QUANTs & APTITUDE - Basic Mathematics

AMCAT Previous Year Papers and study materials

There are a Total of 3 sets in the Paper : Check all the more than 700 Questions, some questions from Free sections are also included since that part covers 30-40% and the rest is covered by the newer additions of Questions here.

There are around 1100 Questions shuffled for a set out of which 700 are these

While it is a positive resource for preparation, mugging up is not suggested. Practicing is.

QUANTS-

Topics	Subtopics	Expected Questions
Basic Mathematics	• Divisibility • HCF and LCM • Numbers, decimal fractions and power	6 - 8 Questions
Applied Mathematics	• Profit & Loss ,Simple & Compound Interest • Time, Speed and Distance • Work & Time • Ration & Allegation	8 - 10 Questions
Engineering Mathematics	• Logarithms • Permutation and Combinations • Probability	8 - 10 Questions

COMPUTER SCIENCE

Topics	Subtopics	Expected Questions
Basic Programming	• Data Types • Iteration, Recursion, Decision • Procedure, functions and scope	10 - 12 Questions
Data Structures	• Arrays, Linked Lists, Trees, Graphs • Stacks, Queues • Hash Tables • Heaps	6 - 8 Questions
OOPs	• Polymorphism • Abstraction • Encapsulation	4 - 6 Questions

Miscellaneous	• Searching and Sorting • Complexity Theory • Core Computer Science	4 - 5 Questions

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ENGLISH

Topics	Subtopics	Expected Questions
Vocabulary	• Synonyms • Antonyms • Sentence based Synonyms • Sentence based Antonyms	7 - 8 Questions
Grammar	• Subject-Verb Agreement • Tenses and Articles • Prepositions and Conjunctions • Speech and Voices	10 - 12 Questions
Comprehension	• Inferential and Literal Comprehension • Contextual Vocabulary • Comprehension ordering	5 Questions

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Set 1

1. The cost price of 10 articles is equal to the selling price of 9 articles. find the profit percent.
a. 101/9 % b. 100/9 % c. 102/9 % d. 103/9 %

Ans: 100/9 %

Let Cost Price be x and selling price be y
Then given that cost price of 10 articles is equal to the selling price of 9 articles
That means 10x=9y
Y= 10x/9
Profit percent = ((selling price – cost price)/cost price) * 100
= 100/9 %

2. The ratio of radii of two right circular cylinders is 6:7 and their heights are in the ratio 5:9. The ratio of their respective curved surface areas is
a. 14:15 b. 17:19 c. 23:29 d. 10:21

Ans: 10 : 21

Curved surface area of a cylinder = 2 * Pi * r * h
Ratio = (6/7) * (5/9) = 10:21

3. In how many ways can the 7 letters A,B,C,D,E,F and G be arranged so that C and E never together.
a. 5040 b. 6480 c. 3600 d. 1440

Ans: 3600

C and E never together = Total arrangements – C and E together
Total arrangements are 7!
C and E together = pack c and e into one unit + 5 other alphabets = 6! 2! (2! Is two arrange c and e internally)
C and E never together = Total arrangements – C and E together = 7! – 6! 2! = 3600

4. How many numbers are there in all from 4000 to 4999 (both 4000 and 4999 included) having at least one of their digits repeated?
a. 356 b. 216 c. 496 d. 504

Ans: 496

Atleast one of their digits repeated = Total numbers – None of the digits repeated
Total numbers from 4000 to 4999 = 1000
None of the digits repeated = _ _ _ _

There are total 4 places
1st place is filled with 4 only. So only one choice
2nd place is filled with any 9 digits except 4 as we have used 4 in 1st place. So 9 choices
Similarly 3rd place is filled with any 8 digits. So we have 8 choices
4th place is filled with any 7 digits. So we have 7 choices.
So total arrangements = 1 * 9 * 8 * 7 = 504
Ans= 1000 – 504 = 496

5. if 1/2x +1/4x+1/8x=14 Then the value of x is:
a. 8 b. 12 c. 4 d. 16

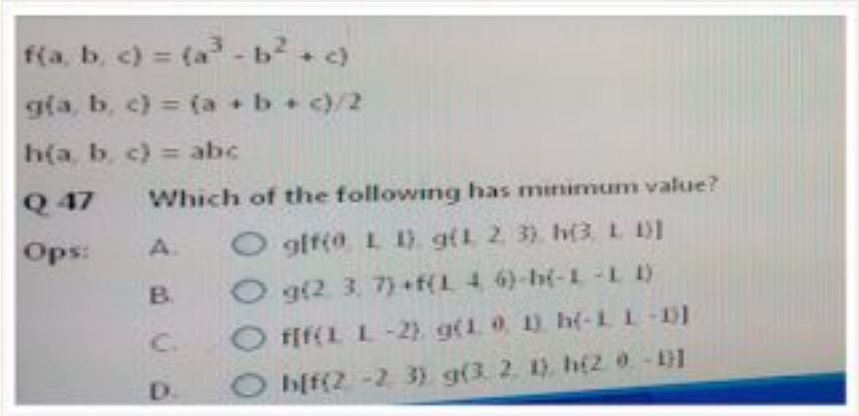
Ans: x = 16

6. Which of the following expressions will always be true?

A. $x^{2/3} = \sqrt{x^3}$ B $x^{2/3} > \sqrt[3]{x^2}$ C $x^{2/3} < \sqrt[3]{x^2}$ D $x^{2/3} = \sqrt[3]{x^2}$

Ans: D

Verify from options



Ans(C)

8. Find the value of h[f(1,2,3), g(2,1,-2), h(1,-1,-1)].
a. 0.5 b. none c. 1 d. 0

Ans(D)

9. A trapezium with an area of 5100 cm2 has the perpendicular distance between the two parallel sides of 60m . if one of the parallel sides be 40m. find the length of the other side.
a. 130 m b. 110 m c. 120 m d. 145 m

Ans: 130 m

Area of a trapezium = (1/2) (a+b) h

10. Find the simple interest on Rs. 306.25 from March 3rd to July 27th(In the same year) at 3.75 percent.
a. Rs. 4.57 b. Rs. 4.59 c. Rs. 4.53 d. Rs 4.58

Ans: 4.59

from March 3rd to July 27th(In the same year) = 146 days
(306.25 * 146 * 3.75)/ (365 * 100) = 4.59

11. Dhruv and Naksh drive at the speeds of 36 Kmph and 54 kmph respectively. If Naksh takes 3 hours lesser than what Dhruv takes for the same distance. Then distance is :
a. 324 km b. 524 km c. 320 km d. 420 km

Ans: 324 km

Let dhruv takes t hours then naksh takes t-3 hours
Because distance is same in both cases
So 36 * t = 54 (t-3)
t=9
ans: 36 * 9 = 324 km

12. The radius of wheel of axis's car is 50 cm. What is the distance that the car would cover in 14 revolutions?
a. 11 m b. 22 m c. 33 m d. 44 m

Ans: 44 m

Distance covered in one revolution is equal to wheel surface area = 2 * Pi * r
Distance covered in 14 revolutions = 14 (2 * (22/7) * 50) = 44000 cm= 44 m

13. P can do a piece of work in 5 days of 8 hours each and Q can do in 4 days of 6 hours each. How long will they take do it working 5 hours a day?
a. 2 days b. 3 days c. 4 days d. 5 days

Ans: 3 days

P can do in 5* 8 hours= 40 hours
Q can do in = 24 hours
Working together in one hour = (1/40) + (1/24) = 1/15
Total work can be finished in 15 hours
They 5 hours a day so total number of days = 15/5 = 3 days

14. Libra had three diamond weighing equal. One of the diamond fell and broke into 4 equal pieces weighing 20gm each. what was the total weight of three diamonds.
a. 200 gm b. 280 gm c. 320 gm d. 240 gm

Ans: 20 * 4 * 3 = 240 gm

16. if the antecedent and consequent of a ratio are increased by 5 and 6 respectively then the ratio is 5:6. find the original ratio. a. 5:6 b. 1:2 c. 2:3 d. 3:4
Ans: let's say original ratio is x:y
(x+5)/(y+6) = 5/6
Then x/y = 5/6

17. Rohit and Rahul start from the same point and move away from each other at right angle. After 4 hours they are 80 km apart. if the speed of Rohit is 4 kmph more than Rahul. what is the speed of Rohit?
a. 16 kmph b. 20 kmph c. 12 kmph d. none

Ans: x is the speed of rahul then (x+4) will be rohit speed

802 = (4x)2 + ((x+4)4)2
X=12
Rohit speed = 12 + 4 = 16kmph

18. Abhimanyu and supreet can together finish a work in 50 days. They worked together for 35 days and then supreet left. After another 21 days, Abhimanyu finished the remaining work. In how many days Abhimanyu alone can finish the work?
a. 70 days b. 75 days c. 80 days d. 60 days

Ans: 35 days worked together + 21 days abhimayu worked = finished the work

35(1/50) + 21(x) = 1
X=70 days
19. if two fair dice are thrown simultaneously. then what is the probability that sum of the numbers appearing on the top faces of the dice is less than 4? a. 6/14 b. none c. 1/12
d. 3/18
Ans: possible cases are (1,1) (1,2) and (2,1) = 3

3/36 = 1/12

20.

