

TEST PAPER

for NTSE

NATIONAL TALENT SEARCH EXAMINATION(FIRST LEVEL) 2015-16 (For Students of Class X)

Time Allowed: 4 Hr.

Maximum Marks: 200

INSTRUCTIONS FOR MARKING ON ANSWER SHEET

1. Use blue/black ball point pen only. There is no negative marking.
2. Part I :- **MAT : 1 – 100** questions
Part II :- **SAT : 101 – 200** questions
3. This test booklet contains 200 questions of one mark each. All the questions are compulsory.
4. Answer each question by darkening the one correct alternative among the four choices on the OMR SHEET with blue/black ball point pen.

Example :

Q.No.	Alternatives
Correct way : 1	<input type="radio"/> 1 <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/> 4
Q.No.	Alternatives
Wrong way : 1	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4

Student must darkening the right oval only after ensuring correct answer on OMR sheet.

5. Disparity in mentioning (OBC, SC, ST & PH) in application form and OMR sheet can make your candidature invalid.
6. Students are not allowed to scratch/alter/change out an answer once marked on OMR sheet, by using white fluid/eraser/blade/tearing/wearing or in any other form.
7. Separate sheet has been provided for rough work in this test booklet.
8. *Please handover the OMR sheet to the invigilator before leaving the Examination Hall.
*Take all your question booklets with you.
9. Darken completely the ovals of your answer on OMR sheet in the time limit allotted for that particular paper.
10. Your OMR sheet will be evaluated through electronic scanning process. incomplete and incorrect entries may render your OMR sheet invalid.
11. Use of electronic gadgets, calculator, mobile etc. is strictly prohibited.
12. Total 1 hour extra time will be allotted to visually challenged candidate only.

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MENTAL ABILITY TEST (MAT)

Choose the correct (✓) answer:

1. Z, W, S, ?.

- | | |
|-------|-------|
| (1) P | (2) O |
| (3) N | (4) Q |

2. AN, CP, FS, ?.

- | | |
|--------|--------|
| (1) IV | (2) JW |
| (3) KX | (4) LY |

3. MYZ, LWX, ?, JST.

- | | |
|---------|---------|
| (1) KUV | (2) IQR |
| (3) HOP | (4) GMN |

4. bdf, hjl, ?, tvx.

- | | |
|---------|---------|
| (1) nrp | (2) pnr |
| (3) nqr | (4) npr |

Questions (5–8)

Direction : In each of the questions 5 to 8 some of the numbers are missing in the given series with one term missing shown by question mark (?). This term is one of the alternatives among the four numbers given under it. Find the right alternative.

5. 8, 27, 64, ?, 216, 343.

- | | |
|---------|---------|
| (1) 125 | (2) 81 |
| (3) 100 | (4) 196 |

6. 5, 11, 19, ?, 41.

- | | |
|--------|--------|
| (1) 28 | (2) 29 |
| (3) 30 | (4) 35 |

7. 120, ?, 24, 6, 0.

- | | |
|---------|--------|
| (1) 100 | (2) 70 |
| (3) 60 | (4) 20 |

8. 729, 81, 9, 1, $\frac{1}{9}$, ?, $\frac{1}{729}$.

- | | |
|---------------------|---------------------|
| (1) $\frac{1}{27}$ | (2) $\frac{1}{81}$ |
| (3) $\frac{1}{243}$ | (4) $\frac{1}{486}$ |

Questions (9–11)

Direction : In each of the questions below are given two statements and two conclusions numbered I and II. You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the two given statements.

9. **Statements (i)** : All pencils are pens.

(ii) : All pens are markers.

Conclusions (I) : All pencils are markers.

(II) : Some pens are pencils.

- (1) Only conclusion I is true
- (2) Only conclusion II is true
- (3) Both conclusions I and II are true
- (4) Neither conclusion I nor conclusion II is true.

10. **Statements (i)** : Some players are singers.

(ii) : All singers are tall.

Conclusions (i) : Some players are tall.

(ii) : All players are tall.

- (1) Only conclusion I is true
- (2) Only conclusion II is true
- (3) Both conclusions I and II are true
- (4) Neither conclusion I nor conclusion II is true.

11. **Statements (i)** : All stones are diamond.

(ii) : Some diamonds are pearl.

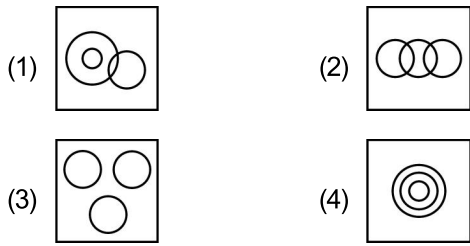
Conclusions (i) : Some pearls are stone.

(ii) : All diamonds are pearl.

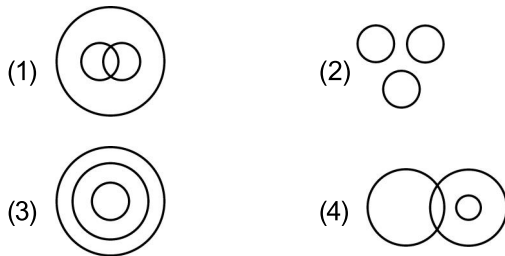
- (1) Only conclusion I is true
- (2) Only conclusion II is true
- (3) Both conclusions I and II are true
- (4) Neither conclusion I nor conclusion II is true.

Space For Rough Work

12. Which of the following Venn diagrams correctly represents intelligence, ability and honesty?

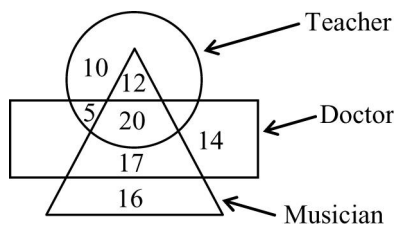


13. Which of the following Venn diagrams correctly represents Delhi, India and Asia?



Questions (14–15)

Direction : Give answer on the following Venn diagram :



14. How many persons are related to all three?

- (1) 20
- (2) 12
- (3) 32
- (4) 17

15. How many persons are related to any two?

- (1) 32
- (2) 34
- (3) 43
- (4) 27

Questions (16–19)

Direction : In questions 16 to 19 three alternatives are alike in a certain way but the rest one is different. Find out the odd one and write correct answer.

