

CONCEPT APPLICATION LEVEL - II

SECTION -A

➤ FILL IN THE BLANKS

- Q.1 If A can do a piece of work in n days, then work done by A in 1 day is _____ part of total work.
- Q.2 A and B can together do a piece of work in 15 days B alone can do it in 20 days. A can do it alone in _____ days.
- Q.3 Speed 36 km/h = speed _____ m/sec
- Q.4 If $x > 0$, and $2x + 5 : x + 1 :: x + 4$ and $2x - 2$, then the value of x is _____.
- Q.5 The weight of 48 similar books is 30 kg. The weight of 8 similar books is _____ kg.
- Q.6 Shyam is twice as good workman as Ram. Ram can complete a work in 6 days. The time taken by Shyam to complete the same work is _____.

SECTION -B

➤ MULTIPLE CHOICE QUESTIONS

- Q.1 If 30 men do a piece of work in 27 days, in what time can 18 men do same work ?
 (A) 90 days (B) 45 days (C) 15 days (D) None of these
- Q.2 If 18 binders bind 900 books in 10 days, how many binders will be required to bind 660 books in 12 days ?
 (A) 14 (B) 13 (C) 22 (D) 11
- Q.3 If a family of 7 persons can live on Rs. 8400 for 36 days, how long can a family of 9 persons live on Rs. 8100 ?
 (A) 27 days (B) 37 days (C) 36 days (D) 24 days
- Q.4 If I can walk a certain distance in 50 days when I rest 9 hour each day, how long will it take me to walk twice as fast if I walk twice as fast and rest twice as long each day
 (A) 125 days (B) 120 days (C) 130 days (D) 124 days
- Q.5 X and Y can do a piece of work in 72 days. Y and Z can do it in 120 days. X and Z can do it in 90 days. In how many days all the three together can do work ?
 (A) 100 days (B) 150 days (C) 60 days (D) 80 days
- Q.6 8 men and 2 children can do a work in 9 days. A child takes double the time to do a work than the man. In how many days 12 men can complete double the work ?
 (A) $16\frac{1}{2}$ days (B) $10\frac{1}{2}$ days (C) 14 days (D) $13\frac{1}{2}$ days
- Q.7 P is three times efficient than Q, and is therefore able to complete a work in 60 days earlier. The number of days that P and q together will take to complete the work is
 (A) $22\frac{1}{2}$ (B) 30 (C) 25 (D) $27\frac{1}{2}$

- Q.8 Two person A and B under take to do a piece of work for Rs. 4800. A could do it alone in 5 days and B could do it alone in 8 days. With the help of C and D they finished it in 3 days. If the alone work of C be twice that of 'D', the share of D is
(A) Rs. 60 (B) Rs. 20 (C) Rs. 40 (D) Rs. 80
- Q.9 The work done by man, a woman and a boy are in the ratio 3 : 2 : 1. There are 24 men, 20 women and 16 boys in a factory yearly wages of 27 men, 40 women and 15 boys.
(A) ₹ 16366 (B) ₹ 16466 (C) ₹ 16066 (D) ₹ 16016
- Q.10 Two pipes A and B can fill a tank in 24 minutes and 32 minutes respectively. If both the pipes are opened simultaneously, after how much time B should be closed so that the tank is full in 18 minutes ?
(A) 8 min (B) 9 min (C) 12 min (D) 10 min
- Q.11 A man travels three-fifths of a distance ab at a speed of 3a and remaining at the speed of 2b. If he goes from B to A and back at speed of 5c in the same time then
(A) $\frac{1}{a} + \frac{1}{b} = \frac{2}{c}$ (B) $\frac{1}{a} + \frac{1}{b} = 2c$ (C) $a + b = c$ (D) None of these
- Q.12 Twenty women can do a work in sixteen days 16 men can complete the same work in 15 days. What is the ratio between the capacity of a man and a woman ?
(A) 3 : 5 (B) 4 : 3 (C) 5 : 3 (D) 2 : 3
- Q.13 In a camp there is provision for 1600 participants for 60 days. Actually 1200 participated how many days will the provision last for ?
(A) 70 days (B) 80 days (C) 83 days (D) 95 days
- Q.14 4 men and 6 women can complete a work in 8 days while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete ?
(A) 28 days (B) 40 days (C) 42 days (D) 55 days
- Q.15 The speed of a car increases by 2 kilometer after every one hour. If the distance travelled in the first one hour was 35 kilometers, then the total distance travelled in 12 hours was
(A) 460 km (B) 552 km (C) 483 km (D) 572 km
- Q.16 The jogging track in a stadium is 726 m in circumference. Rakesh and Ismail start from the same point and walk in opposite direction at 4.5 kmph and 3.75 kmph respectively. They will meet for the first time in
(A) 4.7 min (B) 5.65 min (C) 4.97 min (D) 6.2 min
- Q.17 Starting from his house, one day a student walk at a speed of $2\frac{1}{2}$ km/hr and reaches his school 6 minutes late. Next day he increases his speed by 1 km/hr and reaches the school 6 minutes early. How far is the school from his house ?
(A) 1.5 km (B) 1.75 km (C) 2.25 km (D) 2.5 km