21. 3 individuals john wright, greg chappell and gary kristen are in the race for the appointment of new coach of team india. The probabilities of their appointment are 0.5, 0.3 and 0.2 respectively. If john wright is appointed then probability of ganguly appointed as a captain will be 0.7 and corresponding probability if greg chappell or gary kristen is appointed are 0.6 and 0.5 respectively. find the overall probability that ganguly will appointed as a captain.
a. 0.63 b. 0.35 c. 0.18 d. 0.89
Ans: 0.63

22. A man spends Rs 660 on tables and chairs. the price of each table is Rs. 150 and the price of each chair is Rs. 20. If he buys maximum number of tables, what is the ratio of chairs to tables purchased?
a. 2: 5 b. 3:5 c. 2:3 d. 3:4
4 tables + 3 chairs =660
Chairs to tables ratio is 3:4

23. two packets are available for sale.
packet a: peanuts 100 gms for Rs 48 only
packet b: peanuts 150 gms for Rs 72 only
which is a better buy?
a. both have the same value b. packet b c. data insufficient d. packet a
Ans: a. both have the same value

Packet-a : 1 gm cost = 48/100
Packet-b : 1 gm cost = 72/150

24.find the surface area of a piece of metal which is in the form of a parallelogram whose base is 10 cm and height is 6.4 cm
a. 64 cm2 b. 65 cm2 c. 45 cm2 d. 56 cm2
Ans:

25. Sridevi is younger than Rajeev by 4 years. if their ages are in the ratio of 7:9. how old is Sridevi?
Ans: if Sridevi is x then Rajeev will be (x+4)
x/(x+4) = 7/9
x=14

26. A sum of Rs. 900 amounts to Rs. 950 in 3 years at simple interest. If the interest rate is increased by 4%, it would amount to how much?

27. two trains for Palwal leave Kanpur at 10a.m and 10:30 am and travel at the speeds of 60 kmph and 75 kmph respectively. After how many kilometres from Kanpur will the two trains be together?
Ans: 150 km

28. (x + 1/x) = 6 the value of (x5 + 1/x5) = ?
Ans: 6726

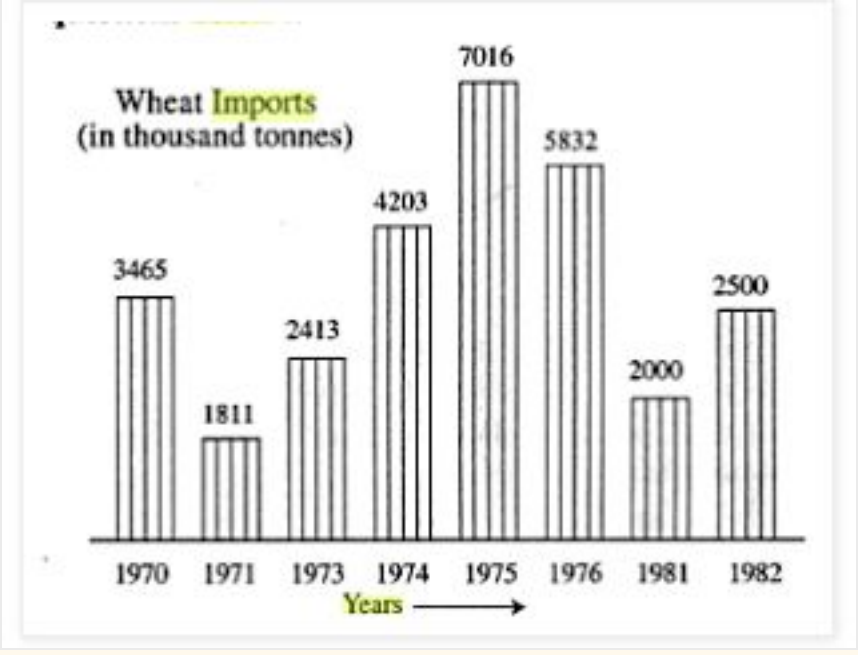
29. In how many ways can 44 people be divided into 22 couples?
Ans: Short cut how many ways n people be divided into n/2 couples
(n!)/{(2!)n/2 (n/2)!} so ans is b. (44!)/{(2!)22 (22!)}

30. Find the remainder when (x3 + 4 x2 + 6 x - 2) is divided (x+5)
Ans: -57

31. a solid cylinder has total surface area of 462 cm2 . If total surface area of the cylinder is thrice of its curved surface area. then the volume of the cylinder is:
a. 539 cm3 b. 545 cm3 c. 531 cm3 d. 562 cm3

Ans:539

32.



In which year was there lowest wheat import?

a. 1973 b. 1974 c. 1975 d. 1982
Ans: a

33. What is the ratio of number of years which have imports above the average imports to those which have imports below the average imports?
a. 5:3 b. 2: 6 c. 3: 8 d. none
Ans: d

34. The increase in imports in 1982 was what percent of the imports in 1981?
a. 25% b. 5% c. 125% d. 80%
Ans: a

35. The section of a solid right circular cone by a plane containing vertex and perpendicular to base is an equilateral triangle of side 10 cm. find the volume of the cone?
a. 221.73 cm3 b.223.73 cm3 c.228.73 cm3 d.226.61 cm3

36. A sum of Rs 468.75 was lent out at simple interest and at the end of 1 year and 8 months, the total amount of Rs 500 is recieved. find the rate of interest.
a. 2% b. 4% c. 1% d. 3%
Ans: 4%

37.Consider the following two curves in the X-Y plane
y=(x3+x2+5)
y=(x2+x+5)
Which of the following statements is true for -2<= x <=2?
a. The two curves do not intersect. b. The two curves intersect thrice.
c. The two curves intersect twice. d. The two curves intersect once.
Ans: b

38.Give a model for maximising the profit in a company or minimising the loss in a conflict with optimisation techniques.where quantity f(x) is referred to as the object function while the vector ‘x’consists of decision variables.
A. None of the mentioned options. B. x* =arg min f(x) C. x* =arg max f(x) D. x* =an-1+an arg min f(x)n

39. A positive integer is selected at random and is divided by 7,what is the probability that the remainder is 1?
A. 3/7 B. 4/7 C. 1/7 D. 2/7
Ans: 1/7

40. A mixture of 40 litres of salt and water contains 70%of salt.how much water must be added to decrease the salt percentage to 40%?
A. 40 litres B. 30 litres C. 20 litres D.2 litres
Ans: x=30

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

Ques 4 : Choose the correct answer.
Four different electronic devices make a beep after every 30 minutes, 1 hour, 3/2 hour and 1 hour 45 minutes respectively. All the devices beeped together at 12 noon. They will again beep together at:

Option 1 : 12 midnight
Option 2 : 3 a.m.
Option 3 : 6 a.m.
Option 4 : 9 a.m.

Correct Answer : 9am

Ques 5 : Choose the correct answer.
The number of prime factors of (3 x 5)12 (2 x 7)10 (10)25 is:

Option 1 : 47
Option 2 : 60
Option 3 : 72
Option 4 : None of these

Correct Answer : None Of These

Ques 6 : Choose the correct answer.
What least value must be assigned to * so that the number 63576*2 is divisible by 8?

Option 1 : 1
Option 2 : 2
Option 3 : 3
Option 4 : 4

Correct Answer :3

Ques 7 : Choose the correct answer.
Which of the following numbers is exactly divisible by 24 ?

Option 1 : 35718
Option 2 : 63810
Option 3 : 537804
Option 4 : 3125736

Correct Answer :3125736

Ques 8 : Choose the correct answer.
The number nearest to 15207, which is divisible by 467, is:

Option 1 : 14342
Option 2 : 15211
Option 3 : 14944
Option 4 : 15411
Option 5 : None of these

Correct Answer :15411

Ques 9 : Choose the correct answer.
The smallest number, which is a perfect square and contains 7936 as a factor is:

Option 1 : 251664
Option 2 : 231564
Option 3 : 246016
Option 4 : 346016
Option 5 : None of these

Correct Answer :246016

Ques 10 : Choose the correct answer.
In a division problem, the divisor is twenty times the quotient and five times the remainder. If remainder is 16, the number will be:

Option 1 : 3360
Option 2 : 336
Option 3 : 1616
Option 4 : 20516
Option 5 : None of these

Correct Answer :336

Ques 11 : Choose the correct answer.
The L.C.M. of two numbers is 4800 and their G.C.M. is 160. If one of the numbers is 480, then the other number is:
Option 1 : 1600
Option 2 : 1800
Option 3 : 2200
Option 4 : 2600
Option 5 : None of these

Ques 12 : Choose the correct answer.
The L.C.M. of two numbers is 140. If their ratio is 2:5, then the numbers are:

Option 1 : 28,70
Option 2 : 28,7
Option 3 : 8,70
Option 4 : 8,40
Option 5 : None of these

Ques 13 : Choose the correct answer.
If a number is exactly divisible by 85, then what will be the remainder when the same number is divided by 17?

