Pipes & Cistern

1) Two pipes A and B can separately fill a cistern in 10 and 15 minutes respectively. A person opens both the pipes together when the cistern should have been was full he finds the waste pipe open. He then closes the waste pipe and in another 4 minutes the cistern was full. In what time can the waste pipe empty the cistern when fill?

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

2) A leak in the bottom of a tank can empty the full tank in 6 hours. An inlet pipe fills water at the rate of 4 liters per minute. When the tank is full in inlet is opened and due to the leak the tank is empties in 8 hours. The capacity of the tank is?

a) 5260 liters b) 5760 liters
c) 5846 liters d) 6970 liters

3) Two pipes A and B can separately fill a tank in 12 and 15 minutes respectively. A third pipe C can drain off 45 liters of water per minute. If all the pipes are opened, the tank can be filled in 15 minutes. What is the capacity of the tank?

a) 480 liters b) 540 liters
c) 600 liters d) 675 liters

4) A cistern is normally filled in 8 hours but takes two hours longer to fill because of a leak in its bottom. If the cistern is full, the leak will empty it in?

a) 16 hrs b) 20 hrs
c) 40 hrs d) 25 hrs

5) Two pipes A and B can fill a cistern in 12 and 15 minutes respectively. Both are opened together but after 3 minutes A is turned off. After how much more time will the cistern be filled?

a) 3 1/4 min b) 5 1/4 min
c) 8 1/4 min d) 9 1/4 min

6) Two pipes A and B can fill a tank in 4 and 5 hours respectively. If they are turned up alternately for one hour each, the time taken to fill the tank is?

a) 2 hrs 15 min b) 4 hrs 24 min
c) 5 hrs d) 3 hrs

7) A cistern has a leak which would empty the cistern in 20 minutes. A tap is turned on which admits 4 liters a minute into the cistern, and it is emptied in 24 minutes. How many liters does the cistern hold?

a) 480 liters b) 600 liters
c) 720 liters d) 800 liters

8) Two pipes P and Q can fill a cistern in 12 and 15 minutes respectively. Both are opened together, but at the end of 3 minutes the first is turned off. How much longer will the cistern take to fill?

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a) 9 1/4 min b) 11 1/4 min
c) 7 1/4 min d) 8 1/2 min

9) Two pipes A and B can separately fill a tank in 2 minutes and 15 minutes respectively. Both the pipes are opened together but 4 minutes after the start the pipe A is turned off. How much time will it take to fill the tank?
a) 9 min b) 10 min
c) 11 min d) 12 min

10) Two pipes A and B can fill a cistern in 20 and 30 minutes respectively, and a third pipe C can empty it in 40 minutes. How long will it take to fill the cistern if all the three are opened at the same time?
a) 19 1/7 min b) 15 1/7 min
c) 17 1/7 min d) 7 1/7 min

11) Pipe A, pipe B and pipe C together can fill a tank in 20 minutes but because of the leak all three pipes take 10 minutes more time to filled the tank completely. Find the time in which leak can empty the full tank.
a) 45 minutes
b) 40 minutes
c) cannot be determined
d) 60 minutes

12) Two pipes A and B can fill a tank in 15 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) 10 min. 20 sec b) 11 min. 45 sec
c) 12 min. 30 sec d) 14 min. 40 sec

13) An outlet pipe can empty a cistern in 3 hours. In what time will the empty $\frac{2}{3}$ part of the cistern?
a) 2 hours b) 3 hours
c) 4 hours d) 5 hours

14) 12 buckets of water fill a tank when the capacity of each tank is 13.5 litres. How many buckets will be needed to fill the same tank, if the capacity of each bucket is 9 litres?
a) 10 b) 14
c) 18 d) 22

15) Three pipes A, B and C can fill a tank from empty to full in 30 minutes, 20 minutes, and 10 minutes respectively. When the tank is empty, all the three pipes are opened. A, B and C discharge chemical solutions P,Q and R respectively. What is the proportion of the solution R in the liquid in the tank after 3 minutes?
a) 5/11 b) 6/11
c) 7/11 d) 8/11

16) Two pipes can fill a cistern in 14 hours and 16 hours respectively. The pipes are

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opened simultaneously and it is found that due to leakage in the bottom it tooki 32 minutes more to fill the cistern.When the cistern is full, in what time will the leak empty it?

