(a) 11/7   (b) -3/7 (c) 3/7 (d) -11/7

Solution: 3/7

162. The sum of three numbers is 98. If the ratio of first to second is 2:3 and that of the second to the third is 5:8 then the second number is :

Solution: a+b+c=98 à (1)

a/b=2/3 à a=(2/3)b à (2)

b/c=5/8 à c= (8/5)b à (3)

Substitute equations (2) and (3) in Equation(1)

b=30

The basic fuel expenditure of a country is dominated by four major uses - Domestic, Transport, Industry and Electricity. In 2014, the total amount of energy used was equivalent to 600 million tonnes of coal.

Directions: Study the following graph carefully & answer the questions given below it.

163. The central angle for the energy consumed for others is

a. 12   b. 15   c. 18 d. 9

Ans: 100 %   it is 360

Then 5% is = (360/100)*5 = 18

164. What is difference between energy used for domestic and others in the country in 2014?

 a. 18 million   b. 54 million   c. 48 million d. 32 million

Ans: 13% - 5% = 8% of 600 Million tonnes

48 million

165. If the energy requirement of transport in 2014 were 220 million tonnes, the approximate amount of additional primary energy required would be

a. 400 million tonnes of coal   b. 750 million tonnes of coal

c. 890 million tonnes of coal   d. 1000 million tonnes of coal

Ans: let's say total primary energy is x

Then 22% of x = 220

(22/100) * x = 220

X=1000

Ans: 1000-600 = 400

166. If the simple interest on a certain sum of money for 8 months at 8%p.a exceeds the simple interest on the same sum for 12 months at 5% p.a by Rs. 20, then find the value of sum.

Solution:

(P*8*8)/(12*100) - (p*1*5)/100 = 20

P=6000

167. A mixture of 66 litres contains whisky and water in the ratio 4:7 how many litres of whisky and water each must be added to the mixture to make the ratio 2:3?

Solution:

Quantity of whisky in 66 litres mixture is : (4/11)*66 = 24

Similarly quantity of water in 66 litres mixture is : (7/11)*66= 42

Let's say adding x litres of whisky and water added to make mixture ratio as 2:3

Then (24+x)/(42+x)= 2:3

X=12

168. if m= 3-2$\sqrt{2}$, then the value of $\sqrt{m}$ – (1/$\sqrt{m}$) is:

Solution:

Let's say $\sqrt{m}$ – (1/$\sqrt{m}$) = x

Squaring on both sides

m+1/m-2 = x2

if m= 3-2$\sqrt{2}$, then 1/m = 3+2$\sqrt{2}$

so m+1/m-2=x2

4=x2

X=2

Ans:2

169. Two cities x and y are 400km apart. Q leaves x 8 hours after P. Both P and Q arrive simultaneously. Find the time the slower person spent on the trip if the speed of one of them was 15kmph higher than that of other.

Solution:

170. Train 'A' leaves a source station for destination station at 11 a.m., running at the speed of 60 kmph. Train B leaves the same source station to the same destination by the same route at 2 p.m. on the same day, running at the speed of 72 kmph. At what time will the two trains meet each other?

Solution:

With 60 kmph in 3 hours train 'A' covers 180 kms.

Train B speed is 12kmph more than train 'A'. Because train B started 3 hours later so it has to cover 180 extra with extra 12kmph speed.

Time taken is = 180/12 = 15 hours

So 15 hours from 2p.m is 5a.m on the next day

171. A motor cycle is moving with the speed of 47.52 kmph and the radius of the wheel of the motorcycle is 21cm. calculate the approximate number of revolutions made by the wheel in one minute.

Solution:

Ans:600

172. A wire of legth 5 cm is subjected to stress that leads to the increase in its length by 25.60%. If the wire is re-shaped into a circle by joining its both ends, then what will be the radius of the circle?

Ans: 1 cm

173. If the length of a rectangle is thrice its width and it is known that length of its diagonal is $15\sqrt{10}$ cm. then determine the area of the rectangle.

Ans: 675

174. A boy buys a pen for Rs. 25 and sells it for Rs. 20. Find his loss percent.

Ans: 20

175. A and B are running at 250 m/minute and 300 m/minute, in the same direction. The distance between the two, after 1 hour, will be:

Ans: 3 km

176. A number when divided by 2, 3, 4, 5 and 6 leaves a remainder 1 in each case but it is exactly divisible by 7.

a. 305   b. 606 c. 601 d. 301

Ans: 301

Solution: find lcm of (2,3,4,5 and 6) = 60

Divide given options with 60 remainder should be 1.

Option c and d satisfy above conditions.

Divide c and d options with 7 . only option(d) is divisible with 7.

177. If (m – m-1)= 1/5, then determine the value of (25m2+ 25m-2).

a. 2   b. 1   c. 49/25   d. 51

Ans: 51.

Solution: (m – m-1)= 1/5

Squaring on both sides

m2+1/m2-2=1/25

m2+1/m2=51/25

Substitute above value

25(m2+m-2)= 51.