Option 1 : 3

Option 2 : 1
Option 3 : 4
Option 4 : 0

Ques 14 : Choose the correct answer.
The least perfect square number which is exactly divisible by 3, 4, 7, 10 and 12 is:

Option 1 : 8100
Option 2 : 17600
Option 3 : 44100
Option 4 : None of these

Ques 15 : Choose the correct answer.
(xn+yn) is divisible by (x-y):

Option 1 : for all values of n
Option 2 : only for even values of n
Option 3 : only for odd values of n
Option 4 : for no values of n

Ques 16 : Choose the correct answer.
The greatest number that will divide 63, 138 and 228 so as to leave the same remainder in each case:
Option 1 : 15
Option 2 : 20
Option 3 : 35
Option 4 : 40

Ques 17 : Choose the correct answer.
Find the largest number, smaller than the smallest four-digit number, which when divided by 4,5,6 and 7 leaves a remainder 2 in each case.
Option 1 : 422
Option 2 : 842
Option 3 : 12723
Option 4 : None of these

Ques 18 : Choose the correct answer.
What is the highest power of 5 that divides 90 x 80 x 70 x 60 x 50 x 40 x 30 x 20 x 10?
Option 1 : 10
Option 2 : 12
Option 3 : 14
Option 4 : None of these

Ques 19 : Choose the correct answer.
If a and b are natural numbers and a-b is divisible by 3, then a3-b3 is divisible by:
Option 1 : 3 but not by 9
Option 2 : 9

Option 3 : 6
Option 4 : 27

Ques 20 : Choose the correct answer.
What is the greatest positive power of 5 that divides 30! exactly?
Option 1 : 5
Option 2 : 6
Option 3 : 7
Option 4 : 8

Ques 21 : Choose the correct answer.
In how many ways can a number 6084 be written as a product of two different factors ?
Option 1 : 27
Option 2 : 26
Option 3 : 13
Option 4 : 14

Ques 22 : Choose the correct answer.
What is the smallest four-digit number which when divided by 6, leaves a remainder of 5 and when divided by 5 leaves a remainder of 3?
Option 1 : 1043
Option 2 : 1073
Option 3 : 1103
Option 4 : None of these

Ques 23 : Choose the correct answer.
P is an integer. P>883. If P-7 is a multiple of 11, then the largest number that will always divide (P+4) (P+15) is:
Option 1 : 11
Option 2 : 121
Option 3 : 242
Option 4 : None of these

Ques 24 : Choose the correct answer.
Let C be a positive integer such that C + 7 is divisible by 5. The smallest positive integer n (>2) such that C + n2 is divisible by 5 is:
Option 1 : 4
Option 2 : 5
Option 3 : 3
Option 4 : Does not exist

Ques 25 : Choose the correct answer.
Four bells begin to toll together and then each one at intervals of 6 s, 7 s, 8 s and 9 s respectively. The number of times they will toll together in the next 2 hr is:
Option 1 : 14 times
Option 2 : 15 times

Option 3 : 13 times
Option 4 : 11 times

Ques 26 : Choose the correct answer.
The product of two numbers is 16200. If their LCM is 216, find their HCF.
Option 1 : 75
Option 2 : 70
Option 3 : 80
Option 4 : Data inconsistent

Ques 27 : Choose the correct answer.
There are four prime numbers written in ascending order of magnitude. The product of first three is 385 and that of last three is 1001. Find the first number.
Option 1 : 5
Option 2 : 7
Option 3 : 11
Option 4 : 17

Ques 28 : Choose the correct answer.
M and N are two distinct natural numbers. HCF and LCM of M and N are K and L respectively. A is also a natural number, which of the following relations is not possible?
Option 1 : K*L=A
Option 2 : K*A=L
Option 3 : L*A=K
Option 4 : None of these

Ques 29 : Choose the correct answer.
On dividing a number by 999,the quotient is 366 and the remainder is 103.The number is:
Option 1 : 364724
Option 2 : 365387
Option 3 : 365737
Option 4 : 366757

Ques 30 : Choose the correct answer.
The difference between two numbers is 1365.When the larger number is divided by the smaller one ,the quotient is 6 and the remainder is 15.The smaller number is:
Option 1 : 240
Option 2 : 270
Option 3 : 295
Option 4 : 360

Ques 31 : Choose the correct answer.
The ratio of two numbers is 3:4 and their HCF is 4.Their LCM is:
Option 1 : 12 Option 2 : 16 Option 3 : 24 **Option 4 : 48**

Ques 32 : Choose the correct answer.

A rectangular courtyard 3.78 meters long and 5.25 meters wide is to be paved exactly with square tiles ,all of the same size. What is the largest size of the tile which could be used for the purpose?
Option 1 : 14 cm **Option 2 : 21 cm** Option 3 : 42 cm Option 4 : None of these

Ques 33 : Choose the correct answer.
The least perfect square which is divisible by 3, 4, 5, 6, 8 is:
Option 1 : 900 Option 2 : 1200 Option 3 : 2500 **Option 4 : 3600**

Ques 34 : Choose the correct answer.
What will be obtained if 8 is subtracted from the HCF of 168, 189, and 231?
Option 1 : 15 Option 2 : 10 Option 3 : 21 **Option 4 : None of these**

Ques 35 : Choose the correct answer.
The largest four digit number which is a multiple of 8, 10,12 and 15 is:
Option 1 : 120 Option 2 : 9600 Option 3 : 9840 **Option 4 : 9960**

Ques 36 : Choose the correct answer.
If logx (0.1) = -1/3, then the value of x is:
Option 1 : 10 Option 2 : 100 **Option 3 : 1000** Option 4 : 1/1000

Ques 37 : Choose the correct answer.
If ax = by, then:
Option 1 : log(a/b) = x/y Option 2 : log(a) / log(b) = x/y **Option 3 : log(a) / log(b) = y/x** Option 4 : None of these

Ques 38 : Choose the correct answer.
If log8 x + log8 (1/6) = 1/3 then the value of x is:
Option 1 : 12 Option 2 : 16 Option 3 : 18 Option 4 : 24

Ques 39 : Choose the correct answer.
If log x + log y = log (x + y), then:
Option 1 : x = y Option 2 : xy=1 Option 3 : y = (x-1)/x **Option 4 : y = x/(x-1)**

Ques 40 : Choose the correct answer.
If log10 7 = a, then log10(1/70) is equal to:
Option 1 : -(1 + a) Option 2 : (1 + a)-1 Option 3 : a/10 Option 4 : 1/10a

Ques 41 : Choose the correct answer.
If log{(a+b)/3} = 0.5(log a + log b), then the correct relation between a and b is:
Option 1 : a2+b2 = 7ab Option 2 : a2-b2 = 7ab Option 3 : (a+b)2 = 2 Option 4 : (a+b)/3 = (1/2)(a+b) Option 5 : None of these

Ques 42 : Choose the correct answer.
If log x = log 3 + 2 log 2- (3/4) log 16. The value of x is:
Option 1 : 1/2 Option 2 : 1 **Option 3 : 3/2** Option 4 : 2 Option 5 : None of these

Ques 43 : Choose the correct answer.
If log x =(1/2) log y = (1/5) log z, the value of x4y3z-2 is:
Option 1 : 0 **Option 2 : 1** Option 3 : 2 Option 4 : 3 Option 5 : None of these

Ques 44 : Choose the correct answer.
If log10000 x = -1/4, then x is given by:
Option 1 : 1/100 **Option 2 : 1/10** Option 3 : 1/20 Option 4 : none of these

Ques 45 : Choose the correct answer.
The value of 3-1/2 log3(9) is:
Option 1 : 3 **Option 2 : 1/3** Option 3 : 2/3 Option 4 : none of these

Ques 46 : Choose the correct answer.
loge xy - loge |x| equals to:
Option 1 : loge x Option 2 : loge |x| Option 3 : - loge x **Option 4 : none of these**

Ques 47 : Choose the correct answer.
The value of (loga n) / (logab n) is given by:
Option 1 : 1 + loga b Option 2 : 1 + logb a Option 3 : loga b Option 4 : logb a

Ques 48 : Choose the correct answer.
If (a4 - 2a2b2 + b4)x-1 = (a-b)2x (a+b)-2, then x equals to:
Option 1 : (a - b) / (a + b) Option 2 : log (a2 - b2) Option 3 : log (a + b) / log (a - b) **Option 4 : log (a - b) / log (a + b)**

Ques 49 : Choose the correct answer.
If a, b, and c are in geometric progression then loga n, logb n and logc n are in:
Option 1 : AP Option 2 : GP **Option 3 : HP** Option 4 : None of these

Ques 50 : Choose the correct answer.
What is the value of antilog10100?
Option 1 : 2 **Option 2 : 10100** Option 3 : 100 Option 4 : 10