a) 100 hrs b) 122 hrs
c) 177 hrs d) 112 hrs

17) Two pipes A and B can fill a tank in 36 min. and 45 min. respectively. A water pipe C can empty the tank in 30 min. First A and B are opened. after 7 min,C is also opened. In how much time, the tank is full?

a) 39 min b) 40 min
c) 50 min d) 45min

18) Two pipes can fill a tank in 10 hours and 12 hours respectively while a third, pipe empties the full tank in 20 hours. If all the three pipes operate simultaneously, in how much time will the tank be filled?

a) 4 hrs 30 min b)7 hrs 30 min
c) 8 hrs 10 min d) None of these

19) Two pipes A and B can fill a cistern in 12 minutes and 16 minutes respectively. If both the pipes are opened together, then after how much time B should be closed so that the tank is full in 9 minutes ?

a) 3 min and 30 sec.
b) 4 min and 30 sec.
c) 4 min.
d) 4 min 77 sec.

20) Two pipes A and B independently can fill a tank in 20 hours and 25 hours. Both are opened together for 5 hours after which the second pipe is turned off. What is the time taken by first pipe alone to fill the remaining portion of the tank?

a) 12 hr b) 18hr
c) 11 hr d) 12hr

21) A dumper is filled in 15hrs by 3 tubes P,Q,and R. the tube R is thrice as fast as Q and Q is thrice as fast as P. How much time will tube Q alone take to fill the tank?

a) 195 hrs b) 190 hrs
c) 185 hrs d) 180 hrs

22) A tank can be filled by an inlet tap at the rate of 8 litres per minute. A leak in the bottom of a tank can empty the full tank in 16 hours. When the tank is full, the inlet is opened and due to the leak, the tank is empty in 80 hours. How many litres does the tank hold?

a) 8000 liters b) 9560 liters
c) 8525 liters d) 9600 liters

33) Taps P, Q and R can fill a tank in 3, 4 and 5 hours respectively. If all the taps are opened together and after 30 minutes taps Q and R are turned off, find the total time in which the tank is full.

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a) (279/120) b) (259/120)
c) (299/120) d) (309/120)

24) A Bunker has a leak which would empty the completely filled bunker in 20 hours. If the bunker is full of water and a tap is opened which admits 4 litres of water per minutes in the bunker, how many litres does the bunker holds?
a) 4500 liters b) 4600 liters
c) 4800 liters d) 5000 liters

25) One tube can fill a tank five times as fast as another tube. If together the two tubes can fill tank in 42 min, then the slower tube alone will be able to fill the tank in?
a) 252 min b) 208 min
c) 244 min d) 192 min

26) A cistern is filled in 15 hours by three pipes P, Q and R. The pipe R is thrice as fast as Q and Q is thrice as fast as P. How much time will pipe P alone take to fill the tank?
a) 120 hrs
b) 135 hrs
c) 195 hrs
d) Cannot be determined

27) A tap can fill a bunker in 4 hours. After half the bunker is filled, three more similar tap are opened. What is the total time taken to fill the bunker completely?
a) 3 hrs b) 5 hrs
c) 2.5 hrs d) 4.2 hrs

28) Bucket A has twice the capacity as bucket B. It takes 120 turns for bucket A to fill the empty dumper. How many turns it will take for both the buckets A and B, having each turn together to fill the empty dumper.
a) 40 b) 50
c) 70 d) 80

Directions :29 & 30
Study the following information carefully and answer the questions given beside.
There are seven pipes connected to a tank out of which four are inlet pipes i.e. A, C, E and F and three are outlet pipes i.e. B, D and G. Pipes B and E together can fill the empty tank in 90 hours. Pipe A is 50% more efficient than pipe D. Pipes E and F together can fill the empty tank in 36 hours. Pipe E is 10% less efficient than Pipe C. Pipes B and G together can empty the full tank in 36 hours. Pipes A and D together can fill the empty tank in 216 hours. Pipes B and F together can fill the empty tank in 180 hours.

29) What is the time (upto one decimal point) taken by all the inlet pipes to fill the tank completely?

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a) 16 hours b) 16.6 hours
c) 17 hours d) 17.6 hours

30) If all the outlet pipes are opened together, then find the time taken by them to empty the full tank?
a) 32 hours b) 27 hours
c) 25 hours d) 30 hours

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