PIPES AND CISTERNS

1.A tap can fill a cistern in 8 hours and another can empty it in 16 hours. If both the taps are opened simultaneously, The time(in hrs) to fill the tank is:
a) 8 b)10 c)16 d)24 e)None of these

2. A cistern is filled by pipe A and B in 15 ans 20 hours respectively . A waste pipe can empty it in 60 hours. If all pipes are open together then empty cistern will be filled in:
a) 8 b)10 c)16 d)15 e)None of these

3. Two pipes can fill a cistern in 12 and 15 min 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 ?
a) 8 1/4 b) 11 1/4 c) 7 3/4 d)8 3/4 e)None of these

4.A cistern has two pipes which fill it in 12 min and 15 min respectively .There is also a waste pipe in the cistern. When all the pipes are opened the empty cistern is full in 20 min. How long will the waste pipe take to empty a full cistern?
a) 8 min b) 10 min c) 12 min d)16 min e)None of these

5.Three pipes P,Q and R can fill a tank in 8,10 and 12hours respectively. Pipe P is opened at 8;00 am, Pipe Q at 10:00 am and Pipe R at 11:00 am. At what time would the tank be full?
a) 12:12pm b) 12:55pm c)12:42pm d)12:58pm e)None of these

6.Pipe A can fill a tank in half the time in which pipe B can fill the same tank .If both pipes are opened together, it takes 8hours to fill the tank .In how many hours can A alone fill the tank?
a)12 b)15 c)17 d) 19 e)None of these

7.Two pipes A and B can fill A tank in 10 and 20 minutes respectively .If both pipes are opened simultaneously, after how many minutes should B be closed so that the tank is full in 8 min?
a)5 min b) 6 min c) 4 min d)7 min e)None of these

8. Two pipes can fill a tank in 20 and 24 minutes respectively and a waste pipe can empty 3 gallons per minute. All the three pipes working together can fill the tank in 15 minutes. The capacity of the tank is :
a)60 gallons b) 100gallons c)120gallons d)180 gallons e)None of these

9.A ,B and C are three pipes connected to a tank. A and B together fill the tank in 6 hours, B and C together fill the tank in 10 hours and A and C together fill the tank in 12 hours. In how much time A B and C fill up the tank together ?
a) 9h b) 5 3/7 c) 5 2/7 d)5 5/7 e)None of these

10. Two pipes A and B can fill any tank respectively in 37 ½ min and 45 min .If both the pipes are opened together, then after how much time should B be closed so that the tank is full in half hours.
a) 15min b) 10min c) 21min d)9 min e)None of these

11.A big tanker can be filled by two pipes A and B respectively in 60 and 40 minutes. Then what time it will take to fill an empty tanker if tap B is used half of the time and tap A and B together are used rest half of time
a) 50min b) 90min c) 60min d75 min e)None of these

12.A pipe can fill a cistern in 12 minutes and another pipe in 15 minutes, but a third pipe can empty it in 6 min .The first two pipes are kept open for 5 minutes in the beginning and then the third pipe is also opened. In what time is the cistern emptied?

a)30min b) 60min c) 45min d)40 min e)None of these

13. Pipe A fills the cistern in 30 minutes and pipe B in 40 minutes , but owing to a crack in the bottom of the cistern it is found that pipe A now takes 40 minutes to fill the cistern. How long will B take now to fill it

a) 50min b) 90min c) 60min d75 min e)None of these

14.A cistern has a leak which would empty in 8 hours .A tap is turned on which admits 6 liters per minute into the cistern and it is now emptied in 12 hours. The cistern can hold:

a)8640 b) 7530 c) 8490 d)7960 e)None of these

18.Four pipes are attached to a reservoir .They can fill it up in 15,20,30 and 60 hours respectively. The first was opened at 6 am, the second at 7 am the third at 8 am and the 4^{th} at 9 am. The reservoir will be filled up at :

a) 11am b) 1 pm c) 1:30pm d)12:30pm e)None of these