Practice Paper-Pipes and Cisterns

1.Two pipes A and B can fill a tank in 2 hrs and 3 hrs respectively. If both the pipes are opened simultaneously. How much time will be taken to fill the tank?

a.1 1/5 b.2 1/5 c. 1 1/6 d.2 1/6

2.A tank can be filled by two tapes in 6 hours and 9 hours respectively. The first tap was opened at 8 AM. And the second at 9 AM. At what time will the tank be filled?

a.4 noon b.12 noon c.7 noon d.none of these

3. Pipe A can fill a tank in 2 hr, pipe B in 4 hrs and pipe C in 6 hrs. If all the pipes are open in how many hours the tank will fill?

a.1 1/11 hr b.1 1/12 hr c.1 1/14 hr d. none of these

4.Two pipes A and B together can fill a cistern in 4 hrs. had they been opened separately then B would have taken 6 hrs how much time will be taken by A to fill the cistern separately?

a.11 hrs b.8 hrs c.12 hrs d. none of these

5.A tank is filled in 10 hrs by three pipe A,B and C. the pipes c is twice fast as B and B is twice fast as A. How much time will pipe a alone take to fill the tank?

a.60 hrs b.70 hrs c.40 hrs d. none of these

6.Pipe A can fill a tank 7 times as fast pipe B if both the pipes together can fill the tank in 72 mins. Then the slower pipe alone will be able to fill the tank in

a.7 hr 30 min b.9 hr 36 min c.4 hr 40 min d. none of these

7. Two pipes A and B can fill a tank in 4 hrs and 5 hrs respectively. If the pipes A and B are turned on alternatively for one hour each, the time taken to fill the tank is

a)2 3/5 hrs b.3 4/5 hrs c.4 2/5 hrs d. none of these

8.A cistern has 3 pipes A,B and C. the pipes A and B can fill it in 5 hr and 6 hr respectively and C can empty it in 3 hr if the pipes are opened in order at 3 pm, 4 pm and 5 pm respectively at what time the tank be filled?

a)6 am b.7 am c.9 am d. none of these

9. Two pipes A and B fill a tank in 15 hr and 20 hr respectively while a third pipe C can empty the full tank in 25 hr. All the 3 pipes are opened in the beginning after 10 hr C is closed In how much time will the tank be filled

a)11 hrs b.12 hrs c.7 hrs d.6 hrs

10. Two pipes A and B can fill a tank in 5 hour and 20 hours res. If both the pipes opened, due to leakage it takes 30 mins more to fill the tank. If the tank is full, how long will it take for the leakage alone to empty the tank?

a)30 hrs b.34 hrs c.40 hrs d.36 hrs

11. Tap A can fill water tank in 25 min, Tap B can fill the same in 40 min and Tap C can empty the tank in 30 min. if all the three taps are opened together. In how many min will the tank be completed filled up or emptied?

a)31 11/19 b.32 11/19 c.30 12/19 d. none of these

12. A cistern is normally filled in 5 hours. However, it takes 6 hours when there is leak in its bottom. If the cistern is full, in what time shall the leak empty it?

a)6 h b.5 h c.30 h d.15 h

13. Pipe A and B running together can fill a cistern in 6 min. If B takes 5 min more than A to fill the cistern, then the time in A and B will fill the cistern separately what time?

a)15 min,20 min b.15 min,10 min c.10 min,15 min d.25 min,20 min

14. A cistern is normally filled in 6 h but takes 4 h longer to fill because of a leak in its bottom. If the cistern is full, the leak will empty it in how much time?

a)15 h b.16h c.20 h d.none of these

15. If three taps are open together, a tank is filled in 10 h. one of the taps can fill in 5 h and another in 10 h. at what rate does the 3rd pipe work?

a)waste pipe emptying the tank in 10 h b.waste pipe emptying the tank in 20 h

c.waste pipe emptying the tank in 5 h d.fill the tank in 10 h

16. There are two pipes in a tank. Pipe A is for filling the tank and Pipe B is for emptying the tank. If A can fill the tank in 10 hours and B can empty the tank in 15 hrs then find how many hors will it take to completely fill a half empty tank

a)30 hrs b.15 hrs c.20 hr d.33.33 hrs

17. Two taps are running continuously to fill a tank, the 1st tap could have filled it in 5 hrs by itself and the second one by itself could have filled it in 20 hrs. But the operator failed to realize that there was a leak in the tank from the beginning which caused a delay of one hr in the filling of the tank. Find the time in which the leak would empty a filled tank.

