JECA-2021
APTITUDE

1062003025

Duration: **1** Hour

Full Marks: **50**

INSTRUCTIONS

1. All questions are of objective type having four answer options for each. Only one option is correct. Correct answer will carry full marks **1**. In case of incorrect answer or any combination of more than one answer, ¼ mark will be deducted.

2. Questions must be answered on OMR sheet by darkening the appropriate bubble marked A, B, C or D.

3. Use only **Black/Blue ball point pen** to mark the answer by complete filling up of the respective bubbles.

4. Mark the answers only in the space provided. Do not make any stray mark on the OMR.

5. Write question booklet number and your roll number carefully in the specified locations of the **OMR**. Also fill appropriate bubbles.

6. Write your name (in block letter), name of the examination centre and put your full signature in appropriate boxes in the OMR.

7. The OMR is liable to become invalid if there is any mistake in filling the correct bubbles for question booklet number/roll number or if there is any discrepancy in the name/ signature of the candidate, name of the examination centre. The OMR may also become invalid due to folding or putting stray marks on it or any damage to it. The consequence of such invalidation due to incorrect marking or careless handling by the candidate will be sole responsibility of candidate.

8. Candidates are not allowed to carry any written or printed material, calculator, pen, docu-pen, log table, wristwatch, any communication device like mobile phones etc. inside the examination hall. Any candidate found with such items will be **reported against** and his/her candidature will be summarily cancelled.

9. Rough work must be done on the question paper itself. Additional blank pages are given in the question paper for rough work.

10. Hand over the OMR to the invigilator before leaving the Examination Hall.

Aptitude-2021

JECA-2021

SPACE FOR ROUGH WORK

1.

District	Applied	Appeared	Qualified
P	15000	10000	9500
Q	12000	10000	9350
R	20000	15000	14550
S	10000	8000	7200

The number of candidates from five different districts applied for, appeared in and qualified in a certain competitive examination is given in the table above. Find which district-candidates have the highest qualifying rate.

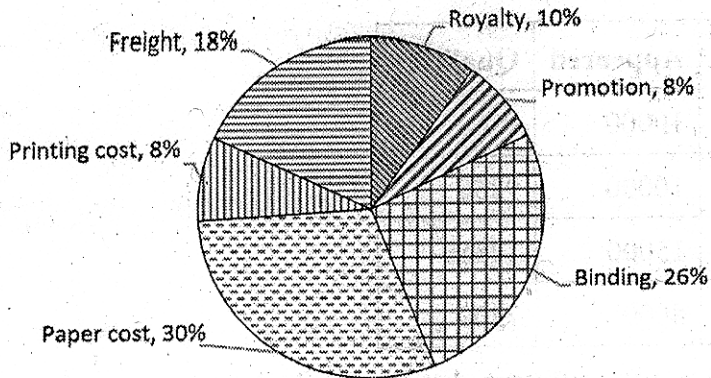(A) P

(B) Q

(C) R

(D) S

2.
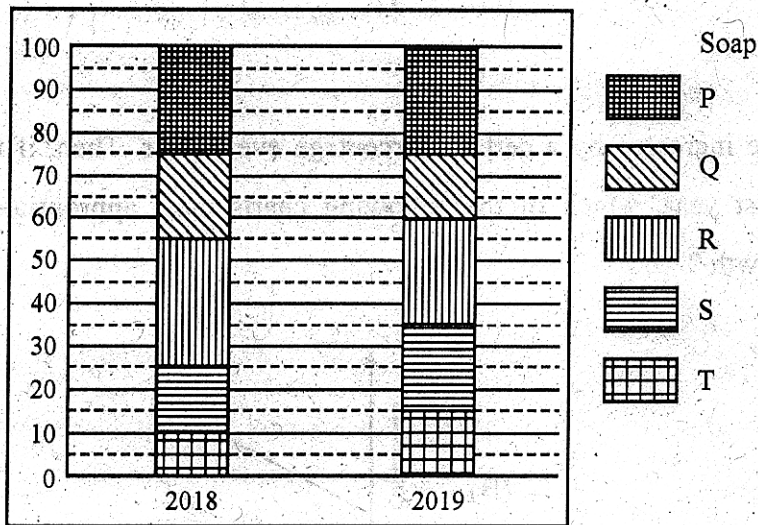
Percentage distribution of total production of a soap manufacturing company in to five different brands of soaps over two years is shown in the above bar graph. Total numbers of soap manufactured in 2018 and 2019 were respectively 65000 and 72000. Altogether how many P, R and T brand soaps were manufactured in 2018?

