

**Time: 45 minute**

**Maximum Marks: 50**

**MENTAL ABILITY TEST - 2016**

**Instructions to the Candidates**

**Read the following instructions carefully before you answer the questions:**

1. Answer are to be given on a SEPRATE ANSWER SHEET.
2. Please write your twelve digits Roll Number very clearly on the Test-booklet and Answer Sheet as given in your admission card.
3. Please note and follow the instructions given on the answer sheet for writing the answers.
4. Darken the CIRCLE with pen for answering the question in the appropriate space against the number corresponding to the question you are answering.
5. There are 50 question in the test.
6. Since all questions are compulsory, do not try read the whole question paper before beginning to answer it.
7. If you do not know the answer to any question, do not spend much time on it and pass on to the next one. Time permitting, you can come back to the question, which you have left in the first instance and try them again.
8. Since the time allotted for this question paper is very limited you should make the best use of it by not spending too much time on any one question.
9. Rough work can be done anywhere in the booklet but not on Answer sheet/loose paper.
10. Every correct answer will be awarded one mark.
11. Please return the answer sheet to the invigilator after the test.

1. If the following words are arranged according to the dictionary order then which will be the second word in that order?  
 (1) Expound (2) Exposure  
 (3) Expulsion (4) Expose
2. If it is possible to make a meaningful word from first, fifth, seventh and eleventh letters of the word ECCENTRICITY then which will be the third letter of the word? If it is possible to make more than one word then answer will be M and if the word formation is not possible then the answer will be X.  
 (1) X (2) R  
 (3) N (4) M
3. How many such letter-pairs are there in the word FRONTIER having same no. of letters left between them as they have in the series?  
 (1) 2 (2) 4  
 (3) 1 (4) None of these
4. If UDOMETER is coded as DUMOTERE then how will SUBLEASE be coded?  
 (1) USLBESAE (2) USLBAEES  
 (3) USBAELES (4) None of these
5. If RASCAL is coded as QZRBZK then how will SOLDER be coded?  
 (1) RNMEDQ (2) RPKEDS  
 (3) TPMEFS (4) RNKCDQ
6. If Sand is coded as Brick, Brick as House, House as Temple, Temple as Palace then where do you worship?  
 (1) Palace (2) Temple  
 (3) Brick (4) House
7. In a certain code language '123' means- 'Mahendra is Able', '345' means-'Sunita is unlucky', '526' means-'Mahendra was unlucky', then what is the code used for unlucky?  
 (1) 2 (2) 3  
 (3) 1 (4) None of these
8. If '678' means-'Society Family Husbandry', '574' means- 'Husbandry Health Control', '342' means-'Health Census shop', then-  
 (1) Which code has been used for 'Health'?  
 (1) 7 (2) 4  
 (3) 2 (4) None of these
9. Directions -In the following question one word is different from the rest. Find out the word which does not belong to the group  
 (1) KMNO (2) ABDE  
 (3) PRST (4) UWXY
10. As 'Magazine' is related to 'Editor' in the same way 'Drama' is related to what?  
 (1) Hero (2) Heroine  
 (3) Co-actor (4) None of these
11. Directions-In the following question a series is given. Which one of the alternative will replace the question-mark (?) ?  
 Z15A, W13C, ?, Q9G, N7I.  
 (1) T12F (2) R11F  
 (3) T11E (4) R13D
12. Direction - In the following question one number-series is given in which one term is wrong. Find out the wrong term.  
 5, 12, 19, 33, 47, 75, 104.  
 (1) 33 (2) 47  
 (3) 75 (4) 104
13. Directions - In the following question a letter-series is given, in which some letters are missing. The missing letters are given in the proper sequence as one of the alternatives. Find the correct alternative.  
 —acca—ccca—acccc—aaa.  
 (1) caac (2) ccaa  
 (3) caaa (4) None of these

14. Five members of a family, Rakesh, Mukesh, Roopesh, Vipul and Umesh take food in a definite order—  
 (1) Umesh was next to first man.  
 (2) Roophesh took food after the man who was before Vipul  
 (3) Rakesh was the last man to the food
- (a) Who was the first and last men to take food?  
 (1) Mukesh and Roopesh (2) Roopesh and Rakesh  
 (3) Umesh and Mukesh (4) Mukesh and Rakesh
15. In a clock, the time is 7: 30 am. The clock is so placed that its hour hand is facing North West. In which direction will be minute hand facing?  
 (1) South (2) East  
 (3) North East (4) West
16. Five boys Mahedra, Anjani, Anil, Anand and Alok and sitting in a row. Neither Anil is neighbour of Anand nor of Anjani. Mahedra is not the neighbour of Anjani. Anil is the neighbour of Alok. If Alok is just in the middle, who is neighbour of Mahendra?  
 (1) Anand (2) Alok  
 (3) Anil (4) Can not be determined
17. Manish goes 7 km towards South–East from his house, then the goes 14 km turning to West. After this he goes 7 km towards North West and in the end he goes 9 km towards East. How far is he from his house?  
 (1) 14 km (2) 7 km  
 (3) 2 km (4) 5 km
18. Ranjan goes 5 km towards North from a fixed point. Then he goes 3 km after turning to his right. After this he goes 5 km turning to his right. In the end he goes 4 km after turning to his left. How far and in what direction is he now from the fixed point?  
 (1) 4 km, West (2) 7 km, East  
 (3) 9 km, East (4) 7 km, West
19. How many 3,s are there in the following number series, which are preceded by an odd number but not followed by an even number?  
 3425315213673182785391345235435  
 (1) One (2) Two  
 (3) Three (4) Four
20. How many 4's are there in the following number-series which are preceded by 5 but not followed by 7?  
 23423425473243192547547234529546  
 (1) One (2) Two  
 (3) Three (4) Four
21. A bus for Bombay leaves after every forty minutes from a but stand. An enquiry clerk told a passenger that the bus had already left ten minutes ago and the next bus will leave at 10.45 a.m. At what time did the enquiry clerk given the information to the passenger?  
 (1) 10.05 a.m. (2) 9.55 a.m.  
 (3) 10. 35 a.m. (4) 10.15 a.m.
22. How many D's are there in the following letter-series, which are preceded by K and followed by Q?  
 KDRMBSKDQKRBLKDQMMDKEFQDK  
 (1) 4 (2) 2  
 (3) 1 (4) 3
23. Shri Parkash walked 40 metres facing towards North.From there he walked 50 metres after turning to his left. After this he walked 40 metres after turning to his left. How far and in what direction is he now from his starting point?  
 (1) 40 m, North (2) 50 m, West  
 (3) 10 m, East (4) 10 m, West
24. Raman walks 100 m from his house towards North. From there he goes 100 m towards West. Here is the house of Shyam. From there they both goes to the market which is in the South-West direction from Shyam's house. If the market is in the West of Raman's house, then how far is the market form Raman's house?  
 (1) 100 m (2) 150 m  
 (3) 300 m (4) None of these

