

NTSE STAGE – I

MAT

PAPER – I – A

SMS – 2016 – 17

Time : 45 Minutes
Full Marks : 50
No. of items : 50

INSTRUCTIONS :

1. Each question has four probable answers of which one is correct. You have to choose the correct one and blacken your choice in the OMR answer sheet by a black/blue ball point pen.
2. For wrong answer, there is no deduction of marks. One mark shall be awarded for each correct response.
3. No mark will be awarded for a question if a candidate darkens more than one choice.

ROLL NO. : _____

NAME : _____

NTSE STAGE – I QUESTION PAPER

MAT (SET – C)

Directions (1-4): Find out the alternative which will replace the question (?) mark.

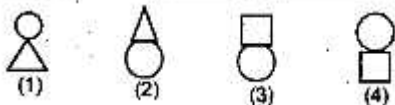
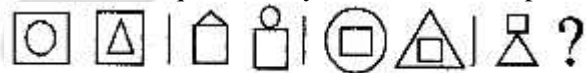
- REASON : SFBTPO :: THINK : ?
 (A) SGHMJ (B) UIJOL (C) UHNKI (D) UJKPM
- ACFJ : ZXUQ :: EGIN : ?
 (A) VUSQ (B) UTRP (C) VRPM (D) VTRM
- corden : zrogbq :: ? : pxivro
 (A) mulmul (B) sulsul (C) munmun (D) srspql
- Which number replaces the question mark?

8	EJ	3
UF		PP
9	MHO	7

- (A) 8 (B) 12 (C) 10 (D) 14

Directions (5-6): Find out the wrong number in the given series.

- 582,605,588,611,634,617,600
 (A) 634 (B) 611 (C) 605 (D) 600
- 7,8,18,57,228,1165,6996
 (A) 8 (B) 18 (C) 57 (D) 228
- At 3.40 AM, the hour hand and the minute hand of a clock form an angle of
 (A) 120° (B) 125° (C) 135° (D) 130°
- A number consists of two digits. If the digits interchange places and the new number is added to the original number, then the resulting number will definitely be divisible by:
 (A) 3 (B) 5 (C) 9 (D) 11
- if $A = x\%$ of y and $B = y\%$ of x , then which of the following is true?
 (A) $A=B$ (B) $A < B$ (C) $A > B$ (D) None of these
- Look at the sequence of symbols to find the pattern. Select correct pattern at the (?) mark.



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

Directions (11-13): Complete the series.

- gfe_ig_eil_fei_gf_ii
 (A) eifgi (B) figie (C) ifgie (D) ifige
- C,Z,F,X,I,V,L,T,O,?,?

- (A) O,P (B) P,Q (C) R,R (D) S,R

13. 5824,5242,?,4247,3823
 (A) 4467 (B) 4718 (C) 4856 (D) 5164

Directions (14-16): A,B,C,D,E,F and G are sitting in a row facing North. F is to the immediate right of E. E is 4th to the right of G. C is the neighbor of B and D. Person who is third to the left of D is at one of the ends.

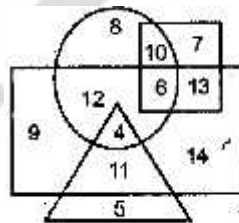
14. Who are to the left of C?
 (A) Only B (B) G, B and D (C) G and B (D) D,E,F and A
15. Who are the neighbors of B?
 (A) C and G (B) C and G (C) G and F (D) C and E
16. Which of the following statements is not true?
 (A) E is to the immediate left of D
 (B) A is at one of the ends
 (C) G is to the immediate left of B
 (D) F is second to the right of D

Directions (17-18): You are given alphabets from A to Z. Find out which of the letter series follows the given rule.

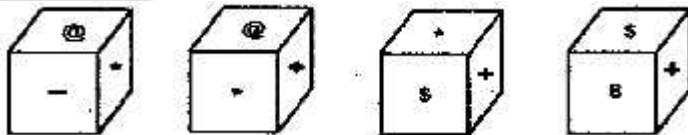
17. Rule: The letters are not according to a general rule.
 (A) CEGIKM (B) MORTVX (C) PRTVXZ (D) ACEGIK
18. Rule: Number of letters skipped in between adjacent letter in the series is odd.
 (A) EIMQV (B) FIMRX (C) BDHLR (D) MPRUX

Directions (19-20):

In the following diagram rectangle represents men, triangle represents educated, circle represents urban and square represents government employees.