(A) 32500

(B) 45500

(C) 46800

(D) 42250

3.

Various expenditures incurred by a publishing house in publishing each book is shown in the above pie-chart. If he pays ₹ 5,76,000 for freight to publish 40,000 copies of a book, at what price must he sell each copy to make 10% profit ?
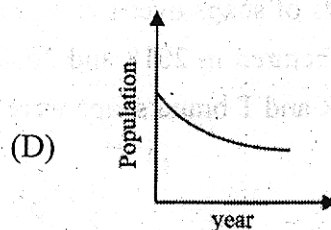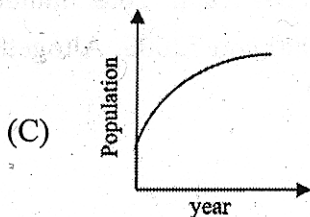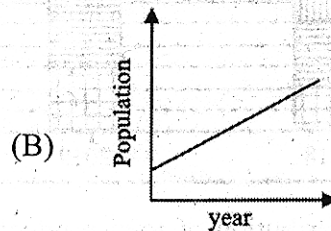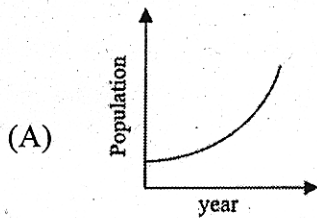
(A) ₹ 88

(B) ₹ 188

(C) ₹ 44

(D) ₹ 92

4. Population of a certain state increases by a certain percentage every year. Then, if the population is plotted against year, which of the following charts most appropriately represent the population growth ?

(A)

(B)

(C)

(D)

5. A company's expenditure remained constant at INR 1,00,000 per year from 2011 to 2018. Its profit/loss over the period in percentage is shown in the chart below. How much was its total net profit/loss over the eight year period ?
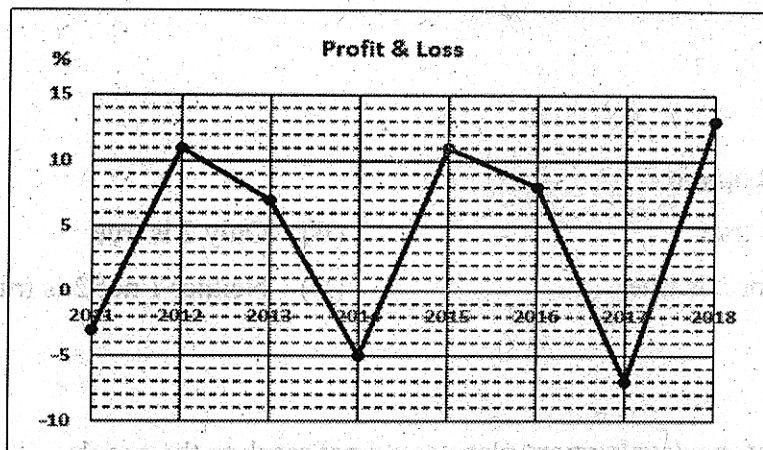
(A) INR 35,000 loss   (B) INR 35,000 profit
(C) INR 3,500 profit   (D) INR 3,500 loss

6. Six statements followed by four alternative combinations of three are given below. Choose the combination in which the statements in sequence are logically related.
   P. Some men are bald
   Q. Bald men are intelligent
   R. Ajay is a man
   S. Ajay is bald
   T. Ajay is intelligent
   U. All men are intelligent
   (A) PQU   (B) QST
   (C) RSQ   (D) TQU

7. Two statements and two conclusions are given below. Decide which conclusion(s) logically follow(s) from the given statements, assuming that the statements are true.
   Statements :
   • All boys are naughty
   • Rohan is naughty
   Conclusions:
   1. Rohan is a boy
   2. All naughty persons are boys
   Select the right option :
   (A) 1 follows but 2 does not   (B) 2 follows but 1 does not
   (C) Both 1 and 2 follow   (D) Neither 1 nor 2 follows

8. Statement:

$$G = C, X \geq G, C \geq D$$

Conclusions:

1. $D \geq G$

2. $C \geq X$

Select the right option:

(A) Only 1 is true   (B) Only 2 is true

(C) Either 1 or 2 is true   (D) Neither 1 nor 2 is true

9. Statement:

In India most of the development plans could not reach to the people.