Ques 51 : Choose the correct answer.
If antilog x 5 = 30, what can you infer about x?
Option 1 : x is a number between 1 and 2 Option 2 : x is 305 Option 3 : x is a number between 2 and 3
Option 4 : None of these

Ques 52 : Choose the correct answer.
Every time x is increased by a given constant number, y doubles and z becomes three times. How will log(y) and log(z) behave as x is increased by the same constant number?
Option 1 : Both will grow linearly with different slopes Option 2 : Both will grow linearly with same slopes Option 3 : y will grow linearly, while z will not Option 4 : z will grow linearly, while y will not

Ques 53 : Choose the correct answer.
x triples every second. How will log2x change every second?
Option 1 : It will double every second Option 2 : It will triple every second **Option 3 : It increases by a constant amount every second.** Option 4 : None of these

Ques 54 : Choose the correct answer.
f(x) grows exponentially with x, how will f(log(x)) grow?
Option 1 : Exponentially **Option 2 : Linearly** Option 3 : Quadratically Option 4 : None of these

Ques 55 : Choose the correct answer.
What is the value of log512 8?
Option 1 : 3 **Option 2 : 1/3** Option 3 : -3 Option 4 : -1/3

Ques 56 : Choose the correct answer.
What is the value of log7 (1/49)?
Option 1 : 2 Option 2 : 1/2 Option 3 : -1/2 **Option 4 : -2**

Ques 57 : Choose the correct answer.
Given that log64 x = 2/6, what is the value of x?
Option 1 : 2 **Option 2 : 4** Option 3 : 6 Option 4 : 8

Ques 58 : Choose the correct answer.
If 7x = 85, what is the value of x?
Option 1 : log785 Option 2 : log857 Option 3 : log107 Option 4 : log1085

Ques 59 : Choose the correct answer.
If log102 = 0.3010, what is the number of digits in 264
Option 1 : 19 **Option 2 : 20** Option 3 : 18 Option 4 : None of these

Ques 60 : Choose the correct answer.
What is log110?
Option 1 : 1 Option 2 : 10 Option 3 : 0 **Option 4 : Tends to infinity**

Ques 61 : Choose the correct answer.
What is log100 ?
Option 1 : 0 Option 2 : 10 Option 3 : 1 **Option 4 : Not defined**

Ques 62 : Choose the correct answer.
What is the value of log3 (-9)?
Option 1 : 3 Option 2 : 1/3 Option 3 : -3 **Option 4 : Not defined**

Ques 63 : Choose the correct answer.
Rajeev multiplies a number by 10, the log (to base 10) of this number will change in what way?
Option 1 : Increase by 10 **Option 2 : Increase by 1** Option 3 : Multiplied by 10 Option 4 : None of these

Ques 64 : Choose the correct answer.

The logarithm of a very small positive number will tend to which of the following?
Option 1 : 0 **Option 2 : negative infinity** Option 3 : positive infinity Option 4 : 1

Ques 65 : Choose the correct answer.
If n numbers are in geometric progression, the logarithm of the number will be in which of the following?
Option 1 : Geometric Progression **Option 2 : Arithmetic Progression** Option 3 : Harmonic Progression
Option 4 : None of these

Ques 66 : Choose the correct answer.
Which of the following is equivalent to log(a + b) ?
Option 1 : log a + log b Option 2 : log a * log b Option 3 : log a - log b **Option 4 : None of these**

Ques 67 : Choose the correct answer.
What is the value of log3 (1/9) + log 9 81 ?
Option 1 : 2 Option 2 : -2 **Option 3 : 0** Option 4 : 4

Ques 68 : Choose the correct answer.
What is the value of log3 1.5 + log3 6 ?
Option 1 : 2 Option 2 : 2.7 Option 3 : 1.8 Option 4 : None of these

Ques 69 : Choose the correct answer.
Which of the following is log8 x equivalent to?
Option 1 : log2 (x/3) Option 2 : log2 (3x) **Option 3 : (log2x)/ 3** Option 4 : None of these

Ques 70 : Choose the correct answer.
If n numbers are in arithmetic progression, the logarithm of the number will be in which of the following?
Option 1 : Exponentially Option 2 : Linearly Option 3 : Quadratically **Option 4 : None of these**

Ques 71 : Choose the correct answer.
What is the value of log20 1 ?
Option 1 : 0 Option 2 : 1 Option 3 : 20 Option 4 : None of these

Ques 72 : Choose the correct answer.
The unit's digit in the product (771 x 659 x 365) is
Option 1 : 1 Option 2 : 2 **Option 3 : 4** Option 4 : 6

Ques 73 : Choose the correct answer.
1.52 * 0.02251/2 = ?
Option 1 : 0.0375 **Option 2 : 0.3375** Option 3 : 3.275 Option 4 : 32.75

Ques 74 : Choose the correct answer.
If x1/2 / 4411/2 = 0.02, the value of x is:
Option 1 : 0.1764 Option 2 : 1.764 Option 3 : 1.64 Option 4 : 2.64

Ques 75 : Choose the correct answer.
The value of 21/2 upto three places of decimal is

Option 1 : 1.41 Option 2 : 1.412 Option 3 : 1.413 **Option 4 : 1.414**

Ques 76 : Choose the correct answer.
The value of (8-25- 8-26) is:
Option 1 : 7 x 8-25 **Option 2 : 7 x 8-26** Option 3 : 8 x 8-26 Option 4 : None of these

Ques 77 : Choose the correct answer.
If 22n-1 = (1 / 8n-3) then the value of n is:
Option 1 : 3 **Option 2 : 2** Option 3 : 0 Option 4 : -2

Ques 78 : Choose the correct answer.
If 2x = 3y = 6-z, then (1/x + 1/y + 1/z)
is equal to:
Option 1 : 0 Option 2 : 1 Option 3 : 3/2 Option 4 : -0.5

Ques 79 : Choose the correct answer.
What is the remainder when 1723 is divided by 16?
Option 1 : 0 **Option 2 : 1** Option 3 : 2 Option 4 : 3

Ques 80 : Choose the correct answer.
What will be the remainder when 1336 is divided by 2196?
Option 1 : 0 **Option 2 : 1** Option 3 : 12 Option 4 : 2195

Ques 81 : Choose the correct answer.
The roots of the equation 4x-3*2x+2+32=0 would include-
Option 1 : 2, 3 Option 2 : 1, 2, 3 Option 3 : 1, 2 Option 4 : 4, 8

Ques 82 : Choose the correct answer.
If ax =b, by=c and cz =a, then the value of xyz is:
Option 1 : 0 **Option 2 : 1** Option 3 : 2 Option 4 : 3

Ques 83 : Choose the correct answer.
If x = 1+21/2 and y=1-21/2, then x2+y2 is -
Option 1 : 2 Option 2 : 3 **Option 3 : 6** Option 4 : 0

Ques 84 : Choose the correct answer.
If 4x+3 = 2x+7, then the value of x is:
Option 1 : 3 Option 2 : 2 **Option 3 : 1** Option 4 : None of these

Ques 85 : Choose the correct answer.
2x+y = 2*(2)1/2 and 2x-y = 21/2,the value of x is:
Option 1 : 1 Option 2 : 2 Option 3 : 3 Option 4 : 4 Option 5 : None of these

Ques 86 : Choose the correct answer.
If x = 8, y = 27, the value of (x4/3+y2/3)1/2 is:
Option 1 : 5 Option 2 : 6 Option 3 : 7 Option 4 : 8 Option 5 : None of these

Ques 87 : Choose the correct answer.
If xy = yx and x = 2y, the value of y is:
Option 1 : 1 **Option 2 : 2** Option 3 : 3 Option 4 : 4 Option 5 : None of these

Ques 88 : Choose the correct answer.
If 2x * 3y = 18 and 22x * 3y= 36, the value of x is:
Option 1 : 0 **Option 2 : 1** Option 3 : 2 Option 4 : 3 Option 5 : None of these

Ques 89 : Choose the correct answer.
What is the value of 500 ?
Option 1 : 0 **Option 2 : 1** Option 3 : 50 Option 4 : None of these

Ques 90 : Choose the correct answer.
What is the value of 6-2 ?
Option 1 : 1/36 Option 2 : 36 Option 3 : -36 Option 4 : None of these

Ques 91 : Choose the correct answer.
What is the value of 0-10 ?
Option 1 : 0 Option 2 : 1 Option 3 : -10 **Option 4 : None of these**

Ques 92 : Choose the correct answer.
What is the value of 251.5 ?
Option 1 : 325 Option 2 : 32.5 **Option 3 : 125** Option 4 : None of these

Ques 93 : Choose the correct answer.
What is the value of (0.027)1/3?
Option 1 : 0.3 Option 2 : 0.03 Option 3 : 0.003 Option 4 : None of these

Ques 94 : Choose the correct answer.
What is the value of (0.016)1/4?
Option 1 : 0.2 Option 2 : 0.02 Option 3 : 0.002 **Option 4 : None of these**