25. In each question of the following two statements are given and four conclusion I, II, III and IV are given under them. The given statements may be contrary to the universal opinion, even then you have to assume them as true. Then decide which conclusion on the basis of given statement is logically valid.  
 Statements: All sages are kind.  
 All artists are kind.  
**Conclusions:**  
 I. All sages are artists.  
 II. All artists are sages.  
 III. Some kind (persons) are sages.  
 IV. Some kind (persons) are artists.  
 (1) Only III and IV (2) Only II and III  
 (3) Only IV (4) None of these

26. In the following each question there are two statements and two conclusion I and II there-after are given. Accept the given statements as true even if they are inconsistent with known facts and ignoring the universally known facts find out which conclusion follows logically from the given statements.  
 Give answer (1) if only the conclusion I follows.  
 Give answer (2) if only the conclusion II follows.  
 Give answer (3) if either the conclusion I or the II follows.  
 Give answer (4) if neither the conclusion I nor the II follows.  
 Statements: No man is crippled.  
 All crippled (things) are beasts. **Conclusions:**  
 I. Some beasts are crippled.  
 II. Some men are beasts.

27. Pointing to a lady in the photograph Kaushal said, "She is the daughter of the daughter of the only son of my ground father. " How is the lady related to Kaushal ?  
 (1) Sister (2) Maternal aunt  
 (3) Niece (4) Cousin

28. If  $P \times Q$  means 'P is the brother of Q',  $P \div Q$  means 'P is the son of Q' and ' $P - Q$ ' means 'P is the sister of Q', then which of the following relations will show that Q is the maternal uncle of P?  
 (1)  $Q \times R \div P$  (2)  $Q \div R - P$   
 (3)  $P \times R - Q$  (4)  $P \div R - Q$

29. If + means  $\times$ ,  $\times$  means +, - means  $\div$  and  $\div$  means -, then -  
 $16 \times 2 \div 4 + 7 - 8 = ?$   
 (1) 31 (2) 29/2  
 (3) 43/2 (4) 15

30. If 'p' means '-', 'q' means '+', 'r' means ' $\div$ ' and 's' means ' $\times$ ', then -  
 $16 p 4 q 5 s 8 r 2 = ?$   
 (1) -8 (2) 32  
 (3) 20 (4) 12

**Directions: (31-32)** In each of the following questions one statement or advertisement is followed by two or three assumptions. On the basis of the statement choose which is/are implicit.

31. Statement—"We are feeling pleasure in extending the working hours of our office to 7.30 p.m." A general notice by a working office.  
**Assumptions:**  
 I. It would have been done inspite of workers' opposition.  
 II. It was needed to extend the working hours.  
 (1) Only I is implicit (2) Only II is implicit  
 (3) Either I or II is implicit (4) Neither I nor II is implicit

32. Statement—The residents of the locality wrote a letter to the Corporation requesting to restore normalcy in the supply of drinking water immediately as the supply at present is just not adequate.  
**Assumptions:**  
 I. The Corporation may not take any action on the letter.  
 II. The municipality has enough water to meet the demand.  
 III. The water supply to the area was adequate in the past.  
 (1) Only II is implicit (2) Only III is implicit  
 (3) Only I and III are implicit (4) Only I and II are implicit

33. Directions—In the question a statement followed by two arguments is given. You have to decide which of the given statements is a strong argument and which is weak argument. Give answer (1) if only first argument is strong, given answer (2) if only second argument is strong, given answer (3) if either first or second argument is strong, given answer (4) if neither first nor second argument is strong and given answer.  
 Statement— should competitive examination for selecting candidates for jobs, be of objective test only?

**Arguments:**

- I. Yes, the assessment of objective test is reliable.
- II. No, the number of questions to be answered is always very large.

**Directions (34-36): Read the following information carefully and answer the questions given below:**

- (i) There are five buildings –A, B, C, D and E in a row facing towards East but not necessarily in the same order. Five other buildings – P, Q, R, S and T are in another row facing towards West. The buildings in each row are arranged in front of one another.
- (ii) B is at one of the end. There is only C between B and D. A is to the immediate left of D.
- (iii) R is just opposite to C and is between P and Q. S is to the immediate right of P.

34. Which of the following pairs is a both the ends in any of the two rows?  
 (1) B and A (2) Q and S  
 (3) P and T (4) B and E

35. A is in front of which of following buildings?  
 (1) S (2) P  
 (3) T (4) Q

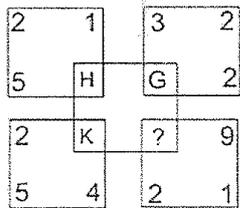
36. Which of the following buildings is in front of building E?  
 (1) S (2) R  
 (3) T (4) None of these

37. **Directions :** Out of nine cells of the a square one cell is left blank, and in the rest of the cells numbers are written which follow some rule. Get the rule and find out the proper option for the blank cell(?)

4	9	20
8	5	14
10	3	?

- (1) 8 (2) 11
- (3) 14 (4) 15

38.



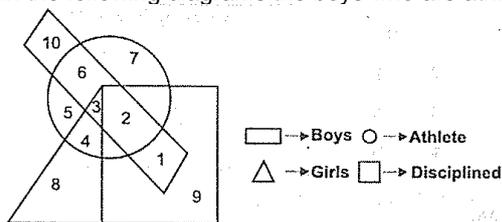
- (1) O (2) L
- (3) M (4) Q

39. OQNEDRRNQ is a code for PROFESSOR, DMSDQDC is a code for  
 (1) ENTERED (2) ARRIVED  
 (3) SLIPPED (4) RETURNED

40. Which of the following diagrams indicates the best relation between Women, Mothers and Engineers?

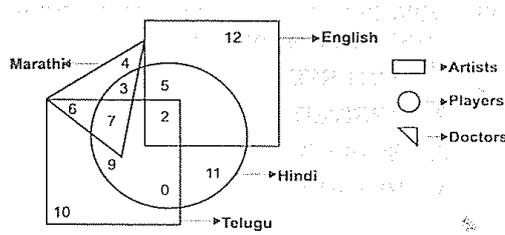


41. In the following diagrams the boys who are athlete are disciplined are indicated by the which number?



- (1) 1 (2) 2
- (3) 10 (4) None of these

Directions: In the following figure small square represents the persons who know English, triangle to those who know Marathi, big square to those who know Telugu and circle to those who know Hindi. In the different regions of the figures from 42 to 45 are given.



