

**JECA-2019**  
**Subject : APTITUDE**

(Booklet Number)

**Duration : 1 Hour**

**Full Marks : 50**

**INSTRUCTIONS**

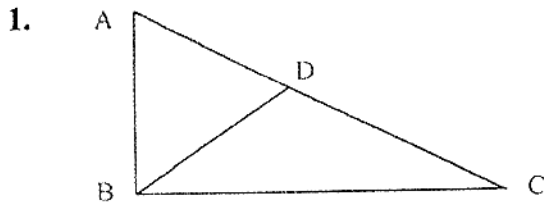
1. All questions are of objective type having four answer options for each. Only one option is correct. Correct answer will carry full marks 1. In case of incorrect answer or any combination of more than one answer,  $\frac{1}{4}$  marks will be deducted.
2. Questions must be answered on OMR sheet by 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 bubble.
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** & 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.



JECA-2019

SPACE FOR ROUGH WORK

APTITUDE



ABC is a right-angled and ABD is an equilateral triangle. Then  $\angle DCB$  is

- (A)  $30^\circ$  (B)  $45^\circ$   
 (C) less than  $30^\circ$  (D) more than  $45^\circ$

2. If  $a > b > 0$ , then which of the following relation is true ?

- (A)  $\frac{1}{a} = \frac{1}{b} = 0$  (B)  $\frac{1}{a} > \frac{1}{b}$   
 (C)  $\frac{1}{a} < \frac{1}{b}$  (D)  $\frac{1}{a} = \frac{1}{b} \neq 0$

3. Twenty one boys were told to stand in a row wearing number badges 1 to 21. Then they were asked to interchange their position between left and right, i.e. the left most boy and the right most boy interchanged their positions. The second left most boy interchanged his position with the second right most boy and so on. It was observed that one boy did not have to change his position at all. Which number badge was he wearing ?

- (A) 10 (B) 11  
 (C) 12 (D) 21

4. A trader always offers 10% discount on the tag prices of all items and still makes 10% profit. At what percentage higher than the cost price he marks the tag prices ?

- (A) 20% (B) 5%  
 (C) 22.22% (D) 11.11%

5. In the following sequence, how many  $\lambda$  are preceded by  $\phi$  and not followed by  $\beta$  ?

$\alpha \beta \gamma \delta \phi \lambda \lambda \gamma \delta \delta \phi \alpha \gamma \beta \alpha \beta \gamma \beta \delta \phi \lambda \phi \gamma \phi \lambda \beta \gamma \gamma \phi \delta \beta \delta \phi \alpha \beta \beta$

- (A) 1 (B) 3  
(C) 2 (D) 0

6. One child was reading aloud the numbers from 1 to 99. Another child was reading aloud backwards from 99 to 1. They were calling the numbers simultaneously. It was observed that at a certain time both read out the same number. Which number it was ?

- (A) 99 (B) 49  
(C) 51 (D) 50

7. How many such numbers are there between 1 and 100 which are divisible by 5 but not by 10 ?

- (A) 10 (B) 20  
(C) 15 (D) 25

8. Find the value of  $x$  from the given relations.

(i)  $4 < x \leq 9$

(ii)  $x > 7$

(iii)  $x \neq 9$

- (A) 8 (B) 9  
(C) 7 (D) 10

9. A group of boys were following numbered instructions given every 5 seconds in their PT class.

The code is as follows :

- (a) 1 – sit down
- (b) 2 – hands up
- (c) 3 – hands down
- (d) 4 – turn back
- (e) 5 – stand up

The sequence of instruction was

'2-4-3-4-1-5-1-5-5-5-2-2-3-4-1-5-4-2-3-1-5-4'

How many times did the boys stand up ?

- (A) 6
- (B) 4
- (C) 5
- (D) 3

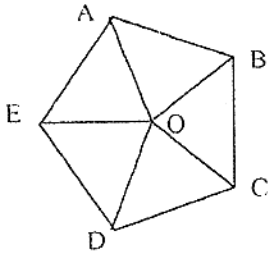
10. In a class of 60 students, having twice as many boys than girls, Ashok ranked 12<sup>th</sup> from top. Also, there were five girls ahead of him in rank. How many boys were there after him in rank ?

- (A) 32
- (B) 17
- (C) 33
- (D) 34

11. In a class Nabin stood 4<sup>th</sup> in an examination. There were eight rank holders between Sujan and Nabin and five rank holders between Madhab and Sujan. Also, Madhab was twenty second from the bottom. What could be the minimum number of students in the class ?

- (A) 41
- (B) 29
- (C) 33
- (D) 28

12.