Ques 95 : Choose the correct answer.
Walking 6/7th of his usual speed, a man is 12 minutes too late. The usual time taken by him to cover that distance is:
Option 1 : 1 hour **Option 2 : 1 hr 12min** Option 3 : 1 hr 15 min Option 4 : 1 hr 20 min

Ques 96 : Choose the correct answer.
A boat running upstream takes 8 hours 48 minutes to cover a certain distance, while it takes 4 hours to cover the same distance running downstream. What is the ratio between the speed of the boat and speed of the water current respectively ?
Option 1 : 2 : 1 Option 2 : 3 : 2 **Option 3 : 8 : 3** Option 4 : Cannot be determined Option 5 : None of these

Ques 97 : Choose the correct answer.
In a 100 m race, A can beat B by 25 m and B can beat C by 4 m. In the same race, A can beat C by:

Option 1 : 21 m Option 2 : 26 m **Option 3 : 28 m** Option 4 : 29 m

Ques 98 : Choose the correct answer.
In a family, the father took 1/5 of the cake and he had 4 times as much as others had, then the family members are:
Option 1 : 16 **Option 2 : 17** Option 3 : 18 Option 4 : None of these

Ques 99 : Choose the correct answer.
The price of sugar is increased by 25%. In order not to increase the expenditure a lady must reduce her consumption by:
Option 1 : 25% **Option 2 : 20%** Option 3 : 30% Option 4 : None of these

Ques 100 : Choose the correct answer.
I read 3/8 of a book on one day, and 4/5 of the remainder on another day. If now there were 30 pages unread, the book contains:
Option 1 : 240 pages Option 2 : 230 pages Option 3 : 340 pages Option 4 : 140 pages Option 5 : None of these

Ques 101 : Choose the correct answer.
In an examination, 70% of students passed in physics, 65% in chemistry, 27% failed in both subjects. The percentage of students who passed is:
Option 1 : 66% **Option 2 : 62%** Option 3 : 69% Option 4 : None of these

Ques 102 : Choose the correct answer.
An article was sold for Rs. 2770. Had it been sold for Rs. 3000 there would have been an additional gain of 10%. Cost Price of the article is:
Option 1 : Rs. 2100 Option 2 : Rs. 2200 **Option 3 : Rs. 2300** Option 4 : Rs. 2400 Option 5 : None of these

Ques 103 : Choose the correct answer.
Rakesh buys a scooter worth Rs. 10,000. He sells it to Mohan at a profit of 10%. If after sometime Mohan sells it back to Rakesh at a loss of 10%, then totally:
Option 1 : Rakesh loses Rs. 100 Option 2 : Rakesh loses Rs. 1100 Option 3 : Rakesh gains Rs. 100 **Option 4 : Rakesh gains Rs. 1100** Option 5 : None of these

Ques 104 : Choose the correct answer.
The list price of an electric iron is Rs. 300. If two successive discounts of 15% and 10% are allowed, its selling price will be:
Option 1 : Rs. 229.50 Option 2 : Rs.231.50 Option 3 : Rs.232.50 Option 4 : Rs. 234.50 Option 5 : None of these

Ques 105 : Choose the correct answer.
The rate of compound interest at which a sum of Rs. 8000 amounts to Rs. 8820 in 2 years, is:
Option 1 : 5% Option 2 : 4% Option 3 : 6% Option 4 : 7% Option 5 : None of these

Ques 106 : Choose the correct answer.

A car is 250 metres behind the bus. The car and bus are moving with speed 60 km/hr and 35 km/hr respectively. The car will be ahead of bus by 250 metres in:
Option 1 : 37 seconds Option 2 : 48 seconds **Option 3 : 72 seconds** Option 4 : 68 seconds Option 5 : None of these

Ques 107 : Choose the correct answer.
Mohan walks a certain distance and rides back in 6 hours and 15 minutes. If he walks both ways he takes 7 hours and 45 minutes. If Mohan rides both ways the time which he will take will be:
Option 1 : 4 hours **Option 2 : 19/4** hours Option 3 : 9/2 hours Option 4 : 17/4 hours Option 5 : None of these

Ques 108 : Choose the correct answer.
Population of a village is eight thousand. If 6% men and 10% women are added, population becomes 8,600, then the number of men in the village was:
Option 1 : 4800 **Option 2 : 5000** Option 3 : 5060 Option 4 : 6000

Ques 109 : Choose the correct answer.
If 15 oxen or 20 cows can eat the grass of a field in 80 days, then in how many days will 6 oxen and 2 cows eat the same grass?
Option 1 : 40 Option 2 : 60 Option 3 : 100 **Option 4 : 160**

Ques 110 : Choose the correct answer.
At a certain party the ratio of gents and ladies was 1 : 2. But when 2 gents and 2 ladies left the party, the ratio became 1 : 3. How many people were initially present in the party?
Option 1 : 12 Option 2 : 15 Option 3 : 18 Option 4 : 24

Ques 111 : Choose the correct answer.
Prabodh bought 30 kg of rice at the rate of Rs. 8.50 per kg and 20 kg of rice at the rate of Rs. 9.00 per kg. He mixed the two. At what price (App.) per kg should he sell the mixture in order to get 20% profit?
Option 1 : Rs. 9.50 Option 2 : Rs. 8.50 **Option 3 : Rs. 10.50** Option 4 : Rs. 12.00

Ques 112 : Choose the correct answer.
The cash price of a television is Rs. 4022. A customer paid Rs. 1500 in cash and promised to pay the remaining money in 3 monthly equal instalments at the rate of 5% per annum compound interest. What is the value of each instalment?
Option 1 : Rs. 926.10 Option 2 : Rs. 903.33 Option 3 : Rs. 928.30 Option 4 : Rs. 940.50

Ques 113 : Choose the correct answer.
The population of a village decreases at the rate of 20% per annum. If its population 2 years ago was 10000, what is its present population?
Option 1 : 6000 Option 2 : 10000/144 **Option 3 : 6400** Option 4 : 7600

Ques 114 : Choose the correct answer.
A certain sum of money at simple interest becomes Rs. 1062 in 2 years and Rs. 1183.50 in 3½ years. What is rate of interest per annum?
Option 1 : 7% Option 2 : 6% **Option 3 : 9%** Option 4 : 5%

Ques 115 : Choose the correct answer.
If the simple interest on a sum at 4% per annum for 2 years is Rs. 80, then the compound interest on the same sum for the same period is:
Option 1 : Rs. 86.80 Option 2 : Rs. 86.10 Option 3 : Rs. 88.65 **Option 4 : Rs. 81.60**

Ques 116 : Choose the correct answer.
A man covers a distance of 1200 km in 70 days resting 9 hours a day, if he rests 10 hours a day and walks with speed 1½ times of the previous in how many days will he cover 750 km?
Option 1 : 30 **Option 2 : 31.25** Option 3 : 31 Option 4 : 33

Ques 117 : Choose the correct answer.
A train leaves Delhi at 6.00 a.m. and reaches Agra at 10.00 a.m. Another train leaves Agra at 8.00 a.m. and reaches Delhi at 11.30 a.m. At what time do the two trains cross each other if the distance between Delhi and Agra is 200 km?
Option 1 : 8.45 a.m. **Option 2 : 8.56 a.m.** Option 3 : 9.20 a.m. Option 4 : 9.56 a.m.

Ques 118 : Choose the correct answer.
How many litres of a 90% solution of concentrated acid needs to be mixed with a 75% solution of concentrated acid to get a 30 L solution of 78% concentrated acid?
Option 1 : 24 L Option 2 : 22.5 L **Option 3 : 6 L** Option 4 : 17.5 L

Ques 119 : Choose the correct answer.
If x is a positive number and y = x2, then which of the following is true?
Option 1 : y is always more than x Option 2 : x is always more than y Option 3 : x is always equal to y
Option 4 : None of these

Ques 120 : Choose the correct answer.
Rajiv has a number x in his mind. He finds out that the square of x is less than x. What is the range of x?
Option 1 : x is more than 0 Option 2 : x is less than 1 **Option 3 : x is more than 0, but less than 1** Option 4 : This is not possible

Ques 121 : Choose the correct answer.
What is the value of: x1.5 * x2 ?
Option 1 : x3 **Option 2 : x3.5** Option 3 : x0.75 Option 4 : None of these

Ques 122 : Choose the correct answer.
What is the value of: (33*812*20)/95 ?
Option 1 : 0 **Option 2 : 3** Option 3 : 1/3 Option 4 : None of these

Ques 123 : Choose the correct answer.
What number should be divided by (0.81)1/2 to give the result as 81?
Option 1 : 9 Option 2 : 81 **Option 3 : 72.9** Option 4 : 0.9

Ques 124 : Choose the correct answer.
If 6(x-3) = 36(x-5), then what is the value of x?
Option 1 : 2 Option 2 : No value will agree Option 3 : -1 **Option 4 : 7**

Ques 125 : Choose the correct answer.
Which is the largest among 21/2, 51/3 and 41/4 ?
Option 1 : (2)1/2 **Option 2 : 51/3** Option 3 : 41/4 Option 4 : None of these