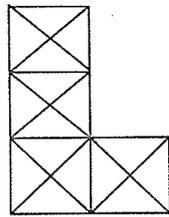
42. How many persons can speak English and Hindi both the languages only?  
 (1) 5 (2) 8  
 (3) 7 (4) 18
43. How many persons can speak Marathi and Telugu both?  
 (1) 10 (2) 11  
 (3) 13 (4) 15
44. How many person can speak only English?  
 (1) 9 (2) 12  
 (3) 7 (4) 19
45. How many persons can speak English, Hindi and Telugh?  
 (1) 8 (2) 2  
 (3) 7 (4) 10

Directions: -(45-50) Seven students A, B, C, D, E, F, G are standing in a straight line as follows

1. C is standing between A and G
2. B is standing to the left of E
3. G is standing between C and E
4. D and F are the right of C

46. Who is standing exactly in the middle?  
 (1) C (2) A  
 (3) E (4) D
47. Who is standing to the extreme left?  
 (1) G (2) C  
 (3) B (4) E

Directions : - Answer the questions ( 48-50) based upon the figure



48. How many squares are there in the given figure.  
 (1) 5 (2) 6  
 (3) 7 (4) 8
49. How many rectangles (excluding squares) are there in the given figure.  
 (1) 3 (2) 5  
 (3) 8 (4) 13
50. How many triangles are there in the given figure.  
 (1) 32 (2) 41  
 (3) 37 (4) 39

**ANSWERS**

1.	2	2.	4	3.	1	4.	2	5.	4
6.	1	7.	4	8.	2	9.	2	10.	4
11.	3	12.	4	13.	3	14.	4	15.	4
16.	3	17.	4	18.	2	19.	3	20.	1
21.	4	22.	2	23.	2	24.	4	25.	1
26.	1	27.	3	28.	All Options are wrong	29.	2	30.	2
31.	2	32.	4	33.	1	34.	4	35.	1
36.	3	37.	2	38.	2	39.	1	40.	1
41.	2	42.	1	43.	3	44.	2	45.	2
46.	1	47.	3	48.	3	49.	2	50.	4

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**LANGUAGE COMPREHENSIVE TEST - 2016**

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**Directions for Questions 1 to 5**

Read the following passage and answer the questions that follow

Many millions of people in Delhi reside in shanty-towns and informal dwelling often with garbage bag plastic roofs and walls. There are a large number of unlucky people who live in the streets. After the partition of India there has been large scale illegal migration from Pakistan and Bangladesh and most of these migrants have settled in the slums of Delhi. One such settlement area in Delhi is Seemapuri. There are many lakhs of such people living in very poor conditions here. Many of them are ragpickers and they find the slums of Delhi a far better place than their own villages in Bangladesh due to extreme poverty there.

Poverty and unemployment are the other prominent reasons for migration to the city slums. But due to illiteracy the migrants are not able to get good jobs in the city and remain poor. Exploitation under the feudalistic society of the rural India is another reason why people are forced to leave their land of birth. Due to the lack of development of infrastructure in the villages there are no employments and it widens the gap between the rural and the urban India.

Delhi is ever expanding and one of the serious problems Delhi encounter is lack of quality education to the young population of Delhi. For such a largely populated metropolitan city like Delhi there are just about 100 quality schools. Most of them are public schools run by private management. Though the government had allotted land to these educational institutions at a very cheap rate with a promise that 25% of admissions should be reserved to the poor, not many of the managements fulfil that promise. The fees of these schools are exorbitant that poor people can never get an opportunity to study in these institutions. The government run MCD schools are in such a pathetic condition that they cannot cater to the educational needs of the millions in the emerging world class city, Delhi.

1. Most of the migrants from Pakistan and Bangladesh have settled .....
  - (1) In the outskirts of Delhi
  - (2) In and around Delhi
  - (3) In the slums of Delhi
  - (4) In the hub of Delhi
2. The other prominent reasons for migration to the city are .....
  - (1) illiteracy
  - (2) lack of awareness
  - (3) poverty and unemployment
  - (4) lack of education
3. The poor people can never get an opportunity to study in public schools because .....
  - (1) The poor children can't fit in the public schools atmosphere
  - (2) Government has no say in such school
  - (3) Needs of the poor children are different from those of the rich children
  - (4) The fees of these schools are exorbitant
4. The government run MCD schools cannot cater to the educational needs of the millions of children because .....
  - (1) These schools have inadequate funds
  - (2) Such schools are placed in very pathetic conditions
  - (3) Not enough teachers are willing to work in such schools
  - (4) These schools are located at far off places
5. The words in the passage which means the same as 'easily noticed or seen' is
  - (1) exploitation
  - (2) prominent
  - (3) feudalistic
  - (4) encounter

**Directions for Questions 6 to 10**

Read the following passage and answer the questions that follow.

How you can best improve your English depends on where you live, and particularly, on whether or not you live in an English speaking community. If you hear English spoken everyday and mix freely with English speaking people, that is on the whole an advantage. On the other hand, it is often confusing to have the whole language poured on you at once. Ideally, a step-by step course should accompany or lead up to this experience. It would also help a great deal if you can easily get the sort of English books in which you are interested.

To read a lot is essential. It is stupid not to venture outside the examination set books' or the textbooks you have chosen for intensive study. Read as many books in English as you can, not as a duty but for pleasure. Choose what is likely to interest you and be sure in advance that it is not too hard. You should not have to be constantly looking up new words in the dictionary, for that deadens interest and hampers real learning. Look up a word here and there, but as a general policy try to guess what words mean from the context. It is extensive and not intensive reading that normally helps you to be interested in extra reading and thereby improve your English.

Some people say that we cannot learn to speak a language better with the help of a book. To believe this is to believe that the spoken language and the written language are quite different things. This is not so. There is a very great deal in common between the two. In learning the patterns and vocabulary of the written form we use are learning to a considerable extent of the spoken form too.