In the regular pentagon shown here, what is the value of  $\angle OBC$  ?

- (A)  $51^\circ$  (B)  $54^\circ$   
 (C)  $57^\circ$  (D)  $60^\circ$

13. At which hours of the day, out of the following four options, the two hands of a clock are exactly at  $180^\circ$  ?

- (A) 12:30 hrs. (B) 6:30 hrs.  
 (C) 6:00 hrs. (D) 12:00 hrs.

14. Express buses from Kalyani to Kolkata leave every 90 minutes. The Kalyani terminus announces that the last bus left 20 minutes ago, and the next bus will leave at 1:30 a.m. At what time the announcement was made?

- (A) 12:00 p.m. (B) 12:20 p.m.  
 (C) 11:40 a.m. (D) 1:10 p.m.

15. Arrange the given words in a meaningful sequence and choose the most appropriate sequence.

- (a) Adulthood  
 (b) Puberty  
 (c) Childhood  
 (d) Infancy  
 (e) Senescence

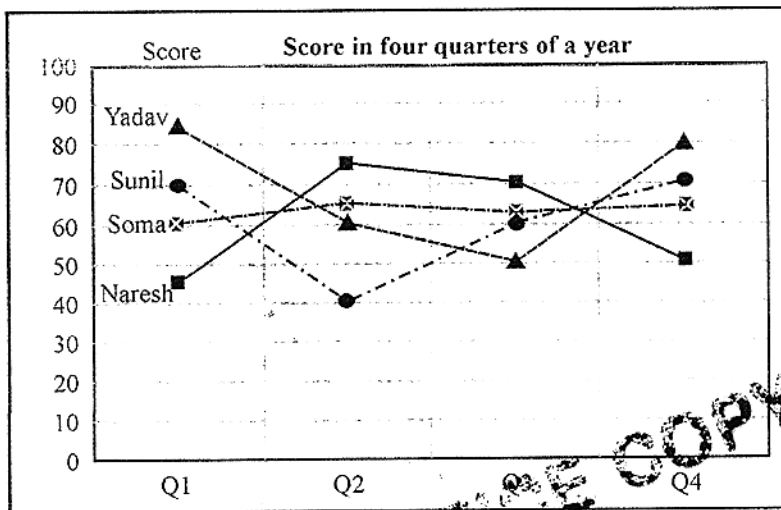
- (A) d-c-b-a-e (B) c-d-a-b-e  
 (C) a-b-c-d-e (D) e-c-d-b-a

16. Arrange the given words in a meaningful sequence and choose the most appropriate sequence from the options given.

- (a) Elephant
- (b) Cat
- (c) Tiger
- (d) Whale
- (e) Mosquito

- (A) e-b-c-d-a
- (B) e-b-c-a-d
- (C) e-c-d-b-a
- (D) a-b-c-d-c

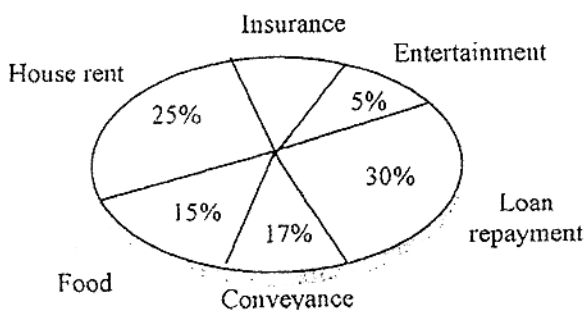
17.



Marks obtained by four students in four quarterly examinations in a year are shown in the chart. Whose performance is most consistent throughout the year ?

- (A) Naresh
- (B) Yadav
- (C) Sunil
- (D) Soma

18.



A person earns ₹ 40,000 a month. His monthly expenditures in various categories are shown in the pi-chart. How much more he spends for insurances than for entertainment ?

- (A) ₹ 1,000
- (B) ₹ 1,500
- (C) ₹ 1,300
- (D) ₹ 1,200

19. Read the following passage carefully and answer the question given below :

‘Among the chief sources of education available to Tagore was a quiet garden adjoining his family house. Here, he used to spend much of his time absorbing peace and beauty of nature. It was through this early contact with nature that he acquired the serenity of mood that distinguished him all his life.’

How did the garden near Tagore’s house serve him ?

- (A) As a means of peace
- (B) As a means of education
- (C) As a source of entertainment
- (D) A good passing time to relax in natural beauty

20. A project leader in an IT company started his morning meeting with his team by saying, “How can we resolve this one; you want to have this extra time for your course, we have to deliver the project in time and there is no one willing to undertake extra duties even for overtime. What can we do ? Do you have any idea ?”