178. The ratio between the speeds of two trains is 15:13. If the second train runs 260 km in 2 hours, then the speed of the first train is

a. 75 kmph   b. 150 kmph   c. 120 kmph   d. 90 kmph

Ans: 150 kmph

Solution: s1/s2= 15/13

S2=130 kmph (given)

So s1= 150 kmph

179. Find the value of "x" if 10/3 : x :: 5/2 : 5/4

a. 2/5   b. 5/3   c. 1/5   d. 3/5

Ans: 5/3

180. Fredy drives his car on two journeys the first journey is of 8 miles and takes 35 minutes, while the second journey takes 17.5 miles and takes 55 minutes. Find the average speed of the two journeys combined.

a. 17 miles per hour b. 20 miles per hour   c. 15 miles per hour d. 25 miles per hour

Ans: 17 miles per hour

Solution: Average Speed = Total distance/ Total time

= (8+17.5)/ (35+55)/60= 17 miles per hour (convert time in minutes to hour)

181. A square field of area 31684 m2 is to be enclosed with wire placed at height 1 m, 2 m, 3 m, 4 m above the ground. What length of the wire will be required if its length required for each circuit is 5% greater than the perimeter of the field?

a. 6456 m   b. 27666 m   c. 2990.4 m   d. 4666.5 m

Ans: 2990.4 m

Solution: let a is side of square field then a2=31684

a=178

perimeter= 4 * a = 712

5% more than perimeter = 712 + 5% of 712 = 712 + 35.6 = 747.6

Because we enclose four times so 4 * 747.6 = 2990.4

182. The curved surface area of two spheres are in the ratio 1:4. Find ratio of their volumes.
a. 1:4   b. 1:7   c. 1:8   d. 1:6
Ans: 1:8
Curved surface area : 4 * Pi * r2
Volume = (4/3) * Pi* r3
r1/r2= ½
r13=r23 = 1/8

183. 5 boys and 5 girls were made to sit in a row. In how many ways they can be seated so that every boy sits with his respective girl friend?

Ans: 5! 25

184. A vessel is filled to its capacity with pure milk. Ten litres are withdrawn from it and replaced by water. This procedure is repeated again. The vessel now has 32 litres of milk. Find the capacity of the vessel.
a. 55 litres b. 50 litres c. 40 litres   d. 45 litres
Ans: 50 litres
Solution:
So x=50
185. A person invested Rs. 2500 on simple interest and got Rs. 200 at the end of the year as interest. What was his rate of interest?
a. 12% p.a b. 10% p.a c. 8% p.a d. 6% p.a
Ans: 8% p.a
Solution: Apply Simple interest formula (P*T*R/100)

186. There are two queues at a super market billing counter. In the first queue, there are m1 customers all with n1 items in their baskets, while in the second queue there are m2 customers all with n2 items in their baskets. It takes "t" seconds to process each item and "p" seconds for each person to pay. A customer wishes to know which queue to join.

Which one of the following options gives the condition for the first queue to be the better queue to join?
a. m1(p+n1t)=m2(p+n2t)   b. m2(p+n2t)≤ m1(p+n1t)   c. m1(p+n1t) ≤m2(p+n2t)   d. m1(p+n1t) < m2(p+n2t)
Ans: d. m1(p+n1t) < m2(p+n2t)

187. Harish creates a model based on Arithmetic Progression which starts at 3 and with a spacing of 8 goes till 467 (i.e. 3,11, _, _, _, 467). Ravi wants to create another model through a subset of this series such that the total of no two elements of his series is 479. The maximum possible number of elements which Ravi's series has would be:

a. 24 b. 32   c. 30   d. 29

189. The diameter of the wheel of a car is 14 m. It makes 5 revolutions per 11 seconds. What is the speed of the car?

a. 48 kmph   b. 72 kmph c. 64 kmph d. 56 kmph

Ans: 72 kmph

Solution: surface area of a circle $= 2 * Pi * r = 44$ m

5 revolutions in 11 seconds

1 second $= 20$ m

20 m/second $= 20 * (18/5) = 72$ kmph

190. If x,y,z are positive variables and the value of (x+y+z)=18, then what is the maximum value of xyz?

a. 110 b. 100 c. 216 d. 252

191. Read the information given below and answer the question that follows:

1. A+B means A is father of B;

2. A-B means A is the sister of B;

3. A/B means A is the mother of B;

4. A*B means A is the brother of B

Which of the following expressions whows that M is the paternal uncle of N?

a.   N*P   b. N-P+M   c. M-P+Q*N   d. M*P+Q-N

192. if m/(m2-2m+1)=1/5, then determine the value of (m3 + m-3)

a. 323   b. 321   c. 320   d. 322

Solution: (m2-2m+1)/m=5

Apply denominator to individual terms

m-2+1/m=5

m+1/m=7

so (m+1/m)3 $=$ m3+3m+3/m+1/m3

substitute required values in above equation.

Ans: 322

193. The base of a triangular field is 880 m and its height is 550 m. Calculate the charges for supplying water to the field at the rate of Rs. 24.25 per sq.hectometer.

a. Rs 44   b. Rs 24.22   c. Rs 58.68   d. 654.4

Ans: 58.68

Solution: area of a triangle$= (1/2) *$ base $*$ Height

$= 242000$ sq.m $= 2.42$ sq.hectometer

Charges$= 2.42 * 24.25 = 58.68$

194. How many numbers greater than a million can be formed from the digits 4,5,6,0,7,6,5?

a. 540   b. 4320 c. 2160 d. 1080

195. Which of the following would not be a consideration while designing model for emergency fire exit?

a. Number of evacuation doors. B. Number of people to be evacuated

c. Comfort of exit   d. Number of safety personals

196. Ashif sold an article for Rs 315 at a profit of 5%. What would have been the loss incurred by him it it was sold for Rs. 275?
a. 7.625% b. 4.5 % c. 5.625%   d. 6.25%   e. 8.33%