6. What can be on the whole an advantage for improving your English?  
(1) Hearing English spoken everyday and mixing freely with English speaking people  
(2) Sometimes using English words in your daily routine talks  
(3) Language poured on you at once  
(4) Studying the language in weekends
7. What should we read to improve our English?  
(1) Only textbooks and examination set books  
(2) Books with very difficult words  
(3) Books which are likely to interest us  
(4) Only dictionaries
8. Language can be learnt by  
(1) only reading books  
(2) only hearing the language  
(3) by merely finding meanings of the words  
(4) hearing spoken English, reading interesting books and by using the language
9. Which word in the passage has the same meanings as 'especially'?  
(1) community (2) particularly  
(3) freely (4) likely
10. The word 'extensive' means  
(1) having wide or considerable extent (2) highly concentrated  
(3) to be different (4) very small in degree or amount

**Directions for Questions 11 to 15**

Read the following passage and answer the questions that follow.

With mounting excitement Howard Carter, an English archaeologist, opened the tomb of Tutankhamun in 1922. The first mortal who laid eyes on Tut's tomb treasure was amazed by the grand and intricate design of the objects found within. Tut was known as the "Boy king" who became a pharaoh at a young age and ruled Egypt from 1333-1323 BC. He died in his teens but has left a rich legacy of 80 tombs treasures unmatched by any other pharaoh as far as tomb treasures are concerned. Most of these objects are on display at the Cairo Museum. It was one of the very few tombs which was not robbed.

Tut's tomb design is complicated and grand. It has 'three gold gilded wooden enclosures' telescoped on one side and the other held the 'inner solid gold casket' containing the king's mummy. The solid gold internal coffin is studded with semi precious stones and weighed 110.4 kg. The outer case shows the facial features of the boy king holding a staff and chaff, symbols of royal power. The mummy had a death mask made of solid gold with the king's features. The belief was king would be born with the same features.

Egyptians believed that after a person dies, he has needs similar to terrestrial life. That is the reason why Tut's burial chamber contained objects of daily life use.

11. Tut's legacy was unique in the sense that  
(1) he was a pharaoh (2) he died as a teenager  
(3) his tomb was never vandalized or robbed (4) an unusual treasure was found in his tomb
12. Tut's internal coffin is highly impressive because  
(1) Tut would be reborn in it  
(2) It is made of solid gold and intricately decorated  
(3) Tut was buried in it  
(4) It weighs 110 kgs
13. Which of the following statement is false in the context of the passage?  
(1) King Tut died in his teens (2) King Tut was avert powerful and dynamic king  
(3) He ruled for approximately ten years (4) Tutankhamun means 'Boy king'
14. The true symbols of royal powers were  
(1) a staff and chaff (2) a death mask and carvings  
(3) his throne (4) a solid gold casket
-

15. What did the Egyptians believe about life after death?  
 (1) a person is reborn after death as a new person  
 (2) a person is reborn with same facial expression  
 (3) a person is reborn at the same place  
 (4) a person cannot be resurrected

**Directions for Questions 16 to 26**

In the following passages there are some numbered blanks. Fill in the blanks by selecting the most appropriate word for each blank from the given options.

He smelled (16) ..... bad that (17) ..... of the other little woodland creatures would play (18) ..... him. She looked at him (19) ..... she had not (20) ..... this. Whenever he would go out to play, Roger (21) ..... the humiliations of his own childhood. Evans was (22) ..... his face (23) ..... when Stephens brought (24) ..... too small square tables and set them opposite each other in the narrow space (25) ..... the bunk on the one side and on the other (26) ..... stone wall.

- |                   |                   |
|-------------------|-------------------|
| 16. (1) so        | (2) as            |
| (3) like          | (4) be            |
| 17. (1) all       | (2) every         |
| (3) none          | (4) each          |
| 18. (1) on        | (2) of            |
| (3) from          | (4) with          |
| 19. (1) solemn    | (2) solemnly      |
| (3) solemnly      | (4) solemnify     |
| 20. (1) for see   | (2) foresaw       |
| (3) forseen       | (4) foreseeing    |
| 21. (1) remember  | (2) remembered    |
| (3) remembering   | (4) will remember |
| 22. (1) lather    | (2) lathered      |
| (3) lathers       | (4) lathering     |
| 23. (1) vigour    | (2) vigorous      |
| (3) vigorously    | (4) vigorousness  |
| 24. (1) in        | (2) at            |
| (3) on            | (4) of            |
| 25. (1) between   | (2) on            |
| (3) in            | (4) among         |
| 26. (1) distemper | (2) distemping    |
| (3) distempers    | (4) distempred    |

**Directions for Questions 27 to 35**

Choose the word which best fills the blank from the four options given below.

27. Man has ..... on plants ever since life began.  
 (1) Depended (2) Lived  
 (3) Believed (4) Concentrated
28. A small matter ..... the quarrel  
 (1) Start (2) Led  
 (3) End (4) Started
29. The crowd ..... the victorious army a great welcome  
 (1) crowned (2) gave  
 (3) up help (4) gifted
30. The ..... committee will ban the reporting of all undesirable news into the country.  
 (1) censor (2) censorship  
 (3) censored (4) censors

31. They are .....to see the true colours of the imposter.  
(1) begin (2) began  
(3) beginning (4) begun
32. We visited an oil palm..... to learn more about the harvesting process.  
(1) planted (2) plantation  
(3) plant (4) plants
33. Imani ..... with the strong current but his canoe capsized.  
(1) battled (2) battle  
(3) battlefield (4) battles
34. The latest ..... of this book contains many illustrative pictures  
(1) edition (2) edit  
(3) editors (4) editor
35. I guess mother will agree but ..... father will be altogether difficult.  
(1) convince (2) convinced  
(3) convincing (4) convincer

**Directions for Questions 36 to 41**

Select the meaning of the given phrases/idioms

36. Chips of the same block  
(1) having same likes and dislikes (2) having same nature and personality  
(3) having same qualities (4) having same features
37. At the drop of a hat  
(1) instantly (2) never  
(3) mistakenly (4) slowly
38. Into hot waters  
(1) in trouble (2) very angry  
(3) get hurt (4) very sad
39. At stake  
(1) in shock (2) in danger  
(3) to top (4) to feel depressed
40. Blessing in disguise  
(1) not being recognized (2) something good that isn't acknowledged at first  
(3) to give blessings (4) to pray
41. Empty vessels makes a lot of noise  
(1) Pots without anything in it are very light  
(2) People without any worth like to show off  
(3) To be without any substantial qualities but pretend to be very wise  
(4) Worthless people try to make an impression through self praise

**Directions for Questions 42 to 43**

Following Questions have second sentence missing. Choose the appropriate sentence from the given options to complete it.

