

10. Shanthi borrowed Rs.75,000.00 from two banks at compound interest compound annually. One bank charges interest at the rate of 15% per year and the other bank at 20% per year. If at the end of the year, shanthi paid Rs.12,000.00 as the total interest to the two banks, how much did she borrow from the second bank?

- A. 18000
- B. 20000
- C. 15000
- D. 19000
- E. None

11. A sum of Rs. 10,000 is borrowed at 8% per annum compounded annually. If the amount is to be paid in three equal installments, the annual installment will be

- A. Rs 3520.25
- B. Rs 3880.335
- C. Rs 4200.15
- D. Rs 4530.225
- E. None

12. A sum was put at simple interest at a certain rate for 5 years. Had it been put at 2% higher rate, it would have fetched Rs. 450 more. Find the sum?

- A. Rs 4500
- B. Rs 3200
- C. Rs 3800
- D. Rs 4200
- E. None

13. Stephen borrowed some money at 6% for the first 4 years, 8% for the next 6 years and 11% for the period beyond 2 years. If the total interest paid by him at the end of eleven years is Rs 5640, how much money did he borrow?

- A. Rs 10000
- B. Rs 6000
- C. Rs 8000
- D. Rs 9000
- E. None

14. A financier lend money at simple interest, but he includes the interest every six months for calculating the principal. If he is changing an interest of 10%, the effective rate of interest becomes?

- A. 10%
- B. 11.5%
- C. 10.25%
- D. 12%
- E. None

15. Ragav purchases a coat for Rs.2400 cash or for Rs.1000 cash down payments and two monthly installments of Rs.800 each. Find the rate of interest.

- A. 80%
- B. 100%
- C. 110%
- D. 120%
- E. None

16. The difference between simple interest and compound interest on Rs. 1200 for one year at 10% per annum reckoned half-yearly is:

- A. Rs.3
- B. Rs.3.5
- C. Rs.4
- D. Rs.5
- E. None

17. A borrows 5000 at simple interest. At the end of 3 years, he again borrows 3000 and finally pays 2340 as interest after 6 years from the time he made the first borrowing. Find the rate of interest per annum.

- A. 4%
- B. 5.5%
- C. 6%
- D. 4.5%
- E. None

18. Arav fixes the rate of interest 5% per annum for first 3 years and for the next 4 years 6 percent per annum and for the period beyond 7 years, 7 percent per annum. If Mr. Kumar lent out Rs.2500 for 11 years, find the total interest earned by him?

- A. 1650

- B. 1565
- C. 1840
- D. 1675
- E. None

19. A certain sum of money amounts to rupees 2900 at 4% per annum in 4 years. In how many years will it amount to rupees 5000 at the same rate?

- A. 30
- B. 25
- C. 22
- D. 18
- E. None

20. Rs.100 doubled in 5 years when compounded annually. How many more years will it take to get another Rs.200 compound interest?

- A. 5
- B. 6
- C. 8
- D. 10
- E. None

21. A shopkeeper sells two types of books national books and international books .He sells national books at Rs. 18 / book and incurs at loss of 10% whereas on selling the international books at Rs. 30 / book ,he gains 20 % .Find the ratio of the national and international books such that he can gain a profit of 25% by selling the combined books at 27.5/ book ?

- A. 5:6
- B. 5:2
- C. 4:5
- D. 2:3
- E. 4:7

22. One test tube contains some acid and another test tube contains an equal quantity of water .To prepare a solution , 20 g of the acid is poured into the second test tube .Then , two –third of the so- formed solution is poured from the second tube into the first .If the fluid in the first test tube is four times that in the second ,what quantity of water was taken initially ?

- A. 90 g
- B. 70 g

- C. 154 g
- D. 100g
- E. 180 g

23. Two brands of detergents are to be combined . Detergent A contains 40 % bleach and 60 % soap . While detergent B contains 25 % bleach and 75% soap . If the combined mixture is to be 35 % bleach .What % of the final mixture should be detergent A?

- A. 30%
- B. 45.64%
- C. 20%
- D. 32.5%
- E. 66.67%

24. A thief has stolen 15 L of beer from a container and replaced with the same quantity of water .He again repeated this process 3 times .Thus the ratio of the beer become 343 :169 .Find the initial amount of beer in the container .