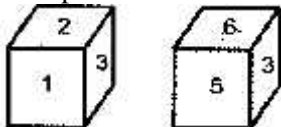


19. Which one of the following number represents the educated men but not urban?
 (A) 9 (B) 5 (C) 4 (D) 11
20. Which one of the following represents women who are urban as well as government employee?
 (A) 7 (B) 13 (C) 10 (D) 6
21. four positions of a die are shown. Which symbol or number will be on the face opposite to the face with symbol * (star)?



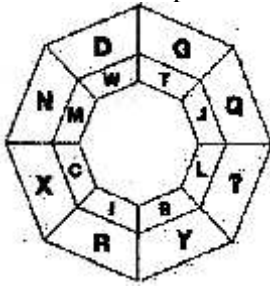
- (A) @ (B) \$ (C) 8 (D) +

22. Two positions of a die are shown. Which digit will appear on the face opposite to the face with number 4?



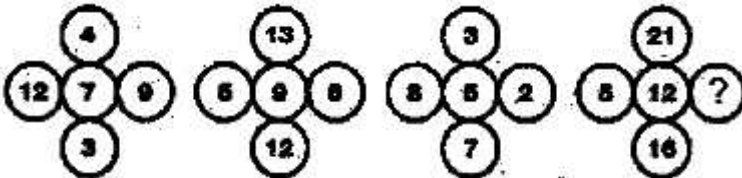
- (A) 3 (B) 5 (C) 6 (D) 2

23. Which letter represents the question mark?



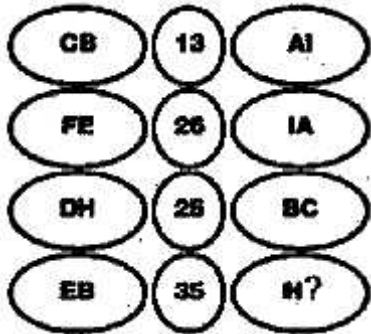
- (A) M (B) O (C) Q (D) R

24. Which number replaces the question mark?



- (A) 4 (B) 6 (C) 8 (D) 12

25. Which letter replaces the question mark?



- (A) I (B) T (C) R (D) G

26. if A3P means A is the mother of P; A4P means A is the brother of P; A9P means A is the husband of P and A5P means A is the daughter of P, then which of the following means that K is the mother in law of M?

- (A) M9N3K4J (B) M9N5K3J (C) K5J9M3N (D) K3J94M

Directions (27-29): Select a figure form amongst the Answer figures which will continue the same series as established by the five problem Figures.

27. **Problem Figure** **Answer Figure**

(A) 1 (B) 2 (C) 3 (D) 4

28. **Problem Figure** **Answer Figure**

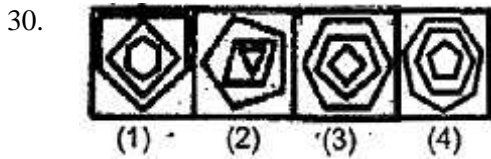
(A) 1 (B) 2 (C) 3 (D) 4

29. **Problem Figure** **Answer Figure**

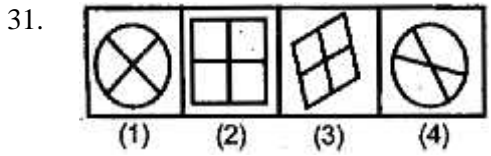
(A) 1 (B) 2 (C) 3 (D) 4

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

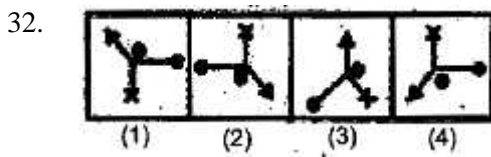
Directions (30-32): Choose the figure which is different from the rest