197. a hemisphere, a cylinder and a cone of same height have equal base radii. Determine the ratio of their volumes (in the same order)
a. 5:2:6   b. 3:4:6 c. 1:2:3   d. 2:3:1

198. The internal and external radii of a hollow cylinder are 4 cm and 6 cm respectively. What is the ratio of its internal surface area to its external surface area?
a. 4:9 b. 2:3 c. 3:4   d. 9:4

199. If A+B+C = 450 and A:B:C=3:5:7, then the value of "A" is:
a. 60 b. 90 c. 120 d. 140

200. Two numbers are in the ratio of 4:9. If the first number is increased by 50% and second number is doubled then the ratio becomes 1:3 then original numbers are:
a. 36,81 b. 27,12 c. 18,36 d. 80,90

ans: 36,81

01. In how many ways can 34 people be divided into 17 couples?
a. (34!)/{(17!)17 (2!)}   b. (34!)/{(2!)17 (17!)}   c. (34!)/ {(2!)(17!)}   d. Data Inadequate
Ans: Short cut how many ways n people be divided into n/2 couples
(n!)/{(2!)n/2 (n/2)!} so ans is b. (34!)/{(2!)17 (17!)}

202. The electricity bill of JMD is partly fixed and partly varies as the number of units of electricity consumed. When is a certain month 650 units consumed the bill was Rs. 2,130. In yet another month 720 units were consumed and the bill was Rs. 2,340. What would be the bill for the month 940 units consumed?
a. 3,575   b. 3,000   c. 4,350   d. 2,990
Ans: 3,000
Solution: let's say fixed cost is k and unit cost is x
Then k+650 * x=2130
K+720 * x= 2340
From above two equations k=180 and x=3
Now 180+940*3= 3000

203. A wooden board is 7ft 9 inches long. It is divided into 3 equal parts. What is the length of each part?
a. 2 ft 7 inches   b. 3 ft   c. 2 ft 4 inches   d. 2ft 6 inches

Ans: 2 ft 7 inches
1 ft= 12 inches
So 7 ft 9 inches = 93 inches
Divide 93 inches into 3 equal parts. Then each part is 31 inches.
31 inches = 2 ft 7 inches

204. Determine the metal required to make a 21 m long pipe if its inner and outer diameter are 12 m and 10 m respectively.

a. 2904 m3 b. 2534 m3   c. 2843 m3   d. 2647 m3

volume of a hollow cylinder=pi*h*(R^2-r^2)

22/7*21m*(144-100)m^2

=66*44m3

=2904m3

205. Two trains of length 180 m and 220 m are running in opposite directions, the first one at the rate of 50 kmph and while second one at   . Calculate the time they will require to pass each other.

a. 20 seconds   b. 16 seconds   c. 18 seconds   d. 17 seconds

206. 30 men can do a work in 30 days and 40 women can do the same work in 40 days. If they started working together, how many more men required completing the work in 10 days?

 a. 42   b. 28   c. 25   d. 38

Ans: 38

Total work has to be finished in 10 days. That means 1 day work becomes 1/10

Let's say x number of men added to complete the work in 10 days.

Then

I day's work of (30 men + 40 women + x men) = 1/10   ---- (1)

If 30 men can do a work in 30 days

Then 30 men 1 day's work = 1/30

Then 1 man 1 day's work = 1/900

40 women can do a work in 40 days

Then 40 women 1 day's work = 1/40

Substitute above values in equation (1)

(1/30 + 1/40 + x (1/900))=1/10

Simplify above equation and find x value.

X=37.5 but x cannot be decimal value because x represents number of men. So x=38

 207.   Read the information given below and answer the question that follows:

I. (x & y) = (x2 − y2)

II. (x ? y) = (x-y)/2

III. (x $ y)= (x + y)/2

If (x @ y) is defined as (x3-y3) then for integers x,y>2 and x > y which of the following relationships will always be true?

a.   (x & y) < (x @ y)   b. (x$ y) > (x?y)   c. (x $ y) ≥ (x ?y)   d. Both (x$ y) > (x?y)   and (x & y) < (x @ y)

208. 3 designers x,y and z can stitch 324 dresses in 6 weeks working simultaneously. During one shift, z stitches as many dresses more than y as y stitches more than x. Z's work in 10 weeks in equivalent to x's work in 14 weeks. How many dresses does x stitch per shift.

a. 21 b 15 c. 27 d. 18

209. A person travels for 3 hours at the speed of 40 kmph and for 4.5 hours at the speed of 60 kmp. At the end of it, he finds that he has covered (3/5)th of the total distance. At what average speed should he travel to cover the remaining distance in 4 hours?

a. 70 kmph   b. 65 kmph   c. 75 kmph d. 60 kmph

Ans: 65 kmph

Distance covered in 3 hours $=$ 3 * 40 $=$ 120 km

Distance covered in 4.5 hours $=$ 60 * 4.5 $=$ 270 km

Let's say total distance is x kms

Then (3/5) * x$=$ 120+270

X$=$ 650 kms

Remaining distance $=$ 650 – (120+270) $=$ 260 km

Speed $=$ distance / time $=$ 260 / 4 $=$ 65 kmph

210. If the simple interest is 7% annual and compound interest is 6% annual, find the difference between the interests after 4 years on a sum of Rs 2000.