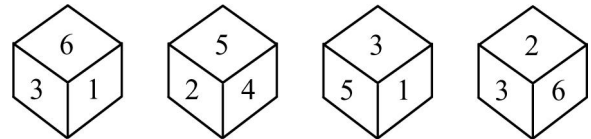
- 16. (1) ABNO
- (2) CDPQ
- (3) EFRS
- (4) GHUT

- 17. (1) 144, 12
- (2) 121, 11
- (3) 80, 9
- (4) 100, 10

- 18. (1) Pen
- (2) Pencil
- (3) Chalk
- (4) Blackboard

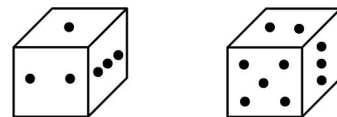
- 19. (1) Haryana
- (2) Gujarat
- (3) Rajasthan
- (4) Shimla

20. In the given dice the opposite side of the 3 face is having which number?



- (1) 2
- (2) 3
- (3) 4
- (4) 6

21. In the given two positions of a dice, when 2 is below the dice which number is on the dice?



- (1) 3
- (2) 5
- (3) 1
- (4) 6

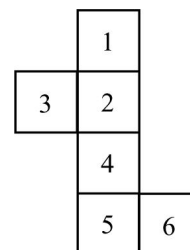
Questions (22–23)

Direction : Answer the questions on the basis of cube :

22. A cube of side 6 cm is divided in the cubes of side 2 cm. Then the total number of cubes is -

- (1) 9
- (2) 27
- (3) 81
- (4) 216

23. In the given figure of cube which is opposite face of 3 ?



- (1) 1
- (2) 4
- (3) 5
- (4) 6

24. If in a coded language the word 'REKHA' is written as 'AHKER' then in the same code language 'HEMA' will be written as -

- (1) AMEH (2) EMAH
(3) MAHE (4) EAMH

25. If in a coded language the word CHILDREN is written as EJKNFTGP then TEACHER will be written as -

- (1) VGCEJTG (2) VGCEJGT
(3) VGCJEGT (4) VGCGEJT

26. In a coded language the given alphabets are written in special codes.

A	B	C	D	E	S	U	V	M	N
7	9	1	3	4	2	0	6	5	8

Then code 973578 will be -

- (1) BADMAN (2) BACMAN
(3) DUEMAN (4) MANSDE

27. In a coded language 'RUSTY' is written as 96872. Then in the same coded language 'ZXWV' will be written as -

- (1) 1354 (2) 1543
(3) 1345 (4) 1534

28. A is uncle of B, B is daughter of C, C is the wife of D's son. Then how is A related to D?

- (1) Son (2) Brother
(3) Father (4) Maternal uncle

29. Ram travels 8 km to south, then moves to right and travels 6 km and at the end he again moves right and travels 8 km. Then the distance of Ram from initial point is.

- (1) 6 km (2) 8 km
(3) 10 km (4) 14 km

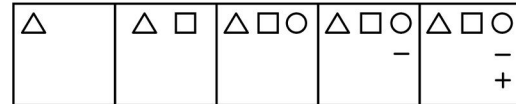
30. If the meaning of Δ is '+', θ is 'x', \square is ' \div ' and ϕ is '-', then the value of $24 \square 6 \Delta 5 \theta 6 \phi 14$ is -

- (1) 34 (2) 20
(3) 14 (4) 2

Questions (31–34)

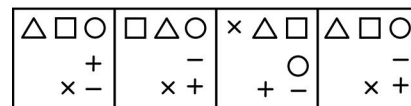
Direction : In questions 31 to 34 there are two sets of figures, one set contains problem figures while the other has answer-figures. There is a sequence according to which the problem figures are arranged. You have to select an answer-figure which can be added in sequence in the problem-figures. Choose the correct figure.

Problem-figures



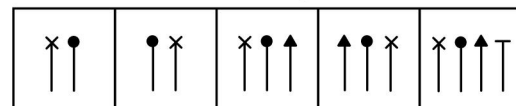
- (A) (B) (C) (D) (E)

Answer-figures



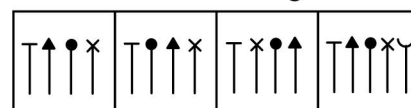
- (1) (2) (3) (4)

Problem-figures



- (A) (B) (C) (D) (E)

Answer-figures



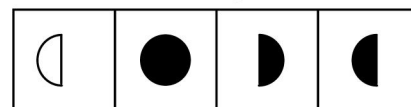
- (1) (2) (3) (4)

Problem-figures



- (A) (B) (C) (D)

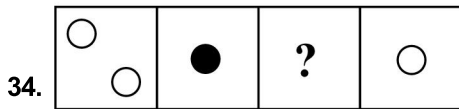
Answer-figures



- (1) (2) (3) (4)

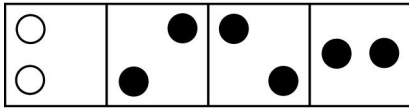
Space For Rough Work

Problem-figures



- (A) (B) (C) (D)

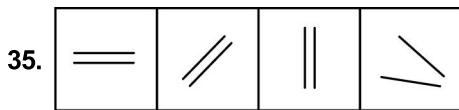
Answer-figures



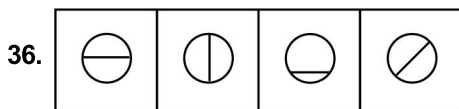
- (1) (2) (3) (4)

Questions (35–37)

Direction : In questions 35 to 37 there are four figures given. One of these does not correlate with the rest of the figures. Find out that odd figure.