From the above lines, which of the following observations appear most appropriate about the project leader ?

- (A) He is a morning person.
- (B) He shows a collaborative attitude
- (C) He is a compromising leader
- (D) He has good negotiating skill

21. Statements :

- Some apples are bananas.
- All bananas are oranges.
- Some oranges are mangoes.
- No mango is a papaya.
- All grapes are papayas.
- Some papayas are apples.

Conclusions :

- (a) All mangoes, if they are bananas, are also necessarily oranges.
- (b) All apples, if they are grapes, are also necessarily papayas.

Consider the above statements to be true even if they are at variance with commonly known facts. Read the conclusions and decide if they logically and definitely follow from the given statements and choose the correct observation from below.

- (A) Only conclusion (a) follows.
- (B) Only conclusion (b) follows.
- (C) Both conclusions (a) and (b) follow.
- (D) Neither conclusion (a) nor (b) follows.



22. Statements :

- Some bats are balls.
- Some hockeys are badmintons.
- Some badmintons are balls.

Conclusions :

- (a) Some bats are badmintons.
- (b) Some hockeys are balls.
- (c) Some hockeys are bats.
- (d) All balls are bats

Consider the above statements to be true even if they are at variance with commonly known facts. Read the conclusions and decide if they logically and definitely follow from the given statements and choose the correct observation from below.

- (A) None of the conclusions follows
- (B) Only (a) and (b) follows
- (C) Only (c) and (d) follows
- (D) Only (a) and (d) follows

OFFICE COPY

23. Statement:  $G > N \geq O < P \leq Q = R$

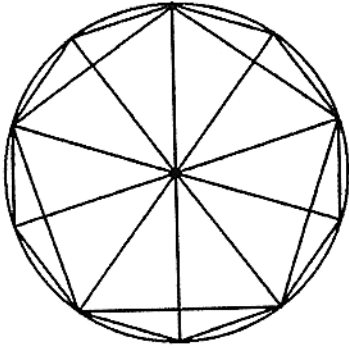
Conclusions :

- (a)  $G > P$
- (b)  $R > N$

Consider the above statements to be true even if they are at variance with commonly known facts. Read the conclusions and decide if they logically and definitely follow from the given statements and choose the correct observation from below.

- (A) Only conclusion (a) follows
- (B) Only conclusion (b) follows
- (C) Both conclusion (a) and (b) follow
- (D) Neither (a) nor (b) follows

24.



How many triangles are there in the given figure ?

(A) 20

(B) 21

(C) 25

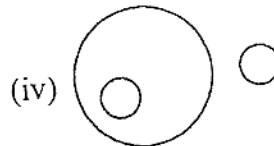
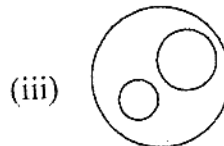
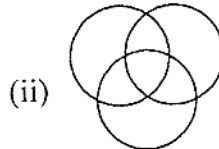
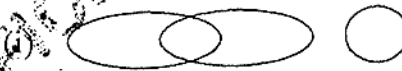
(D) 30

25. Three groups are given in column-I and four Venn diagrams are shown in column-II. Find match between them and select the correct answer.

**Column-I**

- (a) Dogs, Cats, Pets
- (b) Reptiles, Snakes, Fish
- (c) Man, Cricketer, Cats

**Column-II**



(A) a-iii, b-iv, c-i

(B) a-iv, b-ii, c-i

(C) a-ii, b-iii, c-iv

(D) a-i, b-ii, c-iii

26. Rows

(a)	9	40	71	16	89
(b)	7	35	49	14	70
(c)	3	15	9	6	30
(d)	8	40	64	16	80
(e)	5	20	24	12	30

In the table shown, there are some rows where the numbers in a row are related in a similar way. Find the correct rows.

- (A) a, c, d (B) b, d, e  
 (C) b, c, d (D) c, d, e

27. Find the missing number :

4, 8, 12, 24, 36, \_\_\_\_\_ ?