Course of action :

1. There should be strict supervision of implementation of plans at grass root level

2. Such plans should be stopped

Select the right option :

(A) Only 1 is implicit   (B) Only 2 is implicit

(C) Both 1 and 2 are implicit   (D) Neither 1 nor 2 is implicit

10. Statement:

There has been very low rate of voting in the last election.

Course of action :

1. Election Commission announce re-election

2. Election Commission should cancel voting right of people who did not vote in the last election

Select the right option:

(A) Only 1 is implicit

(B) Only 2 is implicit

(C) Both 1 and 2 are implicit

(D) Neither 1 nor 2 is implicit

11.

Rows					
I	3	9	15	18	6
II	6	18	30	36	12
III	9	27	45	56	18
IV	5	15	25	32	10
V	4	12	20	24	3

In some of the rows in the above table, the five numbers are related in same fashion. Identify those rows by selecting the right choice from below :

(A) Rows I, II, III

(B) Rows I, II, IV

(C) Rows I, III, IV

(D) Rows I, III, V

12.

Columns	I	II	III	IV	V
	2	3	4	5	6
	4	27	64	125	216
	6	9	12	15	18
	4	9	16	25	36
	5	6	14	8	9

In some of the columns in the above table, the five numbers are related in same manner. Identify those columns by selecting the right option below.

(A) Columns I, II, V

(B) Columns II, III, IV

(C) Columns I, III, V

(D) Columns II, IV, V

13. Academic performance of four friends P, Q R and S is such that P and Q are good in Physics and poor in Chemistry. P and R are good in Mathematics but poor in English. R and S are good in Chemistry but poor in Bengali. S and Q are good in English as well as in Mathematics. Then which of the following statements is definitely true ?

(A) P and S are poor in Bengali

(B) All of them are good in Mathematics

(C) S and P are good in Physics
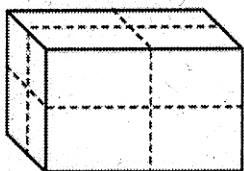
(D) Q and R are good in Chemistry

14. Each of the four typists P, Q R and S were asked to type four passages W, X, Y and Z of same length. Their number of mistakes are shown in the following table.

	W	X	Y	Z
P	2	1	2	2
Q	1	4	2	6
R	5	1	3	1
S	2	2	2	2

Which typist was most consistently correct/incorrect and which passage created most number of errors?

(A) P, Z

(B) P, X

(C) S, Z

(D) S, X

15.

A wooden block is so painted that 3 red coloured faces meet at one corner and remaining 3 blue coloured faces meet at the opposite corner. The block is then cut into 8 equal pieces as shown in the figure. How many pieces will have only two red faces and how many pieces will have two blue faces?

(A) 3, 3

(B) 4, 4

(C) 2, 2

(D) 6, 2

16. Each of the six friends P, Q, R, S, T and U scored different marks in an examination. R scored more than only P and T. S scored less than only Q. T did not score the least. The one who scored the third highest marks scored 81. The student who scored the maximum, scored 13 marks more than U. Then which of the following can be S's score?

(A) 94

(B) 60

(C) 89

(D) 78

17. An ironsmith has five articles P, Q, R, S and T. P weighs double that of Q which weighs four and half times that of R, which in turn weighs half of T. S weighs one-sixth of P. What is the descending order the weights?

(A) SPQTR

(B) QPTRS

(C) PQTRS

(D) PQTSR

18. If $72 - 31 = 14$ and $65 - 72 = 29$ then $68 - 33 = $?

   (A) 35

   (B) 53

   (C) 27

   (D) 11

19. Which are the two missing letters in the series

   a-b-c-d-e-?-e-d-c-b-?

   (A) a, f

   (B) g, b

   (C) f, a

   (D) f, c

20. If 3 is subtracted from the middle digit of the following numbers and then their position of the digits is reversed, which of the following will be the sum of the digits of the number that will come in the middle after arranging them in descending order?

   589, 362, 554, 171, 442

   (A) 7

   (B) 10

   (C) 9

   (D) 8

21. In a certain way 'PROJECT' is related to 'CEOPRT'. 'PLANE' is related to 'ELNP' and 'WIN' is related to 'NW'. Then 'ORGANISED' will be related to

   (A) ADEGOIRS

   (B) ADEGIOSR

   (C) ADEGIORS

   (D) ADEGBORS

22. In a certain code '4 6 1' means 'where are you'. '1 6 9' means 'you are good' and '8 6 5 2' means 'flowers are not bad'. Then what is the code for 'where not are good flowers'?