- (1) (2) (3) (4)

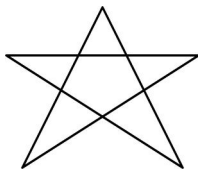


- (1) (2) (3) (4)



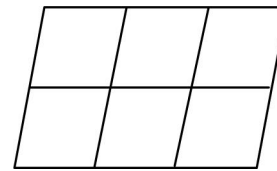
- (1) (2) (3) (4)

38. How many triangles are there in the figure below ?



- (1) 5 (2) 6
(3) 8 (4) 10

39. How many parallelograms are there in the figure below?



- (1) 14 (2) 15
(3) 16 (4) 18

Questions (40–42)

Direction : In questions 40 to 42 find the correct mirror image of the given figure.

40. Question-figure



Answer-figures



- (1) (2) (3) (4)

41. Question-figure



Answer-figures

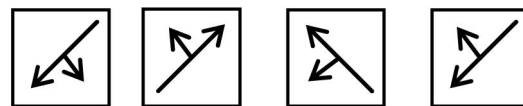


- (1) (2) (3) (4)

42. Question-figure




Answer-figures




- (1) (2) (3) (4)

Space For Rough Work

43. The water image of the given figure  is

- (1) 
- (2) 
- (3) 
- (4) 

44. The water image of the given figure  is

- (1) 
- (2) 
- (3) 
- (4) 

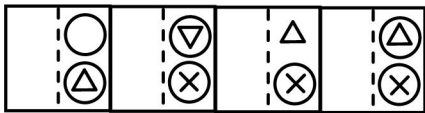
Questions (45–46)

Direction : In the following Questions 45 – 46, figures showing a sequence of folding a paper are given. Which could resemble the figure in the Answer-figure?

45. Question-figures

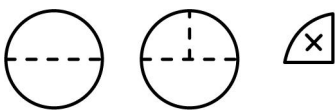


Answer-figures

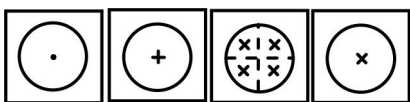


- (1)
- (2)
- (3)
- (4)

46. Question-figure

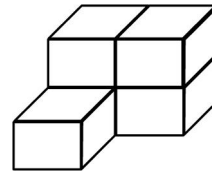


Answer-figures



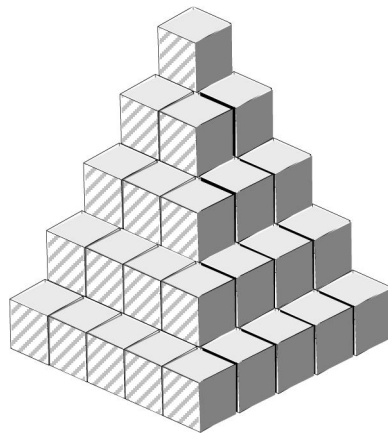
- (1)
- (2)
- (3)
- (4)

47. Find the number of blocks when the given stack of blocks is separated :



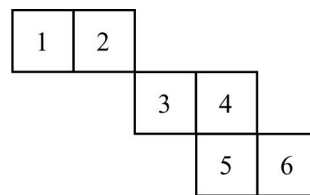
- (1) 3
- (2) 4
- (3) 5
- (4) 6

48. In the given figure, the total number of cubes is



- (1) 25
- (2) 55
- (3) 85
- (4) 35

49. In the given figure squares are folded and a cube is formed. Then the number opposite to 2 is -



- (1) 1
- (2) 3
- (3) 5
- (4) 6

50. In the standard die the sum of opposite faces always remains -

- (1) 8
- (2) 7
- (3) 6
- (4) 5

- 51.** Earlier Vivek on 17th floor of a multi-storeyed building. So, he knows how to use a lift -
 (1) live (2) lived
 (3) lives (4) is living
- 52.** Sonali an English newspaper daily -
 (1) reads (2) read
 (3) was reading (4) were reading
- 53.** Himani this test recently -
 (1) pass (2) passed
 (3) have passed (4) has passed
- 54.** Look before you
 (1) leap (2) leapt
 (3) are leaping (4) leaps
- 55.** The senior staff bonus by the company last year -
 (1) is given (2) will be given
 (3) was given (4) has given
- 56.** A long bridge over the village river presently -
 (1) is being built (2) was being built
 (3) was built (4) will be built
- 57.** 'Vande Matram' song by Bankim Chandra Chatterjee -
 (1) is being written (2) was being written
 (3) had written (4) was written
- 58.** Second-hand books on this foot-path every Sunday -
 (1) bought and sold (2) is bought and sold
 (3) are bought and sold (4) will be bought and sold
- 59.** The watchman said to the lady, "I cannot stay here all the time." The watchman told the lady that all the time -
 (1) he cannot stay there
 (2) he could not stay there
 (3) he could not stay here
 (4) he cannot stay here
- 60.** My sister said to me, "Please bring me a sketch-pen set".
 My sister requested me a sketch-pen set -
 (1) that I should bring her (2) if I bring her
 (3) to bring her (4) to brought her
- 61.** The old lady said, "I am going on a holiday".
 The old lady said on a holiday -
 (1) that she was going (2) if she was going
 (3) that I am going (4) that I was going
- 62.** Lencho said to the post-office clerks, "You are a band of cheats."
 Lencho blamed the post-office clerks that a band of cheats -
 (1) you are (2) you were
 (3) they are (4) they were
- 63.** It is a difficult puzzle. You also try it -
 (1) could (2) may
 (3) shall (4) will
- 64.** Smoking is prohibited in schools too. Nobody use tobacco products there -
 (1) may (2) will
 (3) can (4) could
- 65.** We..... love our country -
 (1) should (2) may
 (3) will (4) can
- 66.** Religion helps us keep to the right path in life. So, we follow our religion -
 (1) could (2) may
 (3) must (4) shall
- 67.** A bunch of grapes all that the fox wanted -
 (1) is (2) am
 (3) was (4) were
- 68.** Coffee and biscuits a refreshing snack -
 (1) is (2) was
 (3) were (4) are