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

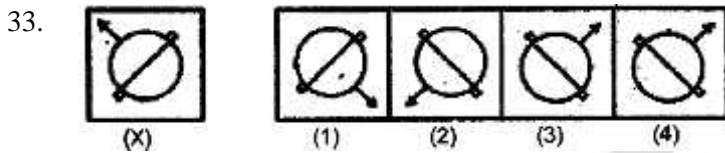


- (A) 1 (B) 2 (C) 3 (D) 4

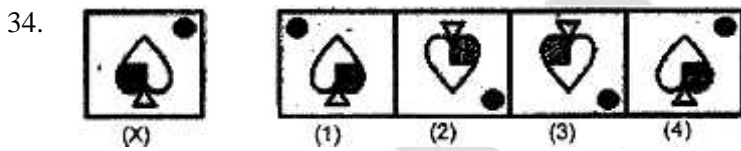


- (A) 1 (B) 2 (C) 3 (D) 4

Directions (33-34): Choose the correct mirror image of the given figure (x) from amongst the four alternatives.



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



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

35. 'peslligen' means 'basketball court'
 'ligenstrisi' means 'courtroom'
 'oltaganti' means 'placementtest'
 Which word could mean "guest room"?

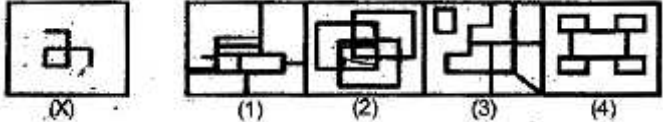
- (A) peslstrisi (B) vosefstrisi (C) gantipesl (D) oltastrisi

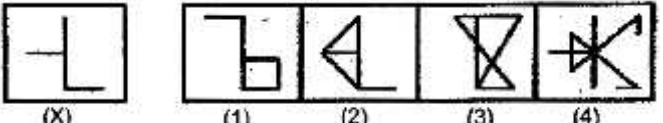
36. 'mallonpiml' means 'blue light'
 'mallontifl' means 'blueberry'
 'arpantifl' means 'raspberry'
 Which word could mean "lighthouse"?

- (A) tifmallon (B) pimlarpan (C) mallonarpan (D) pimldoken

37. 'jalkamofti' means 'happy birthday'
 'moftihoze' means 'birthday party'
 'mentogunn' means 'goodness'
 Which word could mean "happiness"?

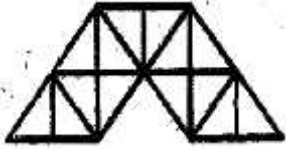
- (A) jalkagunn (B) mentohoze (C) moftihoze (D) hozemento

38. 
 (A) 1 (B) 2 (C) 3 (D) 4

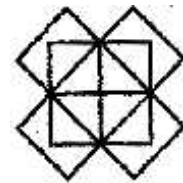
39. 
 (A) 1 (B) 2 (C) 3 (D) 4

Directions (40-41): Find the number of triangles in the given figure.


40. 
 (A) 18 (B) 20 (C) 24 (D) 27

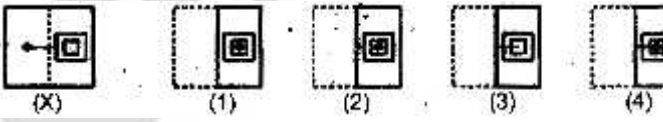
41. 
 (A) 23 (B) 27 (C) 31 (D) 29

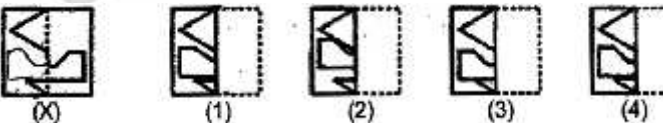
42. Find the number of squares rectangles in the given figure.
 (A) 20
 (B) 18
 (C) 16
 (D) 15



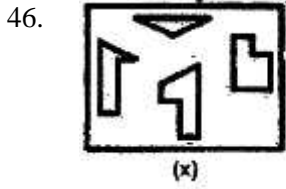
Directions (43-45): Find out from amongst the four alternatives as to how the pattern (X) would appear when the transparent sheet is folded at the dotted line.