   (A) 4 5 6 9 8

   (B) 6 8 9 5 4

   (C) 4 6 7 8 9

   (D) 4 6 2 8 9

23. In a certain code, 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 are written as a, b, c, d, e, f, g, h, i and j respectively. Then

$$\left\{ bee + fg - \left\{ ca \times \frac{h}{be} \right\} \right\} = ?$$

   (A) bjb

   (B) bja

   (C) bhc

   (D) bic

24. A * B means A is sister of B

A ÷ B means B is mother of A

A + B means A is the father of B

A = B means B is the father of A

Then which of the following means M is the maternal uncle/aunt of N ?

(A) M + P + Q * N

(B) N + P = Q * M

(C) N * P ÷ Q * M

(D) M + Q = P ÷ N

25. A child started from his home to look for his father. He went 90 m to the east before turning to his right. Then he walked 20 m before turning to his right again to look for his father at his uncle's place 30 m from this point. His father was not there. So he went 100 m to his north and met his father on the street. How far from his home did the son meet his father ?

(A) 100 m

(B) 80 m

(C) 240 m

(D) 140 m

26. Jagat ran to his north-west for 4 km, from where he took a 90° turn clock-wise and ran another 4 km. He again turned 90° clock-wise and ran another 4 km. Then in which direction he would be from his starting point?

(A) North

(B) North-East

(C) West

(D) East

27. Starting from the same point, two boys, Anil and Shyam walk in opposite directions for 250 m each. Anil was walking towards east. Then both turned to their right and walked 250 m each and then faced each other. In which direction was Shyam looking?

(A) South-East

(B) North-West

(C) North-East

(D) South -West

28. While looking for some food, a dog ran 25 m in a straight path and then took a 72° turn to its right. It again ran 25 m and took a 72° turn to its right and continued in the same way. How far the dog was from its starting point after running five times in this way?

(A) 75 m

(B) 0 m

(C) 125 m

(D) 5 m

29. Twelve students are standing in a row from left to right. Sishir is seventh from the left. Now all odd numbered students are shifted to the next odd numbered positions keeping the remaining students where they were. What is the position of Sishir in the new row thus formed ?

 (A) Seventh from left
 (B) Fifth from left
 (C) Seventh from right
 (D) Fifth from right

30. In a queue, Raman is the last person, while his friend is seventh from the front. If the person exactly between Raman and his friend is in twenty third position, what is Raman's position in the queue?

 (A) 35th
 (B) 39th
 (C) 37th
 (D) 36th

31. In a row of children, Binita is seventh from left and Manasi is fourth from right. When Binita and Manasi exchange their positions, Binita becomes fifteenth from left. Where will be Manasi's new position from right ?

 (A) Twelfth
 (B) Eighth
 (C) Eleventh
 (D) Seventh

32. Hari remembers that their father expired in the year 2000 after 26th February but before 1st March. His brother Madhu remembers that their father expired after 27th February and before 2nd March. Which is the most probable date when their father expired ?

 (A) 28th February
 (B) 29th February
 (C) 1st March
 (D) 27th February

33. When Rajib was born, his father was 30 years older than Rajib's elder brother Monish and his mother was 23 years older than Rajib's elder sister Nayna. Monish is 5 years elder than Rajib and their mother is 5 years younger than their father. How old was Nayna when Rajib was born ?

 (A) 11 years
 (B) 10 years
 (C) 7 years
 (D) 9 years

34. Find the missing characters a, b, c.

JKL – KBL – LCM – MDN – abc
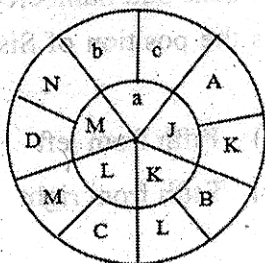
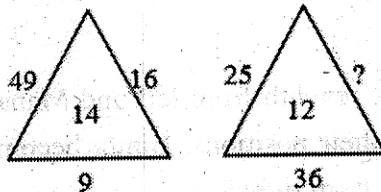