69. One of the soliders wounded last night -
 (1) is (2) am
 (3) was (4) were
70. A good number of patients diagnosed of Dengue last year -
 (1) is (2) are
 (3) was (4) were
71. 'Have you any sugar ?'
 'Yes. But I don't have
- (1) many (2) more
 (3) much (4) some
72. The athletes were prepared to face challenge
 (1) a (2) all
 (3) every (4) several
73. I quietly went out the door to see the snake -
 (1) into (2) to
 (3) from (4) through
74. The rich man promised the warden to pay the poor girls -
 (1) in (2) on
 (3) for (4) of
75. We lived in an ancestral house made limestone -
 (1) in (2) of
 (3) from (4) by
76. Kishore was looking all for his lost ATM card
 (1) in (2) near
 (3) around (4) about
77. The king lost all his resources his courage helped him regain his kingdom -
 (1) as (2) and
 (3) yet (4) so
78. of all his supports, he was left all alone in his odd times -
 (1) Besides (2) Because
 (3) Despite (4) Instead
79. Raghu had better at a boarding school -
 (1) study (2) to study
 (3) studying (4) studied
80. She went to the village market the necessary commodities -
 (1) for buy (2) to buy
 (3) buying (4) to be bought
81. Add a question tag :
 I sold all my notes,
- (1) ain't I ? (2) didn't I ?
 (3) did I ? (4) aren't I ?
82. Add a question tag :
 Never betray anyone,
- (1) shall we ? (2) should we ?
 (3) shall they ? (4) should they ?
83. to Anil / should / I / back / go
 (a) (b) (c) (d) (e)
- (1) (c) (b) (e) (d) (a)
 (2) (b) (c) (d) (e) (a)
 (3) (a) (b) (d) (c) (e)
 (4) (d) (b) (c) (e) (a)
84. two dollars / down to / the bargain / he / managed
 (a) (b) (c) (d) (e)
- (1) (b) (a) (c) (d) (e)
 (2) (d) (e) (c) (b) (a)
 (3) (b) (c) (d) (e) (a)
 (4) (a) (e) (c) (b) (d)
- For Question Nos. 35 - 36 select the word that best expresses the meaning of the given word :**
85. Stifled
 (1) tough (2) suffocated
 (3) hard (4) free
86. Conceit
 (1) pride (2) shame
 (3) hate (4) joy

For Question Nos. 37 - 38 select the word which means the opposite to the given word :

87. Temporary

- (1) stable (2) fix
(3) permanent (4) mobile

88. Kindle

- (1) light (2) put out
(3) put in (4) put up

For Question Nos. 39 - 40 select the meaning of the given phrasal verbs :

89. Break away

- (1) escape (2) split
(3) end relationship (4) stop working

90. Look out

- (1) check (2) be careful
(3) search (4) bring

91. Put the most suitable word

Can you tell me you found my keys ?

- (1) how (2) whose
(3) which (4) who

92. Fill in the blank with correct determiner :

..... student in the class had a book -

- (1) All (2) Every
(3) Neither (4) Few

93. Fill in the blank with correct modal :

I get there on time. (determination)

- (1) can (2) may
(3) could (4) will

94. Use the appropriate preposition to complete the given sentence :

When the doctor arrived the patient was lying the floor.

- (1) under (2) above
(3) on (4) over

95. She is seeking admission any of the management colleges -

- (1) by (2) at
(3) for (4) to

96. Choose the correctly punctuated sentence -

- (1) hari, latif, ali and a I saw an old, lean weak bullock on the road.
(2) Hari Latif Ali and I saw an old lean weak bullock on the road.
(3) Hari, Latif, Ali and I saw an old, lean, weak bullock on the road.
(4) Hari, Latif, Ali and I saw an old lean weak bullock on the road.

97. Choose the correct Negative sentence of the given Affirmative sentence :

Ram is the cleverest boy in the school.

- (1) No boy in the school is as clever as Ram.
(2) Ram is as clever as other boys.
(3) No boy is cleverest in school as Ram is.
(4) Ram is cleverest of all.

98. Fill in the blank with proper word from the options given below :

The bus has arrived, now the passengers are getting down.

- (1) while (2) just
(3) since (4) because

99. Choose the correct noun form of the given adjective :

'Pure'

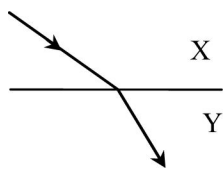
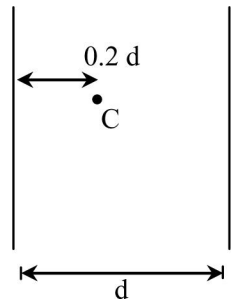
- (1) purify (2) purely
(3) purification (4) purified

100. Give synonym of the given word :

Pious

- (1) evil (2) holy
(3) ill-will (4) vulgar

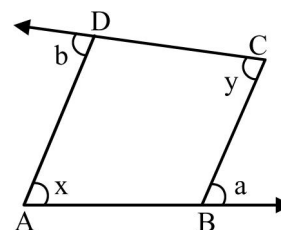
SCHOLASTIC APTITUDE TEST (SAT)

- 101.** A car travels 40 kms at an average speed of 80 km/h and then travels 40 kms at an average speed of 40 km/h. The average speed of the car for this 80 km trip is-
- (1) 40 km/h (2) 45 km/h
(3) 48 km/h (4) 53 km/h
- 102.** The term 'mass' refers to the same physical concept as
- (1) weight (2) inertia
(3) force (4) acceleration
- 103.** A 5.0 kg objects is moving horizontally at 6.0 m/s. In order to change its speed to 10.0 m/s, the net work done on the object must be
- (1) 40 J (2) 90 J
(3) 160 J (4) 20 J
- 104.** The momentum of an object at a given instant is independent of its
- (1) inertia (2) speed
(3) velocity (4) acceleration
- 105.** The pressure exerted on the ground by a man is greatest when
- (1) he stands with both feet flat on ground
(2) he stands flat on one foot
(3) he stands on the toes of one foot
(4) all the above yield the same pressure
- 106.** A sound wave has a wavelength of 3.0 m. The distance from a compression centre to the adjacent rarefaction centre is
- (1) 0.75 m (2) 1.5 m
(3) 3.0 m (4) 6.0 m
- 107.** Of the following, the copper conductor that has the least resistance is
- (1) thin, long and hot (2) thick, short and cool
(3) thick long and hot (4) thin, short and cool
- 108.** Four 20Ω resistors are connected in series and the combination is connected a 20 V emf device. The potential difference across any one of the resistors is
- (1) 5V (2) 2V
(3) 4V (4) 20 V
- 109.** he magnetic field lines due to an ordinary bar magnet
- (1) form closed curves
(2) cross one another near the poles
(3) are more numerous near the N-pole than near the S-pole
(4) do not exist inside the magnet.
- 110.** When light travels from medium X to medium Y as shown
- 
- (1) both the speed and the frequency decrease
(2) both the speed and the frequency increase
(3) both the speed and the wavelength decrease
(4) both the wavelength and the frequency are unchanged.
- 111.** A candle C is kept between two parallel mirrors, at a distance $0.2 d$ from the mirror 1. Here d is the distance between mirrors. Multiple images of the candle appear in both mirrors. How far behind mirror 1 are the nearest two images of the candle in that mirror ?
- (1) $0.2 d, 1.8 d$
(2) $0.2 d, 2.2 d$
(3) $0.2 d, 0.8 d$
(4) $0.2 d, 1.2 d$
- 