Ques 126 : Choose the correct answer.
What is the value of 10009/1004?
Option 1 : 1005 Option 2 : 105 **Option 3 : 1019** Option 4 : None of these

Ques 127 : Choose the correct answer.
In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together ?
Option 1 : 120 **Option 2 : 720** Option 3 : 4320 Option 4 : 2160 Option 5 : None of these

Ques 128 : Choose the correct answer.
In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together ?
Option 1 : 810 Option 2 : 1440 Option 3 : 2880 **Option 4 : 50400** Option 5 : 5760

Ques 129 : Choose the correct answer.
How many 3 digit numbers can be formed from the digits 2, 3, 5, 6, 7 and 9, which are divisible by 5 and none of the digits is repeated ?
Option 1 : 5 Option 2 : 10 Option 3 : 15 **Option 4 : 20**

Ques 130 : Choose the correct answer.
A committee is to be formed comprising 7 members such that there is a simple majority of men and at least 1 women. The shortlist consists of 9 men and 6 women. In how many ways can this be done?
Option 1 : 3,724 Option 2 : 3,630 **Option 3 : 4,914** Option 4 : 5,670

Ques 131 : Choose the correct answer.
From a pack of 52 playing cards, 4 cards are removed at random. In how many ways can the 1st place and 3rd place cards be drawn out such that both are black ?
Option 1 : 64,974 Option 2 : 62,252 Option 3 : 69,447 **Option 4 : 1,592,500**

Ques 132 : Choose the correct answer.
In how many ways can the digits 2,3,5,7 and 9 be placed to form a three-digit number so that the higher order digit is always greater than the lower order digits? (Assume digits are all different).
Option 1 : 8 Option 2 : 9 **Option 3 : 10** Option 4 : 15

Ques 133 : Choose the correct answer.
In how many ways can 4 ladies and 4 men form two mixed doubles teams for a tennis match?
Option 1 : 72 Option 2 : 108 Option 3 : 36 Option 4 : 84

Ques 134 : Choose the correct answer.
In CAT entrance examination paper there are 3 sections, each containing 5 questions. A candidate has to solve 5, choosing at least one from each section. The number of ways he can choose is

Option 1 : 2,500 **Option 2 : 2,250** Option 3 : 2,750 Option 4 : 3,250

Ques 135 : Choose the correct answer.
A boy has 4 different boxes and 5 different marbles. In how many ways can he place the marbles in the boxes such that each box has at least one marble ?
Option 1 : 560 **Option 2 : 240** Option 3 : 420 Option 4 : 36

Ques 136 : Choose the correct answer.
A teacher was trying to form the groups of students in such a way that every group has equal number of students and that number should be a prime number. She tried for first 5 prime numbers, but on each occasion exactly one student was left behind. If t
Option 1 : 0 Option 2 : 2 Option 3 : 3 **Option 4 : 4**

Ques 137 : Choose the correct answer.
Ram buys 7 novels from a book fair. Shyam buys 8 novels from the fair, none of which is common with those bought by Ram. They decide to exchange their books one for one. In how many ways can they exchange their books for the first time ?
Option 1 : 7!x8! Option 2 : 7x8! Option 3 : 7!x8 **Option 4 : 56**

Ques 138 : Choose the correct answer.
In an examination 10 questions are to be answered choosing at least 4 from each of part A and part B. If there are 6 questions in part A and 7 in part B, in how many ways can 10 questions be answered ?
Option 1 : 212 **Option 2 : 266** Option 3 : 272 Option 4 : 312

Ques 139 : Choose the correct answer.
A box contains 20 tickets of identical appearance, the tickets being numbered 1, 2, 3, ….., 20. In how many ways can 3 tickets be chosen such that the numbers on the drawn tickets are in arithmetic progression ?
Option 1 : 18 Option 2 : 33 Option 3 : 56 **Option 4 : 90**

Ques 140 : Choose the correct answer.
A company could advertise about its new product in 4 magazines, 3 newspapers and 2 television channels. But in a later move it decided to give advertisements in only 2 of the magazines, one of the newspapers and one the TV channels. In how many ways can
Option 1 : 30 **Option 2 : 36** Option 3 : 44 Option 4 : None of these

Ques 141 : Choose the correct answer.
In how many ways can the letters of the word 'ERGONOMICS' be rearranged such that the vowels always appear together?
Option 1 : 6! /2! Option 2 : 6!*4! Option 3 : 7! /2! **Option 4 : (7! * 4!)/2!**

Ques 142 : Choose the correct answer.
How many different four letter words can be formed (the words need not be meaningful) using the letters of the word PACIFIC such that the first letter is P and the last letter is F?
Option 1 : 8 Option 2 : 3 Option 3 : 6 Option 4 : 7!/5!

Ques 143 : Choose the correct answer.
The value of 74P2 is
Option 1 : 2775 Option 2 : 150 **Option 3 : 5402** Option 4 : none of these

Ques 144 : Choose the correct answer.
In how many different ways can the letters of the word ' HARDWARE' be arranged in such a way that the vowels always come together.
Option 1 : 120 **Option 2 : 1080** Option 3 : 1440 Option 4 : 4320 Option 5 : 720

Ques 145 : Choose the correct answer.
In how many ways a committee, consisting of 4 men and 10 women can be formed from 6 men and 10 women?
Option 1 : 266 Option 2 : 50 **Option 3 : 15** Option 4 : 8640 Option 5 : none of these

Ques 146 : Choose the correct answer.
Out of 7 consonants and four vowels ,how many words of three consonants and 2 vowels can be formed?
Option 1 : 210 Option 2 : 1050 **Option 3 : 25200** Option 4 : 21400 Option 5 : none of these

Ques 147 : Choose the correct answer.
3 books of mathematics and 5 books of physics are placed on a shelf so that the books on the same subject always remain together .The possible arrangements are .
Option 1 : 1440 Option 2 : 1956 Option 3 : 720 Option 4 : none of these

Ques 148 : Choose the correct answer.
The number of possible selections of one or more questions from 8 given questions, each question having an alternative, is
Option 1 : 28-1 **Option 2 : 38-1** Option 3 : 48-1 Option 4 : none of these

Ques 149 : Choose the correct answer.
A five -digit number divisible by 3 is to be formed using numerals 0,1,2,3,4 and 5 without repetition. The total number of ways this can be done is
Option 1 : 216 Option 2 : 240 Option 3 : 600 Option 4 : 3125

Ques 150 : Choose the correct answer.
Let A be containing 10 distinct elements ,then the total number of distinct functions from A to A IS
Option 1 : 10! **Option 2 : 1010** Option 3 : 210 Option 4 : 210-1

Ques 151 : Choose the correct answer.
A polygon has 44 diagonals, the number of its sides is
Option 1 : 10
Option 2 : 11
Option 3 : 12
Option 4 : 22

Ques 152 : Choose the correct answer.
The number of triangles that can be formed by choosing the vertices from a set of 12 points, seven of which lie on the same straight line is
Option 1 : 105
Option 2 : 115
Option 3 : 175
Option 4 : 185

Ques 153 : Choose the correct answer.
There are 5 letters and five addressed envelopes. the number of ways in which all the letters can be put in wrong envelopes is
Option 1 : 119
Option 2 : 44
Option 3 : 59
Option 4 : 40

Ques 154 : Choose the correct answer.
The number of ways in which 8 different flowers can be strung to form a garland so that 4 particular flowers are never separated is
Option 1 : 960
Option 2 : 2880
Option 3 : 288
Option 4 : 576

Ques 155 : Choose the correct answer.
At an election there are five candidates and three members to be elected , and a voter may vote for any number of candidates not greater than the number to be elected. Then the number of ways in which a voter may vote is
Option 1 : 25
Option 2 : 30
Option 3 : 32
Option 4 : none of these

Ques 156 : Choose the correct answer.
There are n different books and p copies of each. the number of ways in which a selection can be made from them is
Option 1 : np
Option 2 : pn
Option 3 : (p+1)n -1

Option 4 : (n+1)p-1

Ques 157 : Choose the correct answer.
The sides AB, BC, CA of a triangle ABC have 3,4 and 5 interior points respectively on them. The total number of triangles that can be constructed by using these points as vertices is
Option 1 : 220
Option 2 : 204
Option 3 : 205
Option 4 : 195

Ques 158 : Choose the correct answer.
A lady gives dinner party to five guests to be selected from 9 friends .The number of ways of forming the party of 5,given that two of the friends will not attend the party together is
Option 1 : 56
Option 2 : 126
Option 3 : 91
Option 4 : none of these

Ques 159 : Choose the correct answer.
Each question has four choices out of which only one is correct. A candidate has to answer four questions. The number of ways he fails to give all answers correctly, is
Option 1 : 15
Option 2 : 81
Option 3 : 255
Option 4 : 256

Ques 160 : Choose the correct answer.
A college has 10 basketball players. A 5-member team and a captain will be selected out of these 10 players. How many different selections can be made?
Option 1 : 1260
Option 2 : 210
Option 3 : 10C6 * 6!
Option 4 : 10C5 * 6