(A) OEP
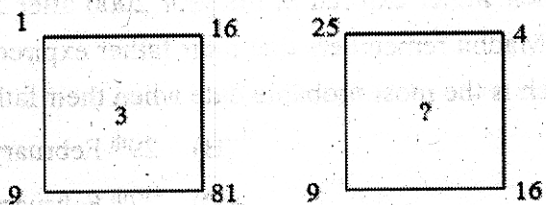
(C) MEN

(B) NEO

(D) PFO

35. Find the missing number

(A) 3

(C) 4

(B) 1

(D) 6

36. Find the missing number

(A) 3

(C) 4

(B) 7

(D) 6

37. Fill in the missing mathematical operators.

6 ? 4 ? 19 ? 5

(A) = × +

(C) + ÷ =

(B) × + =

(D) × = +

38. Fill in the missing mathematical operators.

16 ? 2 ? 24 ? 3 ? 6

(A) $+ = - \div$

(B) $\times - + =$

(C) $+ \div = \div$

(D) $- - \div =$

39. Which interchange of sign will make the following equation correct ?

$30 - 6 \div 4 + 2 \times 3 = 7$

(A) $+$ and $\times$

(B) $-$ and $+$

(C) $-$ and $\div$

(D) $\times$ and $-$

40. Let a two-digit number XY is the product two prime numbers. Then how many factors will XYXY have ?

(A) 4

(B) 2

(C) 5

(D) 3

41. When a number is divided by a divisor, the remainder is 9. When another number is divided by the same divisor, the remainder is 3. When sum of these two numbers is divided by the same divisor again, the remainder is 1. What is the divisor?

(A) 11

(B) 13

(C) 10

(D) 12

42. A student was asked to multiply a given number by $\frac{8}{17}$ but he divided the number by $\frac{8}{17}$ and got an answer 225 more than the correct answer. What was the given number ?

(A) 8

(B) 64

(C) 17

(D) 136

43. Which of the following is smallest ?

(A) $\frac{9}{13}$

(B) $\frac{63}{65}$

(C) $\frac{3}{5}$

(D) $\frac{1.5}{2}$

44. If the square of a number z equals to the cube root of a second number, the second number is equal to

    (A) z^6 (B) z^5

   (C) z (D) z^9

45. In an examination, one is required to score at least 180 marks in aggregate to pass. A student scored 20% and was declared failed by 60 marks. What was the full marks of the examination?

    (A) 1000   (B) 900

    (C) 300   (D) 600

46. The mean of a set of 50 numbers is 38. If two numbers of the set, namely 55 and 45 are discarded, the new mean will be

    (A) $36\frac{1}{2}$ (B) $37\frac{1}{2}$

    (C) 36   (D) $38\frac{1}{2}$
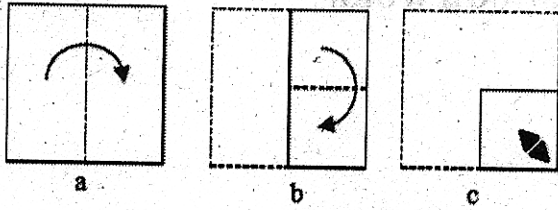
47.

    In the given regular hexagon, the angle θ is

    (A) 60°   (B) 45°

    (C) 52°   (D) 30°

48.
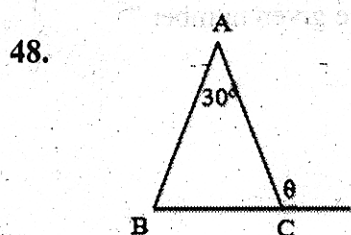
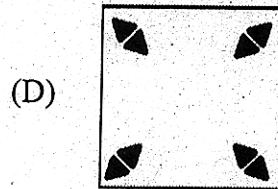   ABC is an isosceles triangle. What is the value of angle θ ?

    (A) 95°   (B) 105°
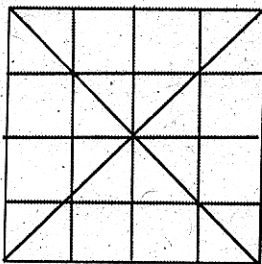
    (C) 120°   (D) 75°

49.

A square piece of paper is first folded as shown in figure a and then folded as shown in figure b. Then the paper is punched as shown in figure c. How the paper will look like once it is unfolded ?

(A)

(B)

(C)

(D)
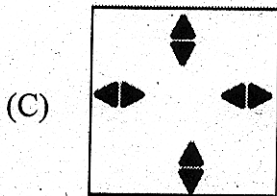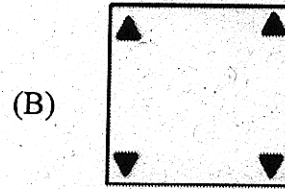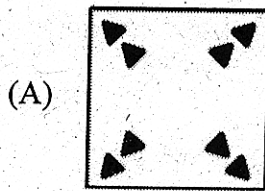
50.

How many triangles are there in the above figure ?

(A) 20

(B) 28

(C) 24

(D) 22

SPACE FOR ROUGH WORK