Space For Rough Work

- 112.** For a 1 MW wind energy generator, the minimum land area required for establishment of wind energy farm is about
- (1) 100 hectares (2) 50 hectares
(3) 20 hectares (4) 2 hectares
- 113.** Milk of magnesia is an example of which type of colloid?
- (1) Gel (2) Emulsion
(3) Sol (4) Foam
- 114.** The number of gram moles of aluminium ions present in 0.051 g of aluminium oxide is
- (1) 0.001 (2) 0.051
(3) 0.102 (4) 2
- 115.** Number of valence electrons in Cl atom is
- (1) 16 (2) 7
(3) 17 (4) 18
- 116.** Isotopes of an element have
- (1) the same physical properties
(2) different chemical properties
(3) different number of neutrons
(4) different atomic number
- 117.** Which of the following hydrocarbons undergoes addition reactions?
- (1) C_2H_6 (2) C_3H_8
(3) C_3H_6 (4) CH_4
- 118.** Which of the following statements is not a correct statement about the trends when going from left to right across the periods of periodic table?
- (1) The elements become less metallic in nature
(2) The number of valence electrons increases
(3) The atoms lose their electrons more easily
(4) The oxides become more acidic.
- 119.** Acetic acid, with the molecular formula CH_3COOH has
- (1) 8 covalent bonds (2) 7 covalent bonds
(3) 9 covalent bonds (4) 10 covalent bonds
- 120.** An element reacts with oxygen to give a compound with a high melting point. This compound is also soluble in water. The element is likely to be
- (1) calcium (2) carbon
(3) silicon (4) iron.
- 121.** Metals in the middle of the activity series can be easily extracted from their
- (1) Carbonates (2) Sulphides
(3) Nitrates (4) Oxides.
- 122.** $Pb(s) + CuCl_2(aq) \rightarrow PbCl_2(aq) + Cu(s)$
The above reaction is an example of a
- (1) combination reaction
(2) neutralization reaction
(3) decomposition reaction
(4) displacement reaction.
- 123.** Adding an alpha particle to the nucleus of sodium atom produces which new element?
- (1) Mg (2) P
(3) Al (4) Ne.
- 124.** Which among the following cell organelles is able to make its own proteins?
- (1) Lysosome (2) Golgi apparatus
(3) Plastid (4) Endoplasmic reticulum.
- 125.** Intercalary meristem is present in
- (1) at the base of the leaves and both the sides of node
(2) in the roots
(3) at the tip of the leaves
(4) at the shoot apex.
- 126.** Which among the following is an example of fungi?
- (1) Anabaena (2) Euglena
(3) Mycoplasma (4) Agaricus.
- 127.** In plants transport of soluble products in the process of photosynthesis occurs in
- (1) xylem (2) phloem
(3) both the these (4) none of these.

- 128.** Which among the following hormones is associated with wilting of leaves?
- (1) Absciscic acid (2) Gibberellin
(3) Cytokinin (4) Auxin
- 129.** Seed is modification of
- (1) ovary (2) ovule
(3) thalamus (4) all of these
- 130.** How many types of muscle tissue are found?
- (1) Striated and unstriated
(2) Striated and cardiac
(3) Cardiac and unstriated
(4) Striated, unstriated and cardiac.
- 131.** Which characters are present in a vertebrate ?
- (1) Notochord, triploblastic, coelomate and bilateral symmetry
(2) Notochord, diploblastic, coelomate and radial symmetry
(3) Notochord, triploblastic, acoelomate and bilateral symmetry
(4) Notochord, triploblastic, acoelomate and radial symmetry
- 132.** Synapse is
- (1) gap between two muscle cells
(2) gap between two bones
(3) gap between two neurons
(4) gap between muscle and bone
- 133.** Regeneration is found in
- (1) tapeworm (2) leech
(3) hydra (4) ascaris
- 134.** Which of the following groups constitutes a correct food chain ?
- (1) Grass → Rabbit → Snake → Eagle
(2) Grass → Goat → Fox → Lion
(3) Goat → Grass → Elephant → Snake
(4) Grass → Wheat → Frog → Goat
- 135.** Which cell organelle is known as "powerhouse of the cell" ?
- (1) Mitochondria (2) Lysosome
(3) Golgi apparatus (4) Endoplamic reticulum
- 136.** If $(1^2 + 2^2 + 3^2 + \dots + 12^2) = 650$, then the value of $(2^2 + 4^2 + 6^2 + \dots + 24^2)$ is
- (1) 1300 (2) 2600
(3) 2500 (4) 42250
- 137.** The square root of $x^{b^2} x^{b^2+2ab} x^{a^2-b^2}$ is
- (1) $x^{2(a+b)}$ (2) $x^{\frac{a+b}{2}}$
(3) $x^{\frac{(a+b)^2}{2}}$ (4) x^{a+b}
- 138.** If $(x + 2)$ is a factor of $2x^3 - 5x + k$, then the value of k is
- (1) 6 (2) -6
(3) 26 (4) -26
- 139.** For which value of p the following pair of linear equations $3x + py = 7$, $px + 3y = 15$ will have no solutions ?
- (1) ± 9 (2) ± 5
(3) ± 3 (4) ± 4
- 140.** A tower is on a horizontal plane. The angles of elevation of top of the tower from two points on a line passing through the foot of the tower at distance 49 m and 36 m are 41° and 49° . The height of the tower is
- (1) 40 m (2) 42 m
(3) 44 m (4) 46 m
- 141.** Sides AB and CD of a quadrilateral ABCD are extended as in figure. Then $a + b$ is equal to