- Q.18 Two good trains each 500 m long are running in opposite direction on parallel tracks. Their speeds are 45 km/hr and 30 km/hr respectively. The time taken by the slower train to pass the driver of the faster train is
 (A) 24 sec (B) 48 sec (C) 60 sec (D) 12 sec
- Q.19 MS express left Nagpur for Mumbai at 14 : 30 hours, travelling at a speed of 60 km/hr and VB express left Nagpur for Mumbai on the same day at 16 : 30 hrs, travelling at a speed of 80 km/hr. How far away from Nagpur will the two trains meet.
 (A) 150 km (B) 200 km (C) 400 km (D) 480 km
- Q.20 If 'x' and 'y' are in a direct proportion then which of the following is correct ?
 (A) $x - y = \text{constant}$ (B) $x + y = \text{constant}$ (C) $x \times y = \text{constant}$ (D) $\frac{x}{y} = \text{constant}$
- Q.21 If 'x' and 'y' are in an inverse variation then which of the following is correct ?
 (A) $x - y = \text{constant}$ (B) $x + y = \text{constant}$ (C) $xy = \text{constant}$ (D) $\frac{x}{y} = \text{constant}$
- Q.22 If 'A' can finish a work in 'n' days and is twice as efficient as B then in how many days B can finish the whole work :
 (A) $\frac{n}{2}$ (B) 2n (C) n (D) none of these
- Q.23 If amount of work completed by 'A' in one day is $\frac{1}{n}$ then the whole work will be finished by 'A' is :
 (A) n days (B) 1 - n days (C) n - 1 days (D) none of these
- Q.24 "If speed is more that time to cover a fixed distance would be less". This is a case or :
 (A) inverse variation (B) direct variation
 (C) direct and indirect both variations (D) none of the above
- Q.25 If x and y vary inversely. Then using the following table ?
- | | |
|---|----|
| x | 5 |
| y | 30 |
- The value of x for y = 10 is
 (A) 10 (B) 40 (C) 15 (D) 20
- Q.26 The ratio of girls to boys in a class is 2 : 3. The actual strength of the class is :
 (A) 12 (B) 15 (C) 16 (D) 18
- Q.27 If two quantities x and y are related to each other in such a way that $\frac{x}{y}$ remains a positive constant, then x and y are said to be in
 (A) inverse variation (B) direct variation (C) variation (D) none of these

- Q.28 The cost price of articles and number of articles are said to be in
(A) direct variation (B) inverse variation (C) variation (D) none of these
- Q.29 Time taken to cover a distance by a car and speed of the car are said to be in
(A) direct variation (B) inverse variation (C) variation (D) none of these
- Q.30 If 12 m of a uniform iron rod weights 42 kg, what will be the weight of 6 m of the same rod ?
(A) 20 kg (B) 21 kg (C) 84 kg (D) 42 kg
- Q.31 A certain number of men can finish a piece of work in 100 days. If however, there were 10 men to be finished. How many men were originally there ?
(A) 90 (B) 100 (C) 110 (D) 120
- Q.32 If 20 binders bind 1000 books in 10 days, then how many books will be binded by 10 binders in 20 days?
(A) 2000 (B) 1000 (C) 1500 (D) 900
- Q.33 A train 150 m long, is running at a speed of 90 km/hr. Then time taken by the train to cross a tree is
(A) 3 sec (B) 4 sec (C) 5 sec (D) 6 sec
- Q.34 A train is running at a speed of 90 km/hr, crosses a pole in 10 seconds. The length of the train is
(A) 200 m (B) 250 m (C) 300 m (D) 350 m
- Q.35 x and y are in inverse proportion. If $y = 15$ when $x = 3$, then value of y when $x = 9$, is
(A) 45 (B) 5 (C) 8 (D) 9
- Q.36 x and y are in direct variation. If $y = 10$ when $x = 5$, then value of y when $x = 10$, is
(A) 2 (B) 5 (C) 10 (D) 20
- Q.37 15 books weigh 6 kg. What will 6 books weigh ?
(A) 1.2 kg (B) 2.4 kg (C) 3.8 kg (D) 3 kg
- Q.38 8 g of sandal wood cost ₹ 40. What will 10 g cost ?
(A) ₹ 30 (B) ₹ 36 (C) ₹ 48 (D) ₹ 50
- Q.39 20 trucks can hold 150 metric tonnes. How much will 12 trucks hold ?
(A) 80 metric tonnes (B) 90 metric tonnes (C) 60 metric tonnes (D) 40 metric tonnes
- Q.40 A boy runs 1 km in 10 minutes. How long will he take to run 600 m ?
(A) 2 minutes (B) 3 minutes (C) 4 minutes (D) 6 minutes
- Q.41 A shot travels 90 m in 1 second. How long will it take to go 225 m ?
(A) 2 seconds (B) 2.5 seconds (C) 4 seconds (D) 3.5 seconds
- Q.42 A train travels 60 km in 1 hour How long will it take to go 150 km ?
(A) 2 hours (B) 3 hours (C) 2.5 hours (D) 4 hours
- Q.43 If 3 quintals of coal cost ₹ 6000, what is the cost of 120 kg ?
(A) ₹ 1200 (B) ₹ 2400 (C) ₹ 3600 (D) ₹ 4800