Ques 161 : Choose the correct answer.
There are 10 yes or no questions. How many ways can these be answered?
Option 1 : 1084
Option 2 : 2048
Option 3 : 1024
Option 4 : 100

Ques 162 : Choose the correct answer.
If the letters of the word CHASM are rearranged to form 5 letter words such that none of the word repeat and the results arranged in ascending order as in a dictionary what is the rank of the word CHASM?
Option 1 : 24
Option 2 : 31

Option 3 : 32
Option 4 : 30

Ques 163 : Choose the correct answer.
A bag contains 4 white, 5 red and 6 blue balls. Three balls are drawn at random from the bag. The probability that all of them are red, is:
Option 1 : 1/22
Option 2 : 3/22
Option 3 : 2/91
Option 4 : 2/77

Ques 164 : Choose the correct answer.
A box contains 20 electric bulbs, out of which 4 are defective. Two bulbs are chosen at random from this box. The probability that at least one of these is defective, is:
Option 1 : 4/19
Option 2 : 7/19
Option 3 : 12/19
Option 4 : 21/95

Ques 165 : Choose the correct answer.
In a class, 30% of the students offered English, 20% offered Hindi and 10% offered both. If a student is selected at random, what is the probability that he has offered English or Hindi ?
Option 1 : 2/5
Option 2 : 3/4
Option 3 : 3/5
Option 4 : 3/10

Ques 166 : Choose the correct answer.
A box contains 6 red balls, 7 green balls and 5 blue balls. Each ball is of a different size. The probability that the red ball being selected is the smallest red ball, is
Option 1 : 1/18
Option 2 : 1/3
Option 3 : 1/6
Option 4 : 2/3

Ques 167 : Choose the correct answer.
If A and B are 2 independent events and P(A)=0.5 and P(B) = 0.4, find P(A/B):
Option 1 : 0.5
Option 2 : 0.4
Option 3 : 0.88
Option 4 : None of these

Ques 168 : Choose the correct answer.
A 5-digit number is formed by the digits 1,2,3,4 and 5 without repetition. What is the probability that the number formed is a multiple of 4?
Option 1 : 1/4

Option 2 : 1/5
Option 3 : 2/5
Option 4 : 1/120
Option 5 : 4

Ques 169 : Choose the correct answer.
In a single throw of dice, what is the probability to get a number greater or equal to 4?
Option 1 : 1/3
Option 2 : 2/3
Option 3 : 1/2
Option 4 : None of these

Ques 170 : Choose the correct answer.
A bag contains 5 oranges, 4 bananas and 3 apples. Rohit wants to eat a banana or an apple. He draws a fruit from the bag randomly. What is the probability that he will get a fruit of his choice?
Option 1 : 3.5/12
Option 2 : 7/12
Option 3 : 5/12
Option 4 : None of these

Ques 171 : Choose the correct answer.
There are two boxes A and B. Box A has three red and four blue balls. Box B has five red and two blue balls. Anya draws a ball from each bag randomly. What is the probability that both balls are red?
Option 1 : 4/7
Option 2 : 8/49
Option 3 : 7/8
Option 4 : 15/49

Ques 172 : Choose the correct answer.
Ravi has a bag full of 10 Nestle and 5 Cadbury chocolates. He draws two chocolates. What is the probability that he got at least one Nestle chocolate?
Option 1 : 2/3
Option 2 : 3/7
Option 3 : 2/21
Option 4 : None of these

Ques 173 : Choose the correct answer.
The probability of having at least one tail in 5 throws of a coin is
Option 1 : 1/32
Option 2 : 31/32
Option 3 : 1/5
Option 4 : None of these

Ques 174 : Choose the correct answer.
A bag contains 5 yellow and 4 brown pencils. If two pencils are drawn, what is the probability that the pencils are of the same colour?

Option 1 : 5/108
Option 2 : 1/6
Option 3 : 5/18
Option 4 : 4/9

Ques 175 : Choose the correct answer.
A single letter is drawn at random from the word, “ASPIRATION”, the probability that it is a vowel is?
Option 1 : 1/2
Option 2 : 1/3
Option 3 : 3/5
Option 4 : 2/5

Ques 176 : Choose the correct answer.
The probability that a man can hit a target is 3/4. He tries 5 times. The probability that he will hit the target at least three times is:
Option 1 : 291/364
Option 2 : 371/464
Option 3 : 471/502
Option 4 : 459/512

Ques 177 : Choose the correct answer.
An unbiased dice is rolled 3 times. The probability that the value on the dice is not more than 4 in any of the 3 rolls is:
Option 1 : 8/27
Option 2 : 1/27
Option 3 : 26/27
Option 4 : 2/3

Ques 178 : Choose the correct answer.
Probability of occurrence of event A is 0.5 and that of event B is 0.2. The probability of occurrence of both A and B is 0.1. What is the probability that none of A and B occur?
Option 1 : 0.3
Option 2 : 0.4
Option 3 : 0.7
Option 4 : None of these

Ques 179 : Choose the correct answer.
An unbiased coin is tossed 5 times. If tail appears on first four tosses, then probability of tail appearing on the fifth toss is:
Option 1 : 1/2
Option 2 : 1
Option 3 : 0
Option 4 : 4/5

Ques 180 : Choose the correct answer.

X and Y are two independent events. The probability that X and Y occur is 1/12, and the probability that neither occur is 1/2, the probability of occurrence of X can be:
Option 1 : 1/3
Option 2 : 1/5
Option 3 : 1/2
Option 4 : 1/10

Ques 181 : Choose the correct answer.
An unbiased coin is tossed n times. If the probability of getting 4 tails equals the probability of getting 7 tails, then the probability of getting two tails is:
Option 1 : 55/2048
Option 2 : 3/4096
Option 3 : 1/1024
Option 4 : None of these

Ques 182 : Choose the correct answer.
Sudhanshu and Pankaj stand in a circle with 10 other persons. If the arrangement of the person is at random, then the probability that there are exactly 3 persons between Sudhanshu and Pankaj is?
Option 1 : 9/11
Option 2 : 2/11
Option 3 : 1/11
Option 4 : None of these

Ques 183 : Choose the correct answer.
Three numbers are chosen from 1 to 30 randomly. The probability that they are not consecutive is:
Option 1 : 1/145
Option 2 : 144/145
Option 3 : 139/140
Option 4 : 1/140

Ques 184 : Choose the correct answer.
A bag is full of 20 bananas and no other fruit. Rajeev draws a fruit from the bag. What is the probability that he will draw a banana?
Option 1 : 1
Option 2 : 0
Option 3 : 1/2
Option 4 : None of these

Ques 185 : Choose the correct answer.
An unbiased dice is rolled 5 times and the outcomes are 1, 2, 3, 4 and 5 respectively. If it is rolled again, what is the probability that the outcome is 6?
Option 1 : 1
Option 2 : 5/6
Option 3 : 1/6
Option 4 : None of these

Ques 186 : Choose the correct answer.
The probability of drawing an apple from a bag of fruits is 6/25. How many apples should Ravi draw, so that there is a chance he will draw 12 apples on average?
Option 1 : 25
Option 2 : 50
Option 3 : 12
Option 4 : None of these

Ques 187 : Choose the correct answer.
What is the probability for a day to be Sunday?
Option 1 : 1/7
Option 2 : 1/5
Option 3 : 52/365
Option 4 : None of these

Ques 188 : Choose the correct answer.
Rani has a bag with three blue and three yellow coins. She takes out a coin, sees its colour and puts it back in the bag. She does this thrice. What is the probability that she saw all blue coins.
Option 1 : 1/8
Option 2 : 1/2
Option 3 : 1/3
Option 4 : None of these

Ques 189 : Choose the correct answer.
Shikhar has a bag with 2 balls, each of which can be black or white with equal probability. Now, he draws out a ball and it turns out to be black. After this event, what is the probability that both balls are black?
Option 1 : 1/2
Option 2 : 1/4
Option 3 : 1
Option 4 : None of these

Ques 190 : Choose the correct answer.
A coin is tossed thrice. What is the probability that the first toss of coin lands head, second tail and third lands tail as well?
Option 1 : 1/16
Option 2 : 3/8
Option 3 : 1/8
Option 4 : None of these

Ques 191 : Choose the correct answer.
The probability of occurrence of event A is 0.3 and that of event B is 0.4. The events are independent. What is the probability of occurrence of both A and B?
Option 1 : 0.7
Option 2 : 0.1
Option 3 : 0.12
Option 4 : Cannot be determined

Ques 192 : Choose the correct answer.
The probability of occurrence of event A is 0.1 and that of event B is 0.2. The events are mutually exclusive. What is the probability of occurrence of both A and B?
Option 1 : 0.1
Option 2 : 0
Option 3 : 1
Option 4 : Cannot be determined

Ques 193 : Choose the correct answer.
The probability of occurrence of event X is 0.8 and that of event Y is 0.05. The events are mutually exclusive. What is the probability of occurrence of either X or Y?
Option 1 : 0.85
Option 2 : 0.75
Option 3 : 0
Option 4 : Cannot be determined

Ques 194 : Choose the correct answer.
10% of the voters did not cast their vote in an election between two candidates. 10% of the votes polled were found invalid. The successful candidate got 54% of the valid votes and won by a majority of 1620 votes. The number of voters enrolled on the vo
Option 1 : 25000
Option 2 : 33000
Option 3 : 35000
Option 4 : 40000

Ques 195 : Choose the correct answer.
A, B, C started a business with their investments in the ratio 1:3:5. After 4 months, A invested the same amount as before and B as well as C withdrew half of their investments. The ratio of their profits at the end of the year is:
Option 1 : 4:3:5
Option 2 : 5:6:10
Option 3 : 6:5:10
Option 4 : 10:5:6

Ques 196 : Choose the correct answer.
Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety in the ratio 1:1:2. If the mixture is worth Rs. 153 per kg, the price of the third variety per kg will be:
Option 1 : Rs. 169.50
Option 2 : Rs. 170
Option 3 : Rs. 175.50
Option 4 : Rs. 180

Ques 197 : Choose the correct answer.