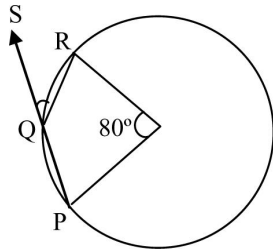


- (1) $x + 2y$ (2) $x - y$
(3) $x + y$ (4) $2x + y$

Space For Rough Work

142. In the figure O is the centre of the circle and $\angle POR = 80^\circ$. Then $\angle RQS$ is

- (1) 30°
 (2) 40°
 (3) 140°
 (4) 50°



143. If every side of a triangle is doubled then a new triangle is formed. The ratio of areas of these two triangles is

- (1) 1 : 2 (2) 1 : 3
 (3) 1 : 4 (4) 2 : 3

144. If the difference of two numbers is 5 and difference of their square is 300, then sum of the numbers is

- (1) 1500 (2) 6
 (3) 12 (4) 30

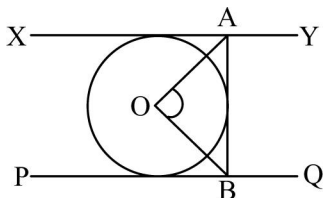
145. If the equation $ax^2 + 2x - 2 = 0$ has real and distinct roots, then the value of a is

- (1) $a > \frac{-1}{2}$ (2) $a \leq \frac{-1}{2}$
 (3) $a \geq \frac{-1}{2}$ (4) $a = \frac{-1}{2}$

146. If $a + b + c = 0$ then the value of

- $\frac{(a+b)^2}{ab} + \frac{(b+c)^2}{bc} + \frac{(c+a)^2}{ca}$ is
- (1) 1 (2) 2
 (3) 3 (4) -3

147. In the given figure O is the centre of a circle, XY, PQ, AB are tangents of the circle. If $XY \parallel PQ$, then the value of $\angle AOB$ is



- (1) 80° (2) 90°
 (3) 70° (4) 100°

148. $\frac{\cos \theta}{1 - \tan \theta} - \frac{\sin \theta}{\cot \theta - 1}$ is equal to

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

149. A card is drawn from a well shuffled pack of 52 cards. The probability that card is a red ace is

- (1) $\frac{1}{13}$ (2) $\frac{1}{26}$
 (3) $\frac{3}{52}$ (4) $\frac{1}{2}$

150. Value of $\tan 20^\circ \tan 40^\circ \tan 50^\circ \tan 70^\circ$ is

- (1) 0 (2) $\frac{1}{\sqrt{3}}$
 (3) $\sqrt{3}$ (4) 1

151. Sum of last two terms of an A.P. is 60. If first term is 11 and common difference is 2, then the number of terms in the A.P. is

- (1) 22 (2) 20
 (3) 11 (4) 19

152. If the difference of circumference and diameter of a circle is 60 cm, then the area of the circle is

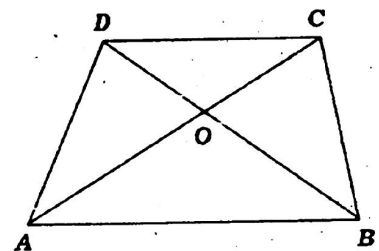
- (1) $49 \pi \text{ cm}^2$ (2) $14 \pi \text{ cm}^2$
 (3) $196 \pi \text{ cm}^2$ (4) $\frac{49}{4} \pi \text{ cm}^2$

153. If the areas of three adjoining faces of a cuboid are a^2 , b^2 and c^2 respectively, then the volume of the cuboid is

- (1) $a^2 b^2 c^2$ (2) abc
 (3) $a^3 b^3 c^3$ (4) \sqrt{abc}

154. In the given figure ABCD is a trapezium in which $AB \parallel DC$ and $AB : DC = 3 : 2$. The ratio of the areas of $\triangle AOB$ and $\triangle COD$ is