42. A. Concentration is helped by alertness  
B. ....  
C. Healthy mind rests in a healthy body
- (1) Mental alertness is helped by physical alertness  
(2) Physical fitness means coordination between body and head  
(3) Concentration improves if one holds the head slightly to one side  
(4) Concentration can be increased by intensive note taking

43. A. Alexander Graham Bell felt a need for someone to help him  
 B. ....  
 C. Both of them worked steadily and continuously and succeeded in bringing forth a telephone.
- (1) When one took rest, the other did the work  
 (2) So he engaged Thomas Watson as his assistant  
 (3) They believed that failures are stepping stones to success  
 (4) He worked day in and day out

**Directions for Questions 44 to 45**

The following five sentences come from a paragraph. The first and the last sentences are given. Choose the order in which the three sentences (P.Q.R) should appear to complete the paragraph.

44. S1. Rohan went to the market at about 1:00 pm on a cycle.  
 S2. ....  
 S3. ....  
 S4. ....  
 S5. He enquired from the nearby shop but none at any clue  
 P – When he came back, he was shocked to find that his cycle was missing.  
 Q – It took him about half an hour the finish his shopping in the market  
 R – He parked and locked his cycle outside the market.

**Choose from the options given below**

- (1) PQR (2) QRP  
 (3) RQP (4) PRQ

45. S1. It has been a very harsh winter  
 S2.  
 S3.  
 S4.  
 S5. Everybody is suffering from cold and cough.  
 P – It was especially hard for the children  
 Q – Nobody could venture outside because of the snow  
 R – Everybody had to stay indoors

**Choose from the options given below**

- (1) QPR (2) RQP  
 (3) QRP (4) PQR

**Directions for Questions 46 to 50**

Select the word which means the opposite of the given word.

46. Gigantic (1) small (2) Miniature  
 (3) Huge (4) Strong
47. Bright (1) Weak (2) Dull  
 (3) Sombre (4) Sad
48. Victory (1) Conquest (2) Triumph  
 (3) Vanaquishment (4) Defeat
49. Brief (1) Concise (2) Enormous  
 (3) Scanty (4) Instruction
50. Absurd (1) Rational (2) Crazy  
 (3) Swift (4) Illogical

**ANSWERS**

1. 3	2. 3	3. 4	4. 1	5. 2
6. 1	7. 3	8. 4	9. 2	10. 1
11. 4	12. 2	13. 2	14. 1	15. 1
16. 1	17. 3	18. 4	19. 3	20. 3
21. 2	22. 4	23. 3	24. 1	25. 1
26. 4	27. 1	28. 4	29. 2	30. 1
31. 3	32. 2	33. 1	34. 1	35. 3
36. 2	37. 1	38. 1	39. 2	40. 2
41. 3	42. 1	43. 2	44. 3	45. 3
46. 1	47. 2	48. 4	49. 2	50. 1

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**Time: 90 Minute**

**Maximum Marks: 100**

**SCHOLASTIC APTITUDE TEST - 2016**

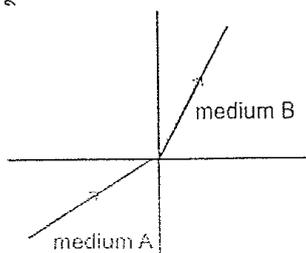
**Instructions to the Candidates**

**Read the following instructions carefully before you answer the questions:**

1. Answer are to be given on a SEPRATE ANSWER SHEET.
2. Please write your twelve digits Roll Number very clearly on the Test-booklet and Answer Sheet as given in your admission card.
3. Please note and follow the instructions given on the answer sheet for writing the answers.
4. Darken the CIRCLE with pen for answering the question in the appropriate space against the number corresponding to the question you are answering.
5. There are 100 question in the test.
6. Since all questions are compulsory, do not try read the whole question paper before beginning to answer it.
7. If you do not know the answer to any question, do not spend much time on it and pass on to the next one. Time permitting, you can come back to the question, which you have left in the first instance and try them again.
8. Since the time allotted for this question paper is very limited you should make the best use of it by not spending too much time on any one question.
9. Rough work can be done anywhere in the booklet but not on Answer sheet/loose paper.
10. Every correct answer will be awarded one mark.
11. Please return the answer sheet to the invigilator after the test.

1. Kidneys in human beings are a part of the system for
    - (1) Nutrition
    - (2) Respiration
    - (3) Excretion
    - (4) Transportation
  2. In a neuron, conversion of electrical signal to a chemical signal occurs at/in
    - (1) Axon
    - (2) Dendrite end
    - (3) Axonal end
    - (4) Cell body
  3. Iodine is necessary for the synthesis of which hormone?
    - (1) Auxin
    - (2) Thyroxin
    - (3) Adrenaline
    - (4) Insulin
  4. Name the plant hormone responsible for falling of senescent leaves
    - (1) Gibberelin
    - (2) Auxin
    - (3) Cytokinin
    - (4) Absciscic Acid
  5. Characters transmitted from parents to offspring are present in
    - (1) Cytoplasm
    - (2) Ribosome
    - (3) Golgi Bodies
    - (4) Genese
  6. Break down of pyruvate to give carbon dioxide, water and energy takes place in
    - (1) Cytoplasm
    - (2) Mitochondria
    - (3) Chloroplast
    - (4) Nucleus
  7. In human males, all the chromosomes are paired perfectly except one. This/these unpaired chromosome is/are
    - (1) Large chromosome
    - (2) Small chromosome
    - (3) Y-chromosome
    - (4) X-chromosome
  8. The main cause of abundant coliform bacteria in the river Ganga is
    - (1) Disposal of unburnt corpses into water
    - (2) Discharge of effluents from electroplating industries
    - (3) Washing of clothes
    - (4) Immersion of ashes
  9. Accumulation of non-biodegradable pesticides in the food chain in increasing amount at each higher trophic level is known as
    - (1) Eutrophication
    - (2) Pollution
    - (3) Biomagnification
    - (4) Accumulation
  10. Out of the following endocrine glands which are unpaired?
    - (1) Ovary
    - (2) Testes
    - (3) Pancreas
    - (4) Adrenal
  11. How many pairs of spinal nerves arise from spinal cord?
    - (1) 31 Pairs
    - (2) 30 Pairs
    - (3) 40 Pairs
    - (4) None of these
  12. What is the information source for making proteins in the nucleus of a cell?
    - (1) IUCD
    - (2) DNA
    - (3) ER
    - (4) ATP
  13. Asexual reproduction takes place through budding in
    - (1) Amoeba
    - (2) Yeast
    - (3) Plasmodium
    - (4) Leishmania
  14. Which of the following is an example of homologous organs is?
    - (1) Our arm and a dog's foreleg
    - (2) Our teeth and an elephant's tusk
    - (3) Potato and runners of grass
    - (4) All of the above
  15. An object is placed at 10 cm from a convex mirror of focal length 20 cm, find the position of image?
    - (1) 3.33 cm behind the mirror
    - (2) 3.33 cm in front of the mirror
    - (3) 6.67 cm in front of the mirror
    - (4) 6.67 cm behind the mirror
-