- Q.44 The fare for a journey of 40 km is ₹ 25. How much can be travelled for ₹ 40 ?
 (A) 32 km (B) 64 km (C) 50 km (D) 60 km
- Q.45 A machine in a soft drink factory fills 600 bottles in 5 hours. How many bottles will it fill in 2 hours ?
 (A) 120 (B) 180 (C) 150 (D) 240
- Q.46 10 men can dig a trench in 15 days. How long will 3 men take ?
 (A) 50 days (B) 60 days (C) 100 days (D) 75 days
- Q.47 6 pipes are required to fill a tank in 1 hour. How long will it take if only 5 pipes of the same type are used?
 (A) 75 minutes (B) 72 minutes (C) 80 minutes (D) 90 minutes.
- Q.48 40 cows can graze a field in 16 days. How many cows will graze the same field in 10 days?
 (A) 60 (B) 64 (C) 80 (D) 75
- Q.49 The constant of variation, if $x \propto y$, from the following table is
- | | | | | |
|---|---|----|----|----|
| x | 6 | 12 | 15 | 21 |
| y | 2 | 4 | 5 | 7 |
- (A) 1 (B) 2 (C) 3 (D) 4
- Q.50 x and y vary inversely with each other. If $x = 15$ when $y = 6$, then the value of x when $y = 15$ is
 (A) 2 (B) 4 (C) 5 (D) 4
- Q.51 Two trains started at the same time from two towns 750 kms apart and travelled towards each other. The slower train travelled at an average speed of 60 km/hour and the faster one at 90 km/hour. After how many hours will they pass each other? **[IMO-2016]**
 (A) 3 (B) 4 (C) 5 (D) 6
- Q.52 A truck travelling at a speed of 40 km/hour left Delhi. An hour later, a car leaves Delhi and catches up with the truck after four hours. What was the average speed (in km/hr) of the car? **[IMO-2016]**
 (A) 40 (B) 45 (C) 50 (D) 60
- Q.53 The distance between two places R and S is 42 km. Kanika starts from R with a uniform speed of 4 km/h towards S and at the same time Yashika starts from S towards R also with some uniform speed. They meet each other after 6 hours. The speed of Yashika is **[IOM-2016]**
 (A) 3 km/hour (B) 8 km/hour (C) 18 km/hour (D) 20 km/hour
- Q.54 Two places P and Q are 162 km apart. A train leaves P for Q and simultaneously another train leaves Q for P. They meet at the end of 6 hours. If the former train travels 8 km/hour faster than the other, the speed of the train starting from Q is **[IOM-2016]**
 (A) $9\frac{1}{2}$ km/hour (B) $8\frac{1}{2}$ km/hour (C) $10\frac{5}{6}$ km/hour (D) $12\frac{5}{6}$ km/hour
- Q.55 A, B and C can do a work separately in 16, 32 and 48 days respectively. They started the work together but B left off 8 days and C left 6 days before the completion of work. In what time is the work finished? **[IOM-2016]**
 (A) 14 days (B) 12 days (C) 9 days (D) 10 days

SECTION -C

➤ MATHCH THE FOLLOWING

Directions : Each equation contains statements given in two column which have to be matched. Statements (A, B, C, D....) in column I have to be matched with statement (p, q, r, s....) in column II

Q.1

Column I

Column II

- | | | | |
|-----|---|-----|------|
| (A) | 4 men or 4 women can do a work in 21 days. 8 men and 6 women will take ____ days to complete the work. | (p) | 10 |
| (B) | A train is running at the average speed 20 m/s, its speed in km/h is | (q) | 6 |
| (C) | A train crosses a pole in 20 seconds and a 300 metre long platform in 45 seconds. The speed of the train in km/h is | (r) | 72 |
| (D) | A man can row a boat 54 km/h with the stream and 34 km/h against the stream. The speed of stream in km/h, is | (s) | 43.2 |

Q.2

Column I

Column II

- | | | | |
|-----|---|-----|-----|
| (A) | It takes 2 hours for a shirt to dry in sun. It will take _____ hrs to dry 25 such shirts. | (p) | 1.5 |
| (B) | A bus with stoppages, covers a distance at 50 km/h. The bus stops for _____ minutes per hour. | (q) | 2 |
| (C) | A is inversely proportional to B and $A = 5$ when $B = 2$. The value of A when $B = \frac{20}{3}$ is | (r) | 30 |
| (D) | 12 persons takes 8 days to prepare 27 wooden doors. The number of days required by 72 persons to prepare 81 doors is _____. | (s) | 4 |