A can contains a mixture of two liquids A and B in the ratio 7:5. When 9 litres of mixture are drawn off and the can is filled with B, the ratio of A and B becomes 7:9. How many litres of liquid A was contained by the can initially ?
Option 1 : 10
Option 2 : 20
Option 3 : 21
Option 4 : 25

Ques 198 : Choose the correct answer.
A man bought a number of clips at 3 for a rupee and an equal number at 2 for a rupee. At what price per dozen should he sell them to make a profit of 20% ?
Option 1 : Rs 4
Option 2 : Rs 5
Option 3 : Rs 6
Option 4 : Rs 7

Ques 199 : Choose the correct answer.
Padam purchased 30 kg of rice at the rate of 17.50 per kg and another 30 kg rice at a certain rate. He mixed the two and sold the entire quantity at the rate of Rs. 18.60 per kg and made 20% overall profit. At what price per kg did he purchase the lot
Option 1 : Rs.12.50
Option 2 : Rs. 13.50
Option 3 : Rs. 14.50
Option 4 : Rs. 15.50
Option 5 : None of these

Ques 200 : Choose the correct answer.
The manufacturer of a certain item can sell all he can produce at the selling price of Rs. 60 each. It costs him Rs. 40 in materials and labour to produce each item and he has overhead expenses of Rs. 3000 per week in order to operate the plant. The numb
Option 1 : 200
Option 2 : 250
Option 3 : 300
Option 4 : 400

Ques 201 : Choose the correct answer.
A sells a bicycle to B at a profit of 20%. B sells it to C at a profit of 25%. If C pays Rs. 225 for it, the cost price of the bicycle for A is:
Option 1 : Rs. 110
Option 2 : Rs.120
Option 3 : Rs. 125
Option 4 : Rs. 150

Ques 202 : Choose the correct answer.
If 5% more is gained by selling an article for Rs. 350 than by selling it for Rs. 340, the cost of the article is:
Option 1 : Rs. 50

Option 2 : Rs. 160
Option 3 : Rs. 200
Option 4 : Rs. 225

Ques 203 : Choose the correct answer.
Consider the following statements : If a sum of money is lent at simple interest, then the
1. Money gets doubled in 5 years if the rate of interest is 50/3 %.
2. Money gets doubled in 5 years if the rate of interest is 20%.
3. Money becomes
Option 1 : 1 and 3 are correct
Option 2 : 2 alone is correct
Option 3 : 3 alone is correct
Option 4 : 2 and 3 are correct

Ques 204 : Choose the correct answer.
The difference between simple interest and compound interest on Rs.1200 for one year at 10% per annum reckoned half-yearly is:
Option 1 : Rs. 2.50
Option 2 : Rs. 3
Option 3 : Rs. 3.75
Option 4 : Rs. 4
Option 5 : None of these

Ques 205 : Choose the correct answer.
A sum of money lent at compound interest for 2 years at 20% per annum would fetch Rs. 482 more, if the interest was payable half-yearly than if it was payable annually. The sum is:
Option 1 : Rs. 10,000
Option 2 : Rs. 20,000
Option 3 : Rs. 40,000
Option 4 : Rs. 50,000

Ques 206 : Choose the correct answer.
The simple interest on Rs. 10 for 4 months at the rate of 3 paise per rupee per month is:
Option 1 : Rs. 1.20
Option 2 : Rs. 1.60
Option 3 : Rs. 2.40
Option 4 : Rs. 3.60

Ques 207 : Choose the correct answer.
If the compound interest on a sum for 2 years at 25/2 % per annum is Rs. 510, the simple interest on the same sum at the same rate for the same period of time is:
Option 1 : Rs. 400
Option 2 : Rs. 450
Option 3 : Rs. 460
Option 4 : Rs. 480

Ques 208 : Choose the correct answer.
I started on my bicycle at 7 a.m. to reach a certain place. After going a certain distance, my bicycle went out of order. Consequently, I rested for 35 minutes and came back to my house walking all the way. I reached my house at 1 p.m. If my cycling s
Option 1 : 4.92 km
Option 2 : 13.44 km
Option 3 : 14.375 km
Option 4 : 15.476 km

Ques 209 : Choose the correct answer.
A bag contains 10-paisa, 20-paisa and 25-paisa coins in the ratio 7:4:3. If the total value is Rs. 90, the number of 25-paisa coins in the bag is:
Option 1 : 120
Option 2 : 160
Option 3 : 280
Option 4 : 300

Ques 210 : Choose the correct answer.
Find a whole number such that when one of its digit is erased, the resulting number is equal to one-ninth of the original number. The resulting number is also a multiple of 9.
Option 1 : 90
Option 2 : 83438
Option 3 : 10125
Option 4 : 70847

Ques 211 : Choose the correct answer.
A ship is moving at a speed of 30 kmph. To know the depth of the ocean beneath it, it sends a radiowave which travels at a speed 200 m/s. The ship receives back the signal after it has moved 500 m. What is the depth of the ocean?
Option 1 : 4 km
Option 2 : 8 km
Option 3 : 6 km
Option 4 : 12 km

Ques 212 : Choose the correct answer.
In a town the population grows at a simple rate of 10% in a decade and compounds from decade to decade. Find the population at the beginning of the 1970s if the population at the beginning of the 1990s is 3,63,000 people.
Option 1 : 30,000
Option 2 : 3,00,000
Option 3 : 30,00,000
Option 4 : 3,15,000

Ques 213 : Choose the correct answer.

In approximately how many years will a certain sum of money triple itself at 22% simple interest?

Option 1 : 10 years

Option 2 : 11 years

Option 3 : 9 years

Option 4 : 12 years

Ques 214 : Choose the correct answer.

A man rows a boat at a speed of 5 km/hr in still water. Find the speed of a river if it takes him 1 hr to row a boat to a place 2.4 km away and return back.

Option 1 : 1 km/hr

Option 2 : 6 km/hr

Option 3 : 3 km/hr

Option 4 : 4 km/hr

Ques 215 : Choose the correct answer.

A boat covers 40 km upstream and 90 km downstream in 5 hr. It can also cover 60 km upstream and 60 km downstream in 5 hr. The speed of the water current is

Option 1 : 4 km/hr

Option 2 : 5 km/hr

Option 3 : 20 km/hr

Option 4 : 25 km/hr

Ques 216 : Choose the correct answer.

Two champion swimmers start a two-length swimming race at the same time, but from opposite ends of the pool. They swim at constant but different speeds. They first pass at a point 18.5 m from the deep end. Having completed one length, each swimmer take

Option 1 : 90 m

Option 2 : 45 m

Option 3 : 26.5m

Option 4 : Data insufficient

Ques 217 : Choose the correct answer.

A and B start together from the same point on a circular track and walk in the same direction till they both again arrive together at the starting point. A completes one circle in 224 s and B in 364 s. How many times will A have passed B?

Option 1 : 4

Option 2 : 5

Option 3 : 6

Option 4 : 7

Ques 218 : Choose the correct answer.

36 men can complete a piece of work in 18 days. In how many days will 27 men complete the same work ?

Option 1 : 12

Option 2 : 18

Option 3 : 22

Option 4 : 24

Option 5 : None of these

Ques 219 : Choose the correct answer.

39 persons can repair a road in 12 days, working 5 hours a day. In how many days will 30 persons, working 6 hours a day, complete the work ?

Option 1 : 10

Option 2 : 13

Option 3 : 14

Option 4 : 15

Ques 220 : Choose the correct answer.

If 7 spiders make 7 webs in 7 days, then 1 spider will make 1 web in how many days ?

Option 1 : 1

Option 2 : 7/2

Option 3 : 7

Option 4 : 49

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 (4a2 – 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 x2-2(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 5a2-3ab+7b2 to make it equal to a2+ab+b2, is:

Option 1 : 4a2-4ab+6b2

Option 2 : 4a2-4ab+5b2

Option 3 : 4a2+4ab+6b2

Option 4 : 4a2-3ab+6b2

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 6x2-5x+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