a. 33.05   b. 32.5   c.   37.5   d. 35.05

Ans: 35.05

Simple interest after 4 years $=$ (2000 * 7 * 4)/100$=$ 560

Compound interest after 4 years $=$ 2000*(1+ 6/100)4 – 2000 $=$ 525.95

Difference $=$ 560 – 525.95 $=$ 35.05

211. if (p+q)$=$3 then what is the value of (p3 + q3), when it is given that p$=$1/q?

a. 123   b. 143   c. 111 d. 132

Ans: 18

Click here for detailed explanation

212. let M $=$ (1,2,3,4, ….) be the set of natural numbers and Q(n) be a mathematical statement involving the natural numbers "n" belonging to M such that

I. Q(1) is true i.e., Q(n) is true for n$=$1

II. Q(n+1) is true whenever Q(n) is true

Which of the following statements is true with regard to the given information?

a. Q(n) is true for all natural numbers n   b. Cannot be detrmined from the data given

c. Both the mentioned statements are true. D. Q(n) is true implies that Q(n+1) is true.

213. 132 ml of a drink contains vodka and water in 27:6. How much more water is to be added to get a new mixture

a. 24 ml b. 54 ml   c. 12 ml   d. 36 ml

214. if (x + 1/x)$=$ 3 then find the value of (x8+1/x8)

a. 3037   b. 2207   c. 1000   d. 800

Click here for detailed explanation

215. The sum of ages of two people is 40 years. After 5 years the ratio of their ages will be 3:7 what is the ratio of their present ages?

a. 1:3   b. 1:2 c. 2:1   d. 3:1

Ans: a+b$=$40 -- (1)

(a+5)/(b+5) $=$ 3/7   -- (2)

Solve above two equations then a=10 and b=30

So ratio is 1:3

216. Two numbers are in the ratio 11:6 if the first number is increased by 200 and second by 50% then the new ratio becomes 5:3 determine the original numbers

a. 40 and 25   b. 24 and 15 c. 550 and 300   d. 32 and 20

Ans: original ratio $= 11k/6k$

$(11k+200) / (6k+3k) = 5/3$

Then k=50

So original numbers are 550 and 300

217. A photograph is to be fitted in a photo frame of sides 18 cm by 15 cm such that there is a margin of 1.5 cm left. What should be the area of the photograph?

a. 140 cm2 b. 180 cm2   c. None of these   d. 270 cm2

Ans: 180 (similar to q.no 78)

1.5 cm margin on bothsides....then 1.5+1.5=3cm

area of photograph(rectangle) =(18-3)*(15-3)

=180cm2

218. if m+ (m-3)-1 $= 6$ then determine the value of (m-3)2 $+$ (m-3)-2

a. 3 b -1 c. 1 d. 0

219. a peacock is sitting on a 19 m long pole, a snake is approaching the hole which is at bottom of the pole, the snake is 27 m away from the hole, if their speeds are same, find the distance from the hole at which the peacock pounces over the snake.

a. 3.4 m   b. 6.8 m   c. 5.9 m   d. 7.3 m

They both have same speed hence if snake moves 'x' then peacock also moves 'x' but diagonally down from the pole...

hence path of peacock , ground, and the pole make a triangle...... with diagonal (Hypotenuse) $=$ x

snake moves 'x' hence distance left =(27 - x) which is the base of triangle

and height of the pole is the height of triangle =19.

now, apply pythagoras' theorem----- x^2= (27-x)^2 $+$ 19^2

solve the equation ..... x= 20.18 m

And the distance from the hole at which the peacock pounces over the snake = 27 - 20.18 = 6.8

Answer= 6.8

Ques 221 : Choose the correct answer.

Some persons can do a piece of work in 12 days. Two times the number of such persons will do half of that work in:

Option 1 : 6 days

Option 2 : 4 days

Option 3 : 3 days

Option 4 : 12 days

Ques 222 : Choose the correct answer.

Ronald and Elan are working on an assignment. Ronald takes 6 hours to type 32 pages on a computer, while Elan takes 5 hours to type 40 pages. How much time will they take, working together on two different computers
to type an assignment of 110 pages ?
Option 1 : 7 hours 30 minutes
Option 2 : 8 hours
Option 3 : 8 hours 15 minutes
Option 4 : 8 hours 25 minutes

Ques 223 : Choose the correct answer.
A and B can do a work in 12 days, B and C in 15 days, C and A in 20 days. If A, B and C work together, they will complete the work in:
Option 1 : 5 days
Option 2 : 47/6 days
Option 3 : 10 days
Option 4 : 47/3 days

Ques 224 : Choose the correct answer.
A and B can do a job together in 7 days. A is 7/4 times as efficient as B. The same job can be done by A alone in:
Option 1 : 28/3 days
Option 2 : 11 days
Option 3 : 49/4 days
Option 4 : 49/3 days

Ques 225 : Choose the correct answer.
A and B can complete a work in 15 days and 10 days respectively. They started doing the work together but after 2 days B had to leave and A alone completed the remaining work. The whole work was completed in:
Option 1 : 8 days
Option 2 : 10 days
Option 3 : 12 days
Option 4 : 15 days