43. 
 (A) 1 (B) 2 (C) 3 (D) 4

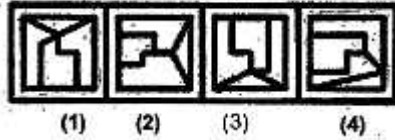
44. 
 (A) 1 (B) 2 (C) 3 (D) 4

45. 
 (A) 1 (B) 2 (C) 3 (D) 4

Directions (46-47): Find out which of the figures (1),(2),(3) and (4) can be formed from the pieces given in figure (X).



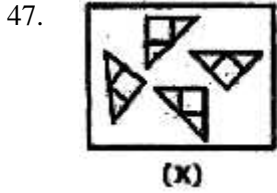
(A) 1



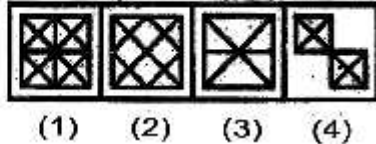
(B) 2

(C) 3

(D) 4



(A) 1

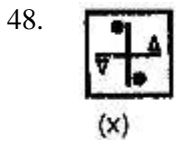


(B) 2

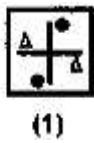
(C) 3

(D) 4

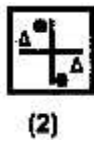
Directions (48-49): Choose the correct water image of the given figure (x) from amongst the four alternatives.



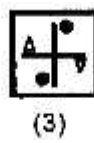
(A) 1



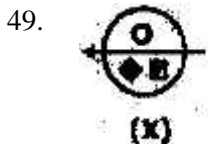
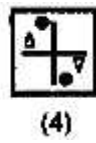
(B) 2



(C) 3



(D) 4



(A) 1



(B) 2



(C) 3



(D) 4



50. At the end of a meeting, the ten people present all shake hands with each other once. how many handshakes will there be altogether?

(A) 10

(B) 45

(C) 9

(D) 25



NTSE STAGE – I_MAT (SET – C) DATE: 06.11.2016
ANSWERS

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

HINTS & SOLUTION

1. B

2. D

Opposite letters

3. B

 $-3, +3, -3, +3$

4. B

 $E \rightarrow 5$ $M \rightarrow 13$ $J \rightarrow 10$ $F \rightarrow 6$ $\frac{I \rightarrow 5}{24}$ $\frac{K \rightarrow 11}{30}$

and so on.

5. A

$$\begin{array}{ccccccc} & +6 & & +6 & & +6 & \\ \underbrace{\hspace{1.5cm}} & & \underbrace{\hspace{1.5cm}} & & \underbrace{\hspace{1.5cm}} & & \\ 582, & 605, & 588, & 611, & \mathbf{634}, & 617, & 600 \\ & \underbrace{\hspace{1.5cm}} & & \underbrace{\hspace{1.5cm}} & & & \\ & +6 & & +6 & & & \end{array}$$

6. D

$7 \times 1 + 1 = 8$

$8 \times 2 + 2 = 18$

$18 \times 3 + 3 = 57$

$57 \times 4 + 4 = 232$

7. D

$$\theta = \left| \frac{11}{2} \times 40 - 30 \times 3 \right| = 130^\circ$$

8. D

9. A

$$A = \frac{x}{100} \times y$$

$$B = \frac{y}{100} \times x$$

$$\therefore A = B$$

10. C

11. C

gfeii | gfeii | gfeii | gfeii

12. C

13. B

$$\begin{array}{r} 5824 \quad 5242 \quad 4718 \\ \underline{582} \quad \underline{424} \quad \underline{471} \\ 5242 \quad 4718 \quad 4247 \end{array}$$

14. C

15. B

16. A

For Q. 14 to 16: G B C D E F A

17. B

18. C

19. D

20. C

21. C

22. A

23. B

24. B

$$\frac{\text{Sum}}{4} = \text{middle}$$

25. D

$$CB = 32$$

$$AI = \frac{19}{23}$$

26. B

27. C

28. A

29. C

30. A

31. D

32. C

33. C

34. A

35. B

36. D

37. A

38. B

39. B

40. C

41. D

42. A

43. B

44. D

45. C

46. C

47. B

48. C

49. A

50. B

$${}^{10}C_2 = \frac{10 \times 9}{2} = 45.$$

NTSE STAGE – I

ENGLISH

PAPER – I – B

SLS – 2016 – 17

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ROLL NO. : _____

NAME : _____

ENGLISH**Directions (1 – 5): Read the following passage carefully and answer the questions that follow it:**

Poetry is the language of the imagination and the passions. It relates to whatever gives immediate pleasure or pain to the human mind. It comes home to the bosoms and businesses of men, for nothing but what comes home to them in the most general and intelligible shape can be a subject for poetry. Poetry is the universal language which the heart holds with nature and itself. He who has a contempt for poetry cannot have much respect for himself or for anything else. Wherever there is a sense of beauty or power or harmony as in the motion of a wave of the sea, in the growth of a flower, there is poetry in its birth.