- (A) 48 (B) 60  
 (C) 144 (D) 72

28. What should replace the question mark '?' ?

D9Y, J27S, P81M, V24G \_\_\_\_\_

- (A) B324A (B) C729B  
 (C) B729A (D) A729B

29. Find the wrong number in the given series :

0, 3, 9, 12, 36, 39, 42, 120, 360

- (A) 12 (B) 39  
 (C) 42 (D) 360

30. Three of the following four are alike in certain way and so form a group. Which one does not belong to the group ?

- (A) Garlic (B) Ginger  
 (C) Radish (D) Brinjal

31. Three of the following four are alike in certain way and so form a group. Which one does not belong to the group ?

- (A) MS Office (B) Windows  
(C) Linux (D) Android

32. Choose the right option to replace the question mark '?'.

WATER : ICE :: STEAM : \_\_\_\_\_ ? \_\_\_\_\_

- (A) Heat (B) Water  
(C) Boil (D) Fire

33. Find the odd man out.

- (A) King (B) Queen  
(C) Horse (D) Lion

34. Find the next two letters in the given series

B C E H L \_\_\_\_\_ ? \_\_\_\_\_ ? \_\_\_\_\_

- (A) QV (B) QX  
(C) PW (D) QW

35. Which one set of letters when sequentially placed in the gaps in the given letter series, shall complete it ?

f \_ h i g h \_ j h i j \_ i j \_ l \_ k l m

- (A) gikkj (B) jijkl  
(C) fihjk (D) gjkki

36. Which of the following groups will replace the question mark '?' ?

4, 16, 4 : 2, 4, 2 :: \_\_\_\_\_ ? \_\_\_\_\_ : 3, 9, 3

- (A) 6, 9, 6 (B) 9, 81, 9  
(C) 9, 27, 9 (D) 9, 18, 9

37. Three of the following four are alike in a certain way and so form a group. Which one does not belong to the group ?

- (A) Sphere (B) Circle  
(C) Ellipse (D) Rectangle

38. Leader is to follower as \_\_\_\_\_ is to soldier.

- (A) Unit (B) Captain  
(C) Army (D) Rifle

39. Find the odd number pair.

- (A) 6246, 6296 (B) 7137, 7267  
(C) 4344, 4684 (D) 5235, 5465

40. Three of the following four are alike in a certain way and so form a group. Which one does not belong to the group ?

- (A) Agartala (B) Chennai  
(C) Pune (D) Lucknow

41. Moon : Satellite :: Earth : \_\_\_\_\_ ?

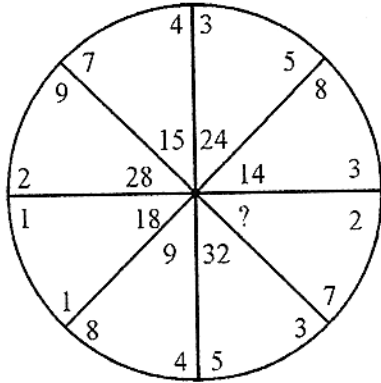
- (A) Comet (B) Planet  
(C) Sun (D) Milky way

42. West : North-east :: South : \_\_\_\_\_ ?

- (A) North-west (B) South-west  
(C) South-east (D) North

43. In a certain code language INDIA is written as  $\alpha\beta\gamma\alpha\theta$ , LOUD is coded as  $\phi7x\gamma$ , EVEN is coded as  $121\beta$  and HAND is coded as  $z\theta\beta\gamma$ . Then how DELHI will be coded ?
- (A)  $\gamma\beta2z\alpha$  (B)  $2x\beta\alpha\gamma$   
 (C)  $\alpha1\phi x\beta$  (D)  $\gamma1\phi z\alpha$
44. In a certain code DROWN is written as MXNSC. How BREAK will be written in that code ?
- (A) LBFSC (B) JBDSA  
 (C) JZDQA (D) LZFQC
45. There are only two married couples in a family of six members P, Q, R, S, T and U. S is the grand-mother of P, R is wife of Q and mother of U who is the grand-daughter of T. What is P to U ?
- (A) Mother (B) Father  
 (C) Sister (D) Brother
46. Satish walks 100 m south from his house, turns left and walks 250 m, again turns left and walks 400 m, then turns right and walks 50 m to reach his school. In which direction is the school from his house ?
- (A) North-east (B) North  
 (C) East (D) North-west
47. In a month of 31 days, the third Wednesday falls on the 15<sup>th</sup>. What will be the last day of the month ?
- (A) Fifth Thursday (B) Fifth Wednesday  
 (C) Fourth Friday (D) Fifth Friday

48. Find the missing number.



(A) 20

(B) 25

(C) 10

(D) 15

49. How many such digits are there in the number 9872365 each of which is as far away from the beginning of the number as when the digits are arranged in ascending order ?

(A) One

(B) None

(C) Two

(D) Three

50. Nirmala kept her six books one on top of the other in such a way that the Bengali book is just above the Biology book, the Chemistry book is between the Physics book and the Mathematics book, English book is between Bengali book and Mathematics book. Then which book is between Chemistry book and English book ?

(A) Physics

(B) Biology

(C) Bengali

(D) Mathematics

JECA-2019

SPACE FOR ROUGH WORK

OFFICE COPY