a.15 hr b.20 hr c.25 hr d.40 hr

18. Tap M alone can fill a tank completely in 8 hrs another tap N alone can empty the same tank in 12 hrs. If both the taps are opened simultaneously in what time (in hrs) would be the tank get full?

a)20 hr b.24 hrs c.12 hr d.none of these

19. A cistern has two pipes. One can fill it with water in 8 hr and other can empty it in 5 hr in how many hrs will the cistern be emptied if both the pipes are opened together when ¾ of the cistern is already full of water?

a)10 b.8 c.6 d.7

20.A pipe can fill a tank in x hours and another can empty it in y hrs. If the tank is 1/3 rd full then the number of hrs in which they will together fill it in is

a. $\frac{(3xy)}{2(y-x)}$ b. $\frac{(3xy)}{(y-x)}$ c. $\frac{xy}{3(y-x)}$ d. $\frac{2xy}{3(y-x)}$

Directions(21-25): Read the following and answer the questions that follow:

A set of 10 pipes (set x) can fill 70% of a tank in 7 minutes. Another set of 5 pipes (set Y) fill 3/8 of the tank in 3 min. A third set of 8 pipes (set Z) can empty 5/10 of the tank in 10 min.

21.How many min will it take to fill the tank if all 23 pipes are opened at the same time?

a.5 min b.$5\frac{5}{7}$min c.6 min d.$6\frac{5}{7}$mins

22.If only half the pipes of set X are closed and only half the pipes of set Y are open and all other pipes are open, how long will it take to fill 49% of the tank?

a)16 min b.13 min c.7 min d.none of these

23.if 4 pipes are closed in set Z, and all others remain open, how long will it take to fill the tank?

a)5min b.6 min c.7 min d.7.5 min

24.If the tank is half full and set X and set Y are closed, how many min will it take for set Z to empty the tank if alternate taps of set Z are closed.

a)12 min b.20 min c.40 min d.16 min

25. If one pipe is added for set X and set Y and set Z's capacity is increased by 20% on its original value and all the taps are opened at 2.58 p.m, then at what time does the tank get filled(if it is initially empty)

a. 2.05 pm b.3.04 pm c.3.10 pm d.3.03 pm

26.A tank holds 100 gallons of water it inlet is 7 inches in diameter and fills the tank at 5 galoon/min. the outlet of the tank is twice the diameter of the inlet. How many mins will it take to empty the tank if the inlet is shut off when the tank is full and the outlet is opened?

a.7.14 min b.10.0 min c.0.7 min d.5.0 min

27.A tank of capacity 25 litres has an inlet and an outlet tap. If both are opened simultaneously the tank is filled in 5 min. But if the outlet flow rate is doubled and taps opened the tank never gets filled up. Which of the following can be outlet flow rate in litres/min?

a)2 b.6 c.4 d.3

28.A tank of 3600 cu m capacity is being filled with water. The delivery of the pump discharging the tank in 20% more than the delivery of pump filling the same tank. As a result, tweleve mins more time is needed to fill the tank than to discharge it. Determine the delivery of the pump discharging the tank.

a.40 m^3/min b.50 m^3/min c.60 m^3/min d. 80 m^3/min

29.Two pipes A and B can fill up a half full tank in 1.2 hrs the tank was initially empty. Pipe B was kept open for half the time required by pipe A to fill the tank by itself. Then, Pipe A was kept open for as much time as was required by pipe B to fill up 1/3 of the tank by itself. It was then found that the tank was 5/6 full,. The least time in which any of the pipes can fill the tank fully is

a)4.8 hrs b.4 hrs c.3.6 hrs d.6 hrs

30. Colonel, Major and General started a work together for Rs. 816. Colonel and Major did 8/17 of the total work, while Major and General together did 12/17 of the whole work. What is the amount of the least efficient person?

(a) Rs. 256 (b) Rs. 144 (c) Rs. 85 (d) can't be determined

31.The Bubna dam has four inlets. Through the first three inlets, the dam can be filled in 12 min; through the second, the third and the fourth inlet, it can be filled in 15 min; and through the first and fourth inlet, in 20 min. how much time will it take all the four inlets to fill up the dam?

a)8 min b)10 min c.12 min d. none of these

32. The rate at which tap M fills a tank is 60% more than that of tap N. if both the taps are opened simultaneously, they take 50 hrs to fill the tank. The time taken by N alone to fill the tank is (in hrs)

a)130 hr b.120 hr c.114 hr d. none of these

Ans:

1-10	a	b	a	c	b	b	c	a	b	d
11-20	a	c	c	a	c	b	b	b	a	d
21-30	b	d	a	b	d	b	b	c	b	b
31-32	b	a								