16. A light ray enters from medium A to medium B as shown in figure below. The refractive index of medium B relative to A will be



- (1) Greater than unity  
 (2) Less than unity  
 (3) Equal to unity  
 (4) Zero
17. Which of the following defects can be rectified by using cylindrical lenses?  
 (1) Myopia (2) Presbyopia  
 (3) Astigmatism (4) Hypermetropia
18. Splitting of white light into its component is called  
 (1) Dispersion (2) Scattering  
 (3) Total internal Reflection (4) Spectrum
19. Formation of Rainbow is due to  
 (1) Scattering (2) Dispersion  
 (3) Atmospheric Refraction (4) Total internal Reflection
20. Speed of light is maximum in a medium whose refraction index with respect to air is  
 (1) 1.33 (2) 1.5  
 (3) 1.2 (4) 1.67
21. In a hydro-Power Plant  
 (1) Potential energy possessed by stored water is converted into electricity  
 (2) Kinetic energy possessed by stored water is converted into potential energy  
 (3) Electricity is extracted from water  
 (4) Water is converted into steam to produce electricity
22. Right hand Thumb Rule is used for  
 (1) Direction of induced current  
 (2) Direction of force acting on a current-carrying conductor inside the magnetic field  
 (3) Direction of magnetic field due to current carrying conductor  
 (4) direction of force on a moving charge inside magnetic field
23. A positively charged particle projected towards west is deflected towards north by a magnetic field then the direction of magnetic field is  
 (1) Towards South (2) Forwards East  
 (3) Downward (4) Upward
24. Phenomenon of electromagnetic induction is  
 (1) Process of charging a body  
 (2) Process of generating magnetic field due to a current passing through a coil  
 (3) Producing induced current in a coil due to relative motion between a magnet and the coil  
 (4) Process of rotating a coil of an electric motor
25. Two electrical appliances are connected in series. If their powers are  $P_1$ ,  $P_2$ , then the power of combinations will be  
 (1)  $P_1 + P_2$  (2)  $\frac{1}{P_1} + \frac{1}{P_2}$   
 (3)  $\frac{P_1 P_2}{P_1 + P_2}$  (4) None
26. Which of the following is not a use of electrolysis?  
 (1) Electroplanting (2) Printing  
 (3) Purification of metals (4) Photography
27. Ratio of resistivities of two materials A and B is 1:2, ratio of their length is 3:4. If the ratio of their radii is 2:3, find the ratio of resistance of A and B,  
 (1) 3:4 (2) 4:3  
 (3) 32:27 (4) 27:32
-

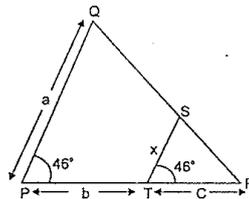
28. Chemical reaction between quick lime and water is characterized by  
 (1) evolution of Hydrogen gas (2) formation of slaked lime precipitate  
 (3) change in temperature of mixture (4) change in colour of the product
29. Process of respiration is  
 (1) an oxidation reaction which is endothermic (2) a reduction reaction which is exothermic  
 (3) a combination reaction which is endothermic (4) an oxidation reaction which is exothermic
30. The discomfort caused by indigestion due to over eating can be cured by taking  
 (1) vinegar (2) lemon juice  
 (3) baking soda (4) caustic soda
31. Which of the following is treated with chlorine to obtain bleaching powder?  
 (1)  $\text{CaSO}_4$  (2)  $\text{Ca(OH)}_2$   
 (3)  $\text{Mg(OH)}_2$  (4) KOH
32. Which of the following is the most reactive metal .....  
 (1) aluminium (2) copper  
 (3) tin (4) calcium
33. Which of the following pair of reactants can undergo a displacement reaction under appropriate conditions?  
 (1)  $\text{MgSO}_4 + \text{Fe}$  (2)  $\text{ZnSO}_4 + \text{Fe}$   
 (3)  $\text{MgSO}_4 + \text{Pb}$  (4)  $\text{CuSO}_4 + \text{Fe}$
34. Calamine ore can be converted into ZnO by the process of  
 (1) Dehydration (2) Roasting  
 (3) Calcinations (4) Sulphonation
35. Which of the following always contains mercury as one of the constituents?  
 (1) Stainless steel (2) Solder  
 (3) Duralumin (4) Zinc Amalgam
36. Property of self-combination of the atoms of the same element to form long chains is known as  
 (1) Protonation (2) Carbonation  
 (3) oronation (4) Catenation
37. Hydrocarbon 2-methylbutane is an isomer of  
 (1) n-pentane (2) n-butane  
 (3) propane (4) iso-butane
38. Chlorine reacts with saturated hydrocarbons at room temperature in the  
 (1) absence of sunlight (2) presence of sunlight  
 (3) absence of moisture (4) presence of  $\text{H}_2\text{SO}_4$
39. On moving from left to right in a period of the periodic table, the atomic number of elements increases. What happens to the size of atoms of elements on moving from left to right in a period?  
 (1) Increases (2) Decreases  
 (3) Remains the same (4) First increases then decreases
40. When a student put some copper turnings in a colourless solution, he observed that the solution gradually turned blue. The solution is most likely to be:  
 (1) Ferrous sulphate solution (2) Magnesium nitrate solution  
 (3) Silver nitrate solution (4) Copper sulphate solution
41. A narrow belt of about 8 to 16 km in width laying parallel to the slopes of the Shivalik is known as  
 (1) Doab (2) Bhangar  
 (3) Bhabar (4) Terai
42. The soil in the northern plain region of India consists of calcareous deposits and is locally known as  
 (1) Khadar (2) Black soil  
 (3) Doab (4) Kankar
43. A narrow belt of high attitude (above 12000 m) where westerly wind in the troposphere flows is known as  
 (1) Ozone layer (2) El Nino  
 (3) EVSO (4) Jet stream
44. A warm ocean current that flows past the Peruvian coast in place of cold Peruvian current is known as  
 (1) ENSO (2) LA NINA  
 (3) EL Nino (4) Western Disturbance
-