Ques 226 : Choose the correct answer.
A, B and C together can complete a piece of work in 10 days. All the three started working at it together and after 4 days A left. Then B and C together completed the work in 10 more days. A alone could complete the work in:

Option 1 : 15 days
Option 2 : 16 days
Option 3 : 25 days
Option 4 : 50 days

Ques 227 : Choose the correct answer.
One pipe can fill a tank three times as fast as another pipe. If together the two pipes can fill the tank in 36 minutes, then the slower pipe alone will be able to fill the tank in:
Option 1 : 81 min
Option 2 : 108 min
Option 3 : 144 min
Option 4 : 192 min

Ques 228 : Choose the correct answer.
A large tanker can be filled by two pipes A and B in 60 minutes and 40 minutes respectively. How many minutes will it take to fill the tanker from empty state if B is used for half the time and A and B fill it together for the other half ?
Option 1 : 15 min
Option 2 : 20 min
Option 3 : 27.5 min
Option 4 : 30 min

Ques 229 : Choose the correct answer.
Three taps A, B and C can fill a tank in 12, 15 and 20 hours respectively. If A is open all the time and B and C are open for one hour each alternately, the tank will be full in:
Option 1 : 6 hrs.
Option 2 : 20/3 hrs
Option 3 : 7 hrs
Option 4 : 15/2 hrs

Ques 230 : Choose the correct answer.
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:
Option 1 : 60 gallons
Option 2 : 100 gallons
Option 3 : 120 gallons
Option 4 : 180 gallons

Ques 231 : Choose the correct answer.

Ram and Shyam together do a work in 8 days. Both of them began to work. After 3 days Ram fell ill. Shyam completed the remaining work in 15 days. In how many days can Ram complete the whole work?

Option 1 : 12

Option 2 : 17

Option 3 : 16

Option 4 : 15

Ques 232 : Choose the correct answer.

Two workers A and B were employed for a work. A takes 8 hour more than the time taken by A and B together. If B takes 4.5 hours more than the time taken by A and B together, how long would A and B take together to complete the work?

Option 1 : 7 hours

Option 2 : 6 hours

Option 3 : 5 hours

Option 4 : 4 hours

Ques 233 : Choose the correct answer.

If 5 persons can do 5 times of a work in 5 days, then 10 persons can do 10 times of that work in:

Option 1 : 10 days

Option 2 : 8 days

Option 3 : 5 days

Option 4 : 2 days

Ques 234 : Choose the correct answer.

Two taps can fill a cistern in 6 min. and 7 min. respectively. If these taps are opened alternatively for a minute, in what time will the cistern be filled?

Option 1 : 5.67 min

Option 2 : 6.25 min

Option 3 : 5 min

Option 4 : 45/7 min

Ques 235 : Choose the correct answer.

Two taps A and B can fill a cistern in 28 min. and 42 min. respectively. Third tap C can empty it in 42 min. If all the three taps are opened, the time taken to fill the cistern is:

Option 1 : 30 min

Option 2 : 35 min

Option 3 : 28 min

Option 4 : 42 min

Ques 236 : Choose the correct answer.
49 pumps can empty a reservoir in 6½ days, working 8 hours a day. If 196 pumps are used for 5 hours a day, then the same work will be completed in:
Option 1 : 2.6 days
Option 2 : 3 days
Option 3 : 2.5 days
Option 4 : 2 days

Ques 237 : Choose the correct answer.
16 men complete one-fourth of a piece of work in 12 days. What is the additional number of men required to complete the work in 12 more days ?
Option 1 : 48
Option 2 : 36
Option 3 : 30
Option 4 : 16

Ques 238 : Choose the correct answer.
A takes thrice as long to do a piece of work, as B takes. A and B together can do a piece of work in 7.5 days. A alone can do in:
Option 1 : 30 days
Option 2 : 40 days
Option 3 : 50 days
Option 4 : 60 days
Option 5 : None of these

Ques 239 : Choose the correct answer.
A cistern can be filled by two pipes A and B in 10 and 15 hours respectively and is then emptied by a tap in 8 hours. If all the taps are opened, the cistern will be fill in:
Option 1 : 21 hours
Option 2 : 22 hours
Option 3 : 23 hours
Option 4 : 24 hours
Option 5 : None of these

Ques 240 : Choose the correct answer.

A locomotive engine, without any wagons attached to it, can go at a speed of 40 km/hr. Its speed is diminished by a quantity that varies proportionally as the square root of the number of wagons attached. With 16 wagons, its speed is 28 km/hr. The

Option 1 : 99

Option 2 : 100

Option 3 : 101

Option 4 : 120

Ques 241 : Choose the correct answer.

If 33 untrained labourers can do a work in 15 days of 12 hr. each, how many trained labourers can do 50% more work in 11 days of 9 hr each ? (It may be assumed that it takes 2 trained labourers to do the work of 5 untrained labourers)

Option 1 : 42

Option 2 : 36

Option 3 : 90

Option 4 : 100

Ques 242 : Choose the correct answer.

Which of the following fractions is less than 7/8 and greater than 1/3 ?

Option 1 : 1/4

Option 2 : 23/24

Option 3 : 11/12

Option 4 : 11/24

Ques 243 : Choose the correct answer.

892.7 – 573.07 – 95.007 = ?

Option 1 : 224.623

Option 2 : 224.777

Option 3 : 233.523

Option 4 : 414.637

Ques 244 : Choose the correct answer.