- (1) 3 : 2
 (2) 2 : 3
 (3) 4 : 9
 (4) 9 : 4



- 155.** If the mean of 5, 9, x, 7, 4, y is 7, then relation between x and y is
 (1) $x + y = 42$ (2) $x + y = 17$
 (3) $x - y = 10$ (4) $x - y = 42$
- 156.** Tithe is
 (1) religious tax (2) implied tax
 (3) taille tax (4) feudal tax.
- 157.** Who was Rasputin ?
 (1) King (2) Monk
 (3) Revolutionary (4) Prime Minister
- 158.** The railway line which was to be constructed between Multan and Sukkur was
 (1) North Valley Railway
 (2) Indus Valley, Railway
 (3) Southern State Railway
 (4) West Valley Railway
- 159.** Who adopted the 'Scorched Earth Policy' ?
 (1) Portuguese (2) French
 (3) Dutch (4) German
- 160.** Raikas belong to the state of
 (1) Rajasthan (2) Bihar
 (3) Uttar Pradesh (4) Karnataka
- 161.** Young Italy, a secret society was formed by -
 (1) Metternich (2) Giuseppe Mazzini
 (3) Bismarck (4) Hitler
- 162.** The thinker Confucius belonged to the country-
 (1) England (2) America
 (3) China (4) Japan
- 163.** Jallianwalla Bag incident took place on -
 (1) 10th April, 1919 (2) 13th April, 1919
 (3) 14th April, 1919 (4) 18th April, 1919
- 164.** Dandi is located in -
 (1) Gujarat (2) Rajasthan
 (3) Maharashtra (4) Punjab
- 165.** The great Depression began in -
 (1) 1927 AD (2) 1929 AD
 (3) 1930 AD (4) 1931 AD
- 166.** Which island was known as Amindiv whose name was changed in 1973 ?
 (1) Lakshadweep (2) Maldives
 (3) New Moore island (4) Car-Nicobar
- 167.** Match List-I with List II correctly and choose the correct code from the following -
- | List-I | List-II |
|--------------|--------------------|
| (A) Kaveri | (i) Nasik |
| (B) Godavari | (ii) Betul |
| (C) Tapi | (iii) Brahmagiri |
| (D) Krishna | (iv) Mahabaleshwar |
- Code :**
- | | A | B | C | D |
|-----|-----|-----|-----|----|
| (1) | i | ii | iii | iv |
| (2) | iii | i | ii | iv |
| (3) | ii | iii | i | iv |
| (4) | iv | iii | ii | i |
- 168.** Stalagmite and Stalactite caves are located in -
 (1) Mawsynram (2) Cherrapunji
 (3) Shimla (4) Jammu and Kashmir
- 169.** Which state (s) has/have the highest reserved forest ratio ?
 (A) Kerala (B) West Bengal
 (C) Jammu and Kashmir (D) Maharashtra
 (1) Only B (2) A and D
 (3) A and C (4) All of these
- 170.** With reference to water availability per person per year India's rank in the world is -
 (1) 131st (2) 133rd
 (3) 137th (4) 157th
- 171.** Roof water harvesting system is a compulsory structure in which state ?
 (1) Bihar (2) Meghalaya
 (3) Tamil Nadu (4) Karnataka

172. Match List-I and List-II and choose the correct code from the following -

List-I

- (A) Waler
(B) Dahiya
(C) Khil
(D) Kuruwa

List-II

- (i) Jharkhand
(ii) Himalayan region
(iii) Madhya Pradesh
(iv) S.E. Rajasthan

Code :

- | | A | B | C | D |
|-----|----|-----|-----|----|
| (1) | i | ii | iii | iv |
| (2) | iv | iii | i | ii |
| (3) | ii | i | iii | iv |
| (4) | iv | iii | ii | i |

173. Rubber is related to which type of vegetation ?

- (1) Tundra (2) Tropical rain forest
(3) Mountain forest (4) Tropical deciduous forest

174. Koderma mines located in Jharkhand is rich in which minerals ?

- (1) Bauxite (2) Mica
(3) Iron ore (4) Copper

175. Which of the following states is not connected with Hajira-Vijaypur-Jagdishpur pipeline ?

- (1) Madhya Pradesh (2) Maharashtra
(3) Gujarat (4) Uttar Pradesh

176. Which among the following is not correctly matched ?

- (1) Popular unit – Salvador Alende
(2) Solidarnosc or solidarity – Lech Walesa
(3) National League for Democracy – Augusto Pinochet
(4) Bath party – Saddam Hussein

177. Identify the correct order regarding the granting of universal adult franchise -

- (1) Argentina, India, Malasiya, Greece
(2) Malaysia, Greece, India, Argentina
(3) India, Argentina, Greece, Malasiya
(4) Greece, Malasiya, India, Argentina

178. Find out the wrong explanation of function of United Nations :

- (1) Who lends money to governments when they need it ? International Monetary Fund (I.M.F.) does so
(2) What happens when a country attacks another country in an unjust manner ? The N.N. Security Council, an organ of U.N. is responsible for maintaining peace and security among countries
(3) The weightage of vote of every member of International Monetary Fund equal
(4) Each permanent member of Security Council has veto power

179. Find out the correct explanation -

- (1) Referendum - Only used for a specific government policy
(2) Coup - A coup is legal system, in which system the government hands over all rights and powers to the military
(3) Martial law - A system of rules, that takes effect when a military authority takes control of the normal administration of justice
(4) Communist State - In communist state all political parties have complete liberty to compete for power

180. Pay attention on the following points :

- (A) A democratic government is a better government because it is a more accountable form of government
(B) Democracy improves the quality of decision making
(C) Democracy provides a method to deal with the differences and conflicts
(D) Democracy enhances the dignity of citizens

Which are the factors involved in comprising Indian democracy ?

- (1) A and B
(2) A and C
(3) A, B and C
(4) A, B, C and D

181. Which among the following statements is a moral reason regarding the desirability of power sharing ?

- (1) Power sharing is good because it helps to reduce the possibility of conflict between social groups
- (2) Social conflict often leads to violence and political instability. Hence power sharing is a good way to ensure the stability of political order
- (3) Tyranny of the majority is not just oppressive for the minority, it often brings ruin to the majority as well
- (4) A democratic rule involves sharing power with those affected by its exercise and who have to live with its effect

182. Let us look at some of the key features of federalism -

- (A) There are two or more levels (or tiers) of government
- (B) Different tiers of government govern the same citizens, but each tier has its own jurisdiction
- (C) The existence and authority of each tier of government is constitutionally guaranteed
- (D) All states in the Indian Union have identical powers

Which facts are correct regarding Indian Federalism -

- (1) B and D
- (2) A and D
- (3) A, B and C
- (4) A, B, C and D

183. Find the correct sequence of languages in the ascending order according to the proportion of speakers as described in 8th Schedule of the Constitution of India -

- (1) Hindi, Marathi, Telugu, Bangla
- (2) Hindi, Bangla, Telugu, Marathi
- (3) Hindi, Telugu, Bangla, Marathi
- (4) Hindi, Bangla, Marathi, Telugu

184. Match the following and choose the correct answer from the code -

List-I

- (A) Power is shared among different organs of government such as the legislature, executive and judiciary

List-II

- (i) Community Government
- (ii) Horizontal distribution of power
- (iii) In 1992
- (iv) Federalism of 3rd tier of Indian democratic system

Code :

- | | A | B | C | D |
|-----|----------|----------|----------|----------|
| (1) | ii | i | iv | iii |
| (2) | i | ii | iii | iv |
| (3) | i | iii | ii | iv |
| (4) | ii | iv | i | iii |