- A. 90 L
- B. 120 L
- C. 140 L
- D. 110 L
- E. 80 L

25. A tank which contains a mixture of syrup and water in ratio 15:6. 25.5 litres of mixture is taken out from the tank and 2.5 litres of pure water and 5 litres of syrup is added to the mixture. If resultant mixture contains 25% water, what was the initial quantity of mixture in the tank before the replacement in litres?

- A. 77.7
- B. 70.78
- C. 75.6
- D. 80.5
- E. 76

26. Ram covered a distance of 200km in 10 hrs . The first part of his journey is covered by auto ,then he hired a car .The speed of the auto and car is 15 km/hr and 30 km /hr resp. Find the ratio of distance covered by auto and car .

- A. 3 : 4

- B. 2 : 1
- C. 1 : 1
- D. 2: 3
- E. None of these

27. 9 L are drawn from a cask full of water and it is then filled with milk , 9 L of mixture are drawn and the cask is again filled with milk .The quantity of water now left in the cask to that of the milk in it is 16 : 9 .How much does the cask hold ?

- A. 30 L
- B. 45 L
- C. 35 L
- D. 50 L
- E. 42 L

28. If 2 kg metal , of which $(1/3)$ is zinc and the rest is copper , be mixed with 3 kg of metal , of which $(1/4)$ is zinc and the rest is copper . What is the ratio of zinc to copper in the mixture ?

- A. 11 : 43
- B. 15 : 37
- C. 17 : 43
- D. 23 : 74
- E. 18 : 52

29. Vessels A and B contain mixtures of milk and water in the ratios 4 : 5 and 5 : 1 resp .In what ratio should quantities of mixture be taken from A and B to form a mixture in which milk to water is in the ratio 5 : 4 ?

- A. 5 : 2
- B. 7 : 5
- C. 6 : 11
- D. 8 : 5
- E. 9 : 4

30. Two barrels contain a mixture of ethanol and gasoline is 60% in the first barrel and 30% in the second barrel .In what ratio must the mixtures from the first and the second barrels be taken to form a mixture containing 50% alcohol ?

- A. 3:4
- B. 5:8
- C. 1:2

- D. 5:4
- E. 2 :1

31. A is thrice as good a workman as B and therefore able to finish a job in 48 days less than B working together ,they can do it in how many days together ?

- A. 13 days
- B. 15 days
- C. 18 days
- D. 12 days
- E. 116 days

32. Three men –A ,B and C working together can do a job 6 hours less time than A did alone ,1 hour less time than B alone and half the time needed by C .In how many days will A finish the work alone ?

- A. $20/3$ days
- B. $23/4$ days
- C. $22/5$ days
- D. $33/6$ days
- E. $27/8$ days

33. A work is started by a man on the first day. Each subsequent day a new person joined the work and it is known that the total work will be completed on the 11th day. If from the starting day 6 men working on that work and no new men added later, in how many days the work got completed?

- A. 15 days
- B. 12 days
- C. 14 days
- D. 11 days
- E. None of these.

34. Two men can complete a piece of work in 3 days while 3 women can complete the same work in 4 days and 4 children can complete the same work in 6 days. Then find in how many days 1 man ,1 woman and 2 children can complete the same work ?

- A. 4 days
- B. 3 days
- C. 5 days
- D. 2 days
- E. None of these.

35. 30 men are supposed to do a work in 38 days. After 25 days, 5 more men were employed on work for which the work is completed in 1 day before. If 5 more men were not worked then how many days took in delay?

- A. 1 day
- B. 2 days
- C. 3 days
- D. 4 days
- E. None of these.

36. A group of men decided to do a job in 4 days but 20 men dropped out everyday, the job was completed at the end of the 7th day. Find the men who are in the work initially?

- A. 155
- B. 135
- C. 120
- D. 140
- E. 160

37. A printer A can print one thousand books in 15 hours, printer B can print the same number of books in 10 hours and printer C can print the same number of books in 12 hours. If all the printers are started to print the books at 8 A.M, After sometime printer A is closed at 9 A.M and printer B and printer C remains working. Find at what time the printing will be completed?