Which is the closest approximation to the product 0.3333 x 0.25 x 0.499 x 0.125 x 24 ?

Option 1 : 1/8

Option 2 : 3/4

Option 3 : 3/8

Option 4 : 2/5

Ques 245 : Choose the correct answer.

Find the value of X :

0.009/X = 0.01

Option 1 : 0.0009

Option 2 : 0.09

Option 3 : 0.9

Option 4 : 9

Ques 246 : Choose the correct answer.

The least among the following is:

Option 1 : 0.2

Option 2 : 1/0.2

Option 3 : 0.22222222

Option 4 : (0.2)2

Ques 247 : Choose the correct answer.

In the following expression, there are two missing digits: * and #. Find the value of *.

1*5#4 / 148 = 78

Option 1 : 1

Option 2 : 4

Option 3 : 6

Option 4 : 8

Option 5 : None of these

Ques 248 : Choose the correct answer.

What is the value of (-5)(4)(2)(-1/2)(3/4) ?

Option 1 : -30

Option 2 : -15

Option 3 : 15

Option 4 : 30

Ques 249 : Choose the correct answer.

If x * y = x2 + y2 – xy, then the value of 9 * 11 is:

Option 1 : 93

Option 2 : 103

Option 3 : 113

Option 4 : 121

Ques 250 : Choose the correct answer.

If a = 0.1039, then the value of $(4a^2 – 4a + 1)^{1/2} + 3a$ is:

Option 1 : 0.1039

Option 2 : 0.2078

Option 3 : 1.1039

Option 4 : 2.1039

Ques 251 : Choose the correct answer.

If a, b, c, d, e are five consecutive odd numbers, their average is:

Option 1 : 5 (a + 4)

Option 2 : (abcde/5)

Option 3 : 5 (a + b + c + d + e)

Option 4 : None of these

Ques 252 : Choose the correct answer.

(x % of 932) + 30 = 309.6

Find x.

Option 1 : 25

Option 2 : 30

Option 3 : 35

Option 4 : 40

Ques 253 : Choose the correct answer.

Which of the following multipliers will cause a number to be increased by 29.7% ?

Option 1 : 1.297

Option 2 : 12.97

Option 3 : 129.7

Option 4 : 1297

Ques 254 : Choose the correct answer.

If 2A = 3B and 4B = 5C, then A: C is:

Option 1 : 4 : 3

Option 2 : 8 : 15

Option 3 : 15 : 8

Option 4 : 3 : 4

Ques 255 : Choose the correct answer.

0.4777 . . . is the recurring decimal for the fraction:

Option 1 : 4777/100000

Option 2 : 477/100

Option 3 : 437/1000

Option 4 : 43/90

Ques 256 : Choose the correct answer.

0.8888 ÷ 0.011 is equal to:

Option 1 : 8.08

Option 2 : 80.8

Option 3 : 0.808

Option 4 : None of these

Ques 257 : Choose the correct answer.

The ascending order of rational numbers -7/10, 5/-8, 2/-3 is:

Option 1 : -7/10, 2/-3, 5/-8

Option 2 : -7/10, 5/-8, 2/-3

Option 3 : 5/-8, -7/10, 2/-3

Option 4 : 2/-3, 5/-8, -7/10

Ques 258 : Choose the correct answer.

If A is real and $1 + A + A2 + A3 = 40$, then A is equal to:

Option 1 : -3

Option 2 : -1

Option 3 : 1

Option 4 : 3

Ques 259 : Choose the correct answer.

(1 + 3 + 5 + … + 3983) / 1992 = ?

Option 1 : 1988

Option 2 : 1992

Option 3 : 1990

Option 4 : None of these

Ques 260 : Choose the correct answer.

Which one of the following should be added to 25p2 + 16q2, so that the resulting sum becomes a perfect square?

Option 1 : 20pq

Option 2 : 30pq

Option 3 : 40pq

Option 4 : 50p2q2

Ques 261 : Choose the correct answer.

(1.0816) 1/2= ?

Option 1 : 0.14

Option 2 : 1.4

Option 3 : 1.004

Option 4 : 1.04

Ques 262 : Choose the correct answer.

If the digit in the units place of a square natural number is 6, then the digit in the tens place will be:

Option 1 : 1

Option 2 : 3

Option 3 : Even

Option 4 : Odd

Ques 263 : Choose the correct answer.

(a+b)3-(a-b)3 can be factorized as:

Option 1 : 2b(3a2+b2)

Option 2 : 2a(3a2+b2)

Option 3 : 2b(3b2+a2)

Option 4 : 2a(a2+3b2)

Ques 264 : Choose the correct answer.

If 9x2+3px+6q when divide by 3x+1 leaves a remainder -3/4 and qx2+4px+7 is exactly divisible by x+1,

then the values of p and q respectively will be:

Option 1 : 0, 7/4

Option 2 : -7/4, 0

Option 3 : Same

Option 4 : 7/4, 0

Ques 265 : Choose the correct answer.

The equations 2x+3y-7=0 and 10x+15y-35=0 are:

Option 1 : Consistent and have unique solution

Option 2 : Consistent and have infinitely many solutions

Option 3 : inconsistent

Option 4 : none of these

Ques 266 : Choose the correct answer.