**SCHOLASTIC APTITUDE TEST-2016.DOCX-5**

45. Which one is the highest peak in the Eastern Ghats  
(1) Nilgiri (2) Mahendragiri  
(3) Parasnath (4) Doda Beta
46. Ganga plain lies between which river  
(1) Yamuna and Teesta (2) Ghaggar and Teesta  
(3) Yamuna and Brahmaputra (4) Teesta and Sarda
47. Non-metallic minerals are found in  
(1) Igneous rocks (2) Metamorphic rocks  
(3) Sedimentary rocks (4) Mixed rocks
48. Silicon used in the computer industry is obtained from  
(1) Bauxite (2) Quartz  
(3) cuprite (4) Magnetite
49. Which is the extreme south western port located at the entrance of lagoon with a natural harbor?  
(1) Tuticorin (2) Chennai  
(3) Kochi (4) Karwar
50. The national water ways no. 1 is located on the river  
(1) Ganga (2) Brahmaputra  
(3) Kaveri (4) Yamuna
51. The larger occurrence of minerals of igneous and metamorphic rocks are called  
(1) Veins (2) Loads  
(3) Layers (4) Beds
52. "Rat-hole" mining is found in  
(1) Jharkhand (2) Nagaland  
(3) Meghalaya (4) Odisha
53. In the context of France the fall of Bastille took place on  
(1) 20<sup>th</sup> August 1789 (2) 14<sup>th</sup> August 1789  
(3) 14<sup>th</sup> July 1789 (4) 14<sup>th</sup> August 1798
54. "The Spirit of Laws" book was written by  
(1) Rousseau (2) John Locke  
(3) Montesquieu (4) Nelson Mandela
55. Who led the Bolshevik group in Russia during Russian Revolution?  
(1) Karl Marx (2) Friedrich Engels  
(3) Leon Trotsky (4) Vladimir Lenin
56. Which incident led to the start of World War II?  
(1) Russian invasion of Poland (2) German invasion of Russia  
(3) German invasion of Poland (4) Japans sinking of ship at Pearl Harbour
57. When as the first world cup cricket successfully staged  
(1) 1975 (2) 1947  
(3) 1974 (4) 1976
58. Why did the Indians oppose the Rowlatt Act?  
(1) It increased the taxes on land  
(2) It gave the British the power to arrest and detain a person without a trial  
(3) It put a ban on the congress party  
(4) All of the above
59. Who said 'When France sneezes the rest of Europe catches cold'?  
(1) TT.S. Eliot (2) Metternich  
(3) Count Cavour (4) Bismarck
60. Who was the founder of Hoa Hao movement?  
(1) Huynh Phun So (2) Liang Oichad  
(3) Phan Boi Chan (4) Ngyuagen Dinchien
61. During French colonization Thailand was known as  
(1) Mekong (2) Yunnan  
(3) Sagon (4) Siam
-

62. Which of the following was the first book printed by Gutenberg?  
 (1) New Testament (2) Bible  
 (3) chap Books (4) Diamond Sutra
63. Which one of the following was the 'city of gold'?  
 (1) Peru (2) Mexico  
 (3) Spain (4) El Dorado
64. "Godan" is a famous novel by  
 (1) Bhartendu Harishandra (2) Premchand  
 (3) Jaishankar Prasad (4) Namvar Singh
65. Iraq became independent in 1932 from which rule  
 (1) French (2) U.S.A  
 (3) British (4) Germany
66. Which country had faced the worst recorded famine in the world history in the year 1958 to 1960?  
 (1) Mexico (2) India  
 (3) Pakistan (4) China
67. On what charges was Nelson Mandela sentenced to life imprisonment?  
 (1) for corruption charges (2) for breaking the laws  
 (3) for treason (4) for possessing illegal proper
68. The number of seats reserved for Scheduled Caste (SC) in the Lok Sabha is  
 (1) 69 (2) 41  
 (3) 79 (4) 89
69. Which body exposed to the world that prisoners at Guantanamo Bay were being tortured in ways that violated the US laws?  
 (1) United Nations (2) Amnesty international  
 (3) International court of Justice (4) International Labour Organization
70. Which of the following system of power sharing is called checks and balance?  
 (1) Separation of power (2) Federal division of powers  
 (3) Horizontal division of powers (4) Vertical divisions of powers
71. Which one is the group of federal countries?  
 (1) India, USA, Iraq (2) USA, Switzerland and Libya  
 (3) USA, India, Switzerland (4) USA, India and Libya
72. Which party enjoys a strong hold in Tripura, Kerala and west Bengal?  
 (1) CPI (2) CPI (M)  
 (3) Trinamool Congress (4) CPI (L)
73. Who is the chairman of the planning commission?  
 (1) Finance Minister (2) chief Minister  
 (3) President (4) Prime Minister
74. World Trade Organization (WTO) was started at the initiative of .....  
 (1) Developing Countries (2) Asian Countries  
 (3) Developed Countries (4) European Countries
75. In which sectors maximum underemployment is found in India  
 (1) Secondary Sector (2) Primary Sector  
 (3) Tertiary Sector (4) None of the above
76. In which year National Rural Employment Gurantee Act as passed?  
 (1) 2008 (2) 2005  
 (3) 1991 (4) 1995
77. Gross Domestic Product (GDP) is the total value of..... produced during a particular year.  
 (1) All good and services (2) All final goods and services  
 (3) All intermediate and final good and services (4) None of the above
78. Golden Revolution associated with the product of  
 (1) Oil seeds (2) Poultry  
 (3) Horticulture (4) Cotton
-

79. What was the aim of antyoday programe  
 (1) unliftment of schedule tribe people (2) upliftment of women  
 (3) helping the poorest of poor (4) children welfare
80. ....is an example of indirect taxes is  
 (1) Corporate Tax (2) Income Tax  
 (3) Estate Tax (4) Entertainment Tax
81. If  $(-1)^n + (-1)^{4n} = 0$ , then n is  
 (1) any positive (2) any negative  
 (3) any odd natural number (4) any even natural number
82. If  $\alpha$  and  $\beta$  be the zeroes of the polynomial  $ax^2 + bx + c$ , then the value of  $\sqrt{\frac{\alpha}{\beta}} + \sqrt{\frac{\beta}{\alpha}}$  is  
 (1) b (2)  $\frac{-b}{\sqrt{ac}}$   
 (3)  $\frac{-b}{ac}$  (4)  $\frac{1}{ac}$
83. If  $-4$  is a root of the quadratic equation  $x^2 + px - 4 = 0$  and the quadratic equation  $x^2 + px + k = 0$  has equal roots, find the value of k,  
 (1)  $\frac{3}{4}$  (2)  $\frac{7}{4}$   
 (3)  $\frac{2}{9}$  (4)  $\frac{9}{4}$
84. The value of  $\sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}}$  is  
 (1) 4 (2) 3  
 (3)  $-4$  (4) 3.5
85. In an A.P., sum of first n terms is  $\frac{3n^2}{2} + \frac{5n}{2}$ . Find its 25<sup>th</sup> term.  
 (1) 100 (2) 25  
 (3) 75 (4) 76
86. ABC is a right angle triangle, right angled at c. If p is the length of the perpendicular from C to AB, AB = c and BC = a and AC = b, then  
 (1)  $\frac{1}{a^2} = \frac{1}{b^2} - \frac{1}{p^2}$  (2)  $\frac{1}{p^2} = \frac{1}{a^2} - \frac{1}{b^2}$   
 (3)  $\frac{1}{b^2} = \frac{1}{p^2} - \frac{1}{a^2}$  (4)  $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$
87. In a given figure, x in term of a, b and c is  
 (1)  $x = \frac{ac}{a+c}$   
 (2)  $x = \frac{ab}{b+c}$   
 (3)  $x = \frac{ac}{b+c}$   
 (4)  $x = \frac{bc}{a+c}$