- A. $4\frac{3}{11}$ hours
- B. $3\frac{1}{11}$ hours
- C. $5\frac{1}{11}$ hours
- D. $3\frac{5}{11}$ hours
- E. None of these.

38. Ramesh and Ram can do a piece of work in 24 and 30 days respectively. They both started and worked for 6 days. Ram then leaves the work and another their friend Rohit joins the work and completed the remaining work with Ramesh in 11 days. Find how many days are taken by Rohit alone to finish the work?

- A. 110 days
- B. 132 days
- C. 150 days
- D. 120 days
- E. None of these.

39. A woman has her three daughters. First and second can take 24 and 30 days resp. to complete a work. In how many days third one takes to complete the work. If woman can complete the whole work alone in $3\frac{3}{11}$ days. The efficiency of woman is double than her three daughters.

- A. 22 days
- B. 12 days
- C. 13 days
- D. 21 days
- E. 19 days

40. A contractor takes a road construction project to finish it in 40 days and for that he engaged 200 men. After 30 days he employed 100 more men in this project, then the work finished on time. Find if the 100 more men would not worked then how many more days required to finish the work?

- A. 8 days
- B. 10 days
- C. 12 days
- D. 7 days
- E. None of these.

41. Three pipes A, B and C can fill a cistern in 6 hours. After working at it together for 2 hours, C is closed and A and B can fill the remaining part in 6 hours. The number of hours taken by C alone to fill the cistern is

- A. 12hrs
- B. 10hrs
- C. 18hrs
- D. 8hrs
- E. None of these

42. A tap can fill a tank in 6hrs. After half the tank is filled, three more similar taps are opened. What is the total time taken to fill the tank completely?

- A. 3hrs
- B. 3hrs 15 min
- C. 3hrs 45 min
- D. 4hrs
- E. None of these

43. Two pipes A and B can fill a tank in 10 minutes and 20 minutes respectively. Both the pipes are opened together but after 4 minutes, Pipe A is turned off. What is the total time required to fill the tank ?

- A.12m
- B.10m
- C.8m
- D.16m
- E.None of these

44. Two pipes A and B can fill a tank in 6 hours and 5 hours respectively. If they are turned on alternatively for 1 hour each, find the time in which the tank is full.

- A.4hrs 30min
- B.5hrs
- C.6hrs 25min
- D.5hrs 30min
- E.None of these

45. A pump can fill the tank in 4 hours. Because of a leak in the tank it took $5\frac{1}{2}$ hours to fill the tank. If the tank is full, how much time will the leak take to empty it?

- A. 14hrs
- B. 14hrs 20min
- C. 14hrs 40min
- D. 14hrs 45min
- E. None of these

46. Two pipes M and N can fill a tank in 30 and 45 minutes respectively. If both the pipes were open for few minutes after N was closed and the tank was full in 25 minutes, find the time for pipe N was open.

- A.8.16m
- B.7.5min
- C.5min
- D.10.2m
- E.None of these

47. A cistern is filled by 3 pipes A, B and C with uniform flow. The second pipe B takes $\frac{3}{2}$ times the time taken by A to fill the tank, while C takes twice the time taken by B to fill the tank. If all the three pipes can fill the

tank in 7 hours, find the time required by pipe A alone to fill the tank.

- A.10hrs
- B.12hrs
- C.14hrs
- D.15hrs
- E.None of these

48. Two pipes P and Q can fill a tank in 8 hours. If only pipe P is open then it would take 4 hours longer to fill the tank. Find how much longer would it take if only pipe Q is open.

- A.16hrs
- B.12hrs
- C.10hrs
- D.8hrs
- E.None of these

49. Two pipes P and Q can fill a tank in 20m and 30m respectively. If both the pipes are opened simultaneously, after how much time should Q be closed so that the tank is full in 16minutes ?

- A.12min
- B.6min
- C.10min
- D.7min
- E.None of these

50. A tap can fill a tank in 12 minutes and another tap can empty the tank in 6 minutes. If the tank is already full and

then both the taps are opened the tank will be

- A.Filled in 6 minutes
- B.Emptied in 6 minutes
- C.Filled in 6 minutes
- D.Emptied in 12 minutes
- E.None of these