The solution of the simultaneous equations $(1/2)x + (1/3)y = 2$ and $x+y=1$ is:

Option 1 : x = 0, y = 1

Option 2 : x = 1, y = 0

Option 3 : x = 2/3, y = 3/2

Option 4 : x = 10, y = -9

Ques 267 : Choose the correct answer.

If the equation $x^2-2(k+1)x+(9/2)k=0$ has two identical roots then the values of k are:

Option 1 : k=1, 2

Option 2 : k=2 or 1/2

Option 3 : k=3, 1/2

Option 4 : none of these

Ques 268 : Choose the correct answer.

The number which should be subtracted from $5a^2-3ab+7b^2$ to make it equal to a^2+ab+b^2, is:

Option 1 : $4a^2-4ab+6b^2$

Option 2 : $4a^2-4ab+5b^2$

Option 3 : $4a^2+4ab+6b^2$

Option 4 : $4a^2-3ab+6b^2$

Option 5 : None of these

Ques 269 : Choose the correct answer.

If $x = (1/2)(2p+2q-r)$, $y = (1/3)(-p-2q+3r)$ and $z=(1/5)(3p-4r+5q)$, then the value of $2x-3y-5z$ is:

Option 1 : 0

Option 2 : -q

Option 3 : 2

Option 4 : None of these

Ques 270 : Choose the correct answer.

The roots of the quadratic equation $6x^2-5x+1=0$ are:

Option 1 : 2,3

Option 2 : 1/2,1/3

Option 3 : 3,4

Option 4 : 1/3,1/4

Option 5 : None of these

'Ques 271 : Choose the correct answer.

If a = 16, b=25, the value of $1/(a-1/2 - b-1/2)$ is:

Option 1 : 10

Option 2 : 15

Option 3 : 20

Option 4 : 25

Option 5 : 30

Ques 272 : Choose the correct answer.

3a2 (ab+bc+ca) =

Option 1 : 3a2+3a2bc+3a3c

Option 2 : 3a3b+3a2bc+3c

Option 3 : 3a3b+3a2bc+3a3c

Option 4 : a3b+abc+a2c

Option 5 : None of these

Ques 273 : Choose the correct answer.

x4y-xy4 =

Option 1 : xy(x-y)(x2 + xy + y2)

Option 2 : xy(x+y)(x2-xy+y4)

Option 3 : x(xy-1)(x2-xy+y)

Option 4 : (x3+y2)xy

Option 5 : None of these

Ques 274 : Choose the correct answer.

Factors of 6a2-25a+4 are:

Option 1 : (a+4) (a-6)

Option 2 : (a-4) (6a+1)

Option 3 : (a-4)(6a-1)

Option 4 : (a-6) (a-4)

Option 5 : None of these

Ques 275 : Choose the correct answer.

The correct relationship after eliminating x, y and z from x+y = a, y+z=b and z+x = c and x+y+z = m, is:

Option 1 : m=x+y+z

Option 2 : 2m=a+b+c

Option 3 : m=x-y-z

Option 4 : 2m=x-y-z

Option 5 : None of these

Ques 276 : Choose the correct answer.

If r = at2 and s = 2at, the relation among s, r and a is:

Option 1 : s2=4ar

Option 2 : s=ar

Option 3 : s=2ar

Option 4 : s2=ar

Option 5 : None of these

Ques 277 : Choose the correct answer.
If a+b=6, ab=5, the value of a-b is:
Option 1 : 4
Option 2 : 5
Option 3 : 6
Option 4 : 7
Option 5 : 9

Ques 278 : Choose the correct answer.
|X – 5| + 4 > 0 and |X2| < 4. Then x can be:
Option 1 : 4
Option 2 : 2
Option 3 : 0.5
Option 4 : All of these

Ques 279 : Choose the correct answer.
If f(x) = sum of all the digits of x, where x is a natural number, then what is the value of
f(101)+f(102)+f(103)+ .. +f(200)?
Option 1 : 1000
Option 2 : 784
Option 3 : 999
Option 4 : 1001

Ques 280 : Choose the correct answer.
Pawan is a very confused person. Once he wrote 1+2+3+4+5+6+7+8+9+10 = 100. In how many places
you need to change '+' with ' * ' to make the equality hold good ?
Option 1 : 2
Option 2 : 4
Option 3 : 3
Option 4 : None of these

Ques 281 : Choose the correct answer.
What is the highest power of 82 contained in 83!-82! ?
Option 1 : 3
Option 2 : 2
Option 3 : 164
Option 4 : None of these

Ques 282 : Choose the correct answer.
If x = 0.75, then what is the value of the expression (1+x+x2) + x3/(1-x) ?
Option 1 : 0.25
Option 2 : 4
Option 3 : 1.75
Option 4 : 1

Ques 283 : Choose the correct answer.
If a lies between 2 and 3, both included, and b lies between 4 and 6, both included, then what is the ratio of minimum and maximum limits of a2-b2?
Option 1 : -4
Option 2 : 4
Option 3 : 32/7
Option 4 : – 28/6

Ques 284 : Choose the correct answer.
If a, b, c are roots of the equation 1x3-4x2+6.5x + 3.5 = 0, then what is the value of a2 + b2 + c2?
Option 1 : 1
Option 2 : 64
Option 3 : 169
Option 4 : 3

Ques 285 : Choose the correct answer.
If |x| + |y| = 7, then what is the sum of minimum and maximum values of x + y?
Option 1 : 3/2
Option 2 : -7
Option 3 : 7
Option 4 : 0