185. Match the following and choose the correct answer from the given code -

List-I

- (A) Union list
- (B) State list
- (C) Concurrent list
- (D) Residuary powers

List-II

- (i) Computer software
- (ii) Banking
- (iii) Education
- (iv) Police

Code :

- | | A | B | C | D |
|-----|----------|----------|----------|----------|
| (1) | iii | ii | i | iv |
| (2) | ii | iii | iv | i |
| (3) | iii | i | ii | iv |
| (4) | ii | iv | iii | i |

Space For Rough Work

- 186.** Which one of the following is an activity of the tertiary sector ?
(1) Mining (2) Tourism
(3) Dairy (4) Agriculture
- 187.** In which state of India, is Amul Dairy situated ?
(1) Rajasthan (2) Bihar
(3) Gujarat (4) Karnataka
- 188.** The 'National Consumers Day' is celebrated on
(1) 24th December (2) 24th November
(3) 24th September (4) 24th October
- 189.** National income of any country is divided by its total population, we get
(1) personal income
(2) gross domestic product
(3) private income
(4) per capita income
- 190.** Among the following which is the method to estimate the poverty line ?
(1) Investment method (2) Income method
(3) Capital method (4) All of these
- 191.** Which of the following statement is correct ?
(1) Centre of curvature of a concave mirror lies in front of it whereas that of convex mirrors lies behind the mirror
(2) Centre of curvature of a concave mirror lies behind it whereas that of convex mirror lies in front of the mirror
(3) Centre of curvature of both concave and convex mirrors lie in front of the mirror
(4) Centre of curvature of both concave and convex mirrors lie behind the mirror
- 192.** Element X forms a chloride with the formula XCl_2 which is solid with a high melting point. X would belong to the same group of periodic table as -
(1) Na (2) Mg
(3) Al (4) Si
- 193.** Calculate the number of molecules in 8g O_2
(1) 8×10^{23} (2) 6.02×10^{23}
(3) 1.51×10^{23} (4) 8
- 194.** Which of the following is correct for Fungi ?
(1) Prokaryotic and saprophytic
(2) Eukaryotic and autotrophic
(3) Prokaryotic and autotrophic
(4) Eukaryotic and saprophytic
- 195.** Iodine is essential for the synthesis of which hormone ?
(1) Adrenaline (2) Thyroxine
(3) Insulin (4) Oxytocin
- 196.** 'Oriental Cricket Club' the first Indian Cricket Club was founded at
(1) Madras (2) Bombay
(3) Kanpur (4) Calcutta
- 197.** Which of the following is not associated with Coriolis force ?
(1) Cyclones (2) Ocean currents
(3) Prevailing winds (4) Jet streams
- 198.** The local government structure goes right up to the level
(1) village (2) Ward
(3) State (4) District
- 199.** In which state of India maximum fair price shops are run by the co-operatives ?
(1) Maharashtra (2) Delhi
(3) Tamil Nadu (4) Gujarat
- 200.** Informal sources of credit do not include
(1) moneylenders (2) cooperatives
(3) traders (4) friends

ANSWERS
NTSE STAGE-I-2015-16

1. (3)	26. (1)	51. (2)	76. (3)	101. (4)	126. (4)	151. (3)	176. (3)
2. (2)	27. (3)	52. (1)	77. (3)	102. (2)	127. (1)	152. (3)	177. (1)
3. (1)	28. (1)	53. (4)	78. (3)	103. (3)	128. (1)	153. (2)	178. (3)
4. (4)	29. (1)	54. (1)	79. (4)	104. (4)	129. (2)	154. (4)	179. (3)
5. (1)	30. (2)	55. (3)	80. (2)	105. (3)	130. (4)	155. (2)	180. (4)
6. (2)	31. (4)	56. (1)	81. (2)	106. (2)	131. (1)	156. (1)	181. (2)
7. (3)	32. (1)	57. (4)	82. (2)	107. (2)	132. (3)	157. (2)	182. (3)
8. (2)	33. (4)	58. (3)	83. (1)	108. (1)	133. (3)	158. (2)	183. (2)
9. (3)	34. (3)	59. (2)	84. (2)	109. (1)	134. (2)	159. (3)	184. (1)
10. (1)	35. (4)	60. (3)	85. (2)	110. (3)	135. (1)	160. (1)	185. (4)
11. (4)	36. (3)	61. (1)	86. (1)	111. (1)	136. (2)	161. (2)	186. (2)
12. (3)	37. (2)	62. (4)	87. (3)	112. (4)	137. (3)	162. (3)	187. (3)
13. (3)	38. (4)	63. (2)	88. (2)	113. (3)	138. (1)	163. (2)	188. (1)
14. (1)	39. (4)	64. (3)	89. (1)	114. (1)	139. (3)	164. (1)	189. (4)
15. (2)	40. (1)	65. (1)	90. (2)	115. (2)	140. (2)	165. (2)	190. (2)
16. (4)	41. (4)	66. (3)	91. (1)	116. (3)	141. (3)	166. (1)	191. (1)
17. (3)	42. (3)	67. (3)	92. (2)	117. (3)	142. (2)	167. (2)	192. (2)
18. (4)	43. (4)	68. (4)	93. (4)	118. (3)	143. (3)	168. (1)	193. (3)
19. (4)	44. (1)	69. (3)	94. (3)	119. (1)	144. (4)	169. (2)	194. (4)
20. (3)	45. (2)	70. (4)	95. (4)	120. (1)	145. (1)	170. (2)	195. (2)
21. (4)	46. (3)	71. (3)	96. (3)	121. (4)	146. (3)	171. (3)	196. (2)
22. (2)	47. (3)	72. (3)	97. (1)	122. (4)	147. (2)	172. (4)	197. (*)
23. (4)	48. (2)	73. (4)	98. (2)	123. (3)	148. (1)	173. (2)	198. (4)
24. (1)	49. (3)	74. (3)	99. (3)	124. (3)	149. (2)	174. (2)	199. (3)
25. (2)	50. (2)	75. (2)	100. (2)	125. (1)	150. (4)	175. (2)	200. (2)

* NA :- No Option is Correct.