89. Two poles of height  $a$  meters and  $b$  meters are  $p$  meters apart. Height of the point intersection of the lines joining the top of each pole to the foot of the opposite pole is given by,

- (1)  $\frac{ab}{a+b}$  (2)  $\frac{a+b}{ab}$   
 (3)  $\frac{ab}{a-b}$  (4)  $\frac{a-b}{ab}$

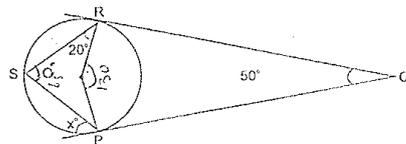
90. If  $\tan\theta = \frac{x\sin\phi}{1-\cos\phi}$  and  $\tan\phi = \frac{y\sin\theta}{1-\cos\theta}$

- (1)  $\frac{\sin\phi}{\sin\theta}$  (2)  $\frac{\sin\theta}{\sin\phi}$   
 (3)  $\frac{\sin\theta}{1-\cos\theta}$  (4)  $\frac{\sin\theta}{1-\cos\phi}$

91. If tangents PA and PB from a point P to a circle with centre O are inclined to each other at angle of  $80^\circ$ , then  $\angle POA$  is equal to,

- (1)  $50^\circ$  (2)  $60^\circ$   
 (3)  $70^\circ$  (4)  $80^\circ$

92. In the diagram, PQ and QR are tangents to the circle centre O, at P and R respectively. Find the value of  $x$ .



- (1) 25 (2) 35  
 (3) 45 (4) 55

93. If  $h$  be the height and  $\alpha$  the Semi-vertical angle of a right circular cone, then its volume is given by

- (1)  $\frac{1}{3}\pi h^3 \tan^2 \alpha$  (2)  $\frac{1}{3}\pi h^2 \tan^2 \alpha$   
 (3)  $\frac{1}{3}\pi h^2 \tan^3 \alpha$  (4)  $\frac{1}{3}\pi h^3 \tan^3 \alpha$

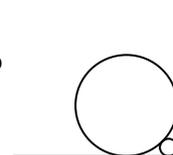
94. If the mean of  $x$  and  $1/x$  is  $M$ , the mean of  $x^3$  and  $1/x^3$  is

- (1)  $\frac{M^2-3}{2}$  (2)  $M(4M^2-3)$   
 (3)  $M^3$  (4)  $M^3+3$

95. If  $x = a \sec \theta + b \tan \theta$  and  $y = a \tan \theta + b \sec \theta$  prove that the value of  $x^2 - y^2$  will be

- (1)  $a^2 - b^2$  (2)  $a^2 + b^2$   
 (3)  $a^2 + 1$  (4)  $a^2 - 1$

96. A circle with radius 2 unit is placed against a right angle. Another smaller circle is also placed as shown in figure. What is the radius of the smaller circle?



- (1)  $3 - 2\sqrt{2}$  (2)  $4 - 2\sqrt{2}$   
 (3)  $7 - 4\sqrt{2}$  (4)  $6 - 4\sqrt{2}$

97. Sum of  $n$  terms of the series  $\sqrt{2} + \sqrt{8} + \sqrt{18} + \sqrt{32} + \dots$  is

- (1)  $\frac{n(n+1)}{2}$  (2)  $2n(n+1)$   
 (3)  $\frac{n(n+1)}{\sqrt{2}}$  (4) 1

98. Sum of first  $n$  odd natural numbers is

- (1)  $n^2$  (2)  $n + 1$   
 (3)  $2n + 1$  (4)  $n$

99. If  $x = 1$  a common root of the equations  $ax^2 + ax + 3 = 0$  and  $x^2 + x + b = 0$ , then  $ab$
- |       |         |
|-------|---------|
| (1) 3 | (2) 3.5 |
| (3) 6 | (4) -3  |
100. The value of  $K$  if the linear equations  $x + 2y = 3$  and  $5x + ky + 7 = 0$  has unique solution is
- |                 |                 |
|-----------------|-----------------|
| (1) $K \neq 1$  | (2) $K \neq 10$ |
| (3) $K \neq 15$ | (4) $K \neq 5$  |
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**ANSWERS**

1.	3	2.	3	3.	2	4.	4	5.	4
6.	2	7.	3,4	8.	1	9.	3	10.	3
11.	1	12.	2	13.	2	14.	4	15.	4
16.	1	17.	3	18.	1	19.	4	20.	3
21.	1	22.	3	23.	4	24.	3	25.	1
26.	4	27.	4	28.	3	29.	4	30.	3
31.	2	32.	4	33.	4	34.	3	35.	4
36.	4	37.	1	38.	2	39.	2	40.	3
41.	3	42.	4	43.	4	44.	4	45.	2
46.	2	47.	3	48.	2	49.	3	50.	1
51.	2	52.	3	53.	3	54.	3	55.	4
56.	3	57.	1	58.	2	59.	2	60.	1
61.	4	62.	2	63.	4	64.	2	65.	3
66.	4	67.	3	68.	3,(Or no option)	69.	2	70.	3
71.	3	72.	2	73.	4	74.	1	75.	2
76.	2	77.	2	78.	1	79.	3	80.	4
81.	3	82.	2	83.	4	84.	2	85.	4
86.	3,4	87.	3	88.	3	89.	1	90.	2
91.	1	92.	3	93.	1	94.	2	95.	1
96.	4	97.	3	98.	1	99.	1	100.	2

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