Ques 286 : Choose the correct answer.
832.58-242.31 =779.84- ?
Option 1 : 179.57
Option 2 : 199.57
Option 3 : 295.05
Option 4 : None of these

Ques 287 : Choose the correct answer.
Which is the closest approximation to the product 0.3333 * 0.25 * 0.499 * 0.125 * 24 ?
Option 1 : 1/8
Option 2 : 3/4
Option 3 : 3/8
Option 4 : 2/5

Ques 288 : Choose the correct answer.
The simplification of (0.2 * 0.2 + 0.02 * 0.02 – 0.4 * 0.02) / 0.36
Option 1 : 0.009
Option 2 : 0.09
Option 3 : 0.9
Option 4 : 9

Ques 289 : Choose the correct answer.
If 13 + 23+ 33+ ……….+ 93 = 2025 ,then the value of (0.11)3 + (0.22)3 + ….+ (0.99)3 is close to:

Option 1 : 0.2695
Option 2 : 0.3695
Option 3 : 2.695
Option 4 : 3.695

Ques 290 : Choose the correct answer.
In a purse there are 30 coins, twenty one-rupee and remaining 50-paise coins. Eleven coins are picked simultaneously at random and are placed in a box. If a coin is now picked from the box, find the probability of it being a rupee coin?
Option 1 : 4/7
Option 2 : 1/2
Option 3 : 2/3
Option 4 : 5/6

Ques 291 : Choose the correct answer.
A, B and C are three students who attend the same tutorial classes. If the probability that on a particular day exactly one out of A and B attends the class is 7/10; exactly one out of B and C attends is 4/10; exactly one out of C and A attends is 7/10. I
Option 1 : 46/100
Option 2 : 63/100
Option 3 : 74/100
Option 4 : 99/100

Ques 292 : Choose the correct answer.
A box contains 10 balls numbered 1 through 10. Anuj, Anisha and Amit pick a ball each, one after the other, each time replacing the ball. What is the probability that Anuj picks a ball numbered less than that picked by Anisha, who in turn picks a lesser n
Option 1 : 3/25
Option 2 : 1/6
Option 3 : 4/25
Option 4 : 81/400

Ques 293 : Choose the correct answer.
A biased die has a probability of 1/4 of showing a 5, while the probability of any of 1, 2, 3, 4, or 6 turning up is the same . If three such dice are rolled, what is the probability of getting a sum of atleast 14 without getting a 6 on any die ?
Option 1 : 5/24
Option 2 : 9/160
Option 3 : 1/30
Option 4 : 7/160

Ques 294 : Choose the correct answer.
A, B, C, D and E play the following game. Each person picks one card from cards numbered 1 through 10. The person who picks the greatest numbered card loses and is out of the game. Now the remaining four return their cards to the pack and draw again, and
Option 1 : 3/14

Option 2 : 4/17
Option 3 : 1/5
Option 4 : 5/24

Ques 295 : Choose the correct answer.
Which among the following is greatest: 51/2, 111/3, 1231/6 ?
Option 1 : 51/2
Option 2 : 111/3
Option 3 : 1231/6
Option 4 : All are equal

Ques 296 : Choose the correct answer.
What are the unit's digits of 369, 6864, 4725 respectively ?
Option 1 : 9,6 and 6
Option 2 : 6, 6 and 6
Option 3 : 3,6 and 4
Option 4 : None of these

Ques 297 : Choose the correct answer.
A = 11 * 22 * 33 * 44 * 55 * ……..1010. How many zeroes will be there at the end of A ?
Option 1 : 6
Option 2 : 15
Option 3 : 10
Option 4 : None of these

Ques 298 : Choose the correct answer.
If x = 3 + 31/2, then what is the value of x2 + 9/x2 ?
Option 1 : 15 + 3 * 31/2
Option 2 : 18 + 3 * 31/2
Option 3 : 27 + 3 * 31/2
Option 4 : None of these

Ques 299 : Choose the correct answer.
If x4 + 1/x4 = 47, then find the value of x3 + 1/x3
Option 1 : 18
Option 2 : 27
Option 3 : 9
Option 4 : 12

Ques 300 : Choose the correct answer.
The product of two numbers is 2028 and their H.C.F. is 13. The number of such pairs is:
Option 1 : 1
Option 2 : 2
Option 3 : 3
Option 4 : 4

Part 2

Ques 1 : Choose the correct answer.

If the sum of two numbers is 55 and the H.C.F. and L.C.M of these numbers are 5 and 120 respectively, then the sum of the reciprocals of the numbers is equal to:

Option 1 : 55/601
Option 2 : 601/55
Option 3 : 11/120
Option 4 : 120/11

Correct Answer :11/120

Ques 2 : Choose the correct answer.

Three different containers contain 496 litres, 403 litres and 713 litres of mixtures of milk and water respectively. What biggest measure can measure all the different quantities exactly ?

Option 1 : 1 litre
Option 2 : 7 litre
Option 3 : 31 litre
Option 4 : 41 litre

Correct Answer :31 Liters

Ques 3 : Choose the correct answer.
Six bells commence tolling together and toll at intervals of 2, 4, 6, 8, 10 and 12 seconds respectively. In 30 minutes, how many times do they toll together ?

Option 1 : 4
Option 2 : 10
Option 3 : 15
Option 4 : 16

Correct Answer : 16