1. Poetry is the language that stems from:
 (A) the imagination (B) the passions
 (C) the imagination and passions (D) the intellect
2. Poetry relates to that matter:
 (A) which gives nothing to human mind (B) which titillates human mind
 (C) which irritates human mind (D) which gives immediate pleasure or pain to human mind
3. What can be a subject for poetry:
 (A) that which comes in opaque shape (B) that which comes in the most general and intelligible shape
 (C) that which comes in intangible shape (D) that which comes in particular shape
4. Poetry is the universal language because:
 (A) the heart cannot hold with nature (B) the mind holds with itself
 (C) the heart holds with nature and itself (D) the passion holds with itself
5. There is poetry in its birth wherever:
 (A) there is a sense of beauty or power or harmony
 (B) there is a chaotic scene
 (C) there is music in high pitch
 (D) there is disharmony and discord

Directions (6 – 10): Read the following passage carefully and answer the questions that follow it:

A gentleman is he who never inflicts pain. He is mainly occupied in merely removing the obstacles which hinder the free and unembarrassed action of those about him and he concurs with their movements rather than takes the initiative himself. His benefits may be considered as a parallel to what are called comforts or conveniences in arrangements of a personal nature, like an easy chair or a good fire which do their part in dispelling cold and fatigue, though nature provides both means of rest and animal heat without them.

6. A gentleman is he:
 (A) who looks after himself (B) who behaves politely with others
 (C) who never inflicts pain (D) who shies away
7. A gentleman is mainly occupied in:
 (A) removing the obstacles which hinder free and unembarrassed action
 (B) causing obstacles
 (C) helping other people
 (D) solving their problem
8. His benefits may be considered as a parallel to what are called comforts or convenience in arrangements of:
 (A) a general nature (B) a social nature (C) a protective nature (D) a personal nature
9. An easy chair and a good fire help in:
 (A) diffusing fatigue (B) dispelling cold and fatigue
 (C) generating comfort zone (D) provides coziness
10. Nature provides both means of rest and animal heat without:

- (A) comforts and convenience
(C) a parallel
- (B) arrangements of personal nature
(D) an easy chair or a good fire

Directions (11 – 15): Read the following passage carefully and answer the questions that follow it:

To forgive an injury is often considered to be a sign of weakness, it is really a sign of strength. It is easy to allow oneself to be carried away by resentment and hate into an act of vengeance, but it takes a strong character to restrain those natural passions. The man who forgives an injury proves himself to be the superior of the man who wronged him and puts the wrong doer to shame. Forgiveness may even turn a foe into a friend. So mercy is the noblest form of revenge.

11. To forgive an injury is often considered to be a sign of weakness because
(A) it is an act of piety and compassion
(B) it is easy to be carried away by resentment and hatred and indulge in an act of vengeance
(C) it is easy to suppress anger
(D) it is not easy to take revenge
12. To forgive an injury is really a sign of strength because
(A) a weak character likes it
(B) a character is not easily ever taken by resentment
(C) a character is not carried away by hatred
(D) a strong character restrains those natural passions
13. The man who forgives an injury proves himself to be the superior because
(A) he shows his generosity and puts the wrong doer to shame
(B) he is not easily provoked
(C) he who causes injury is inferior
(D) he is god fearing
14. A foe may be turned into a friend through
(A) vengeance (B) anger (C) forgiveness (D) ignorance
15. The noblest form of revenge is
(A) hatred (B) malice (C) mercy (D) vengeance

Directions (16 – 17): In the following three-sentence passages the second sentences are missing. Choose the appropriate sentence from the given options to complete the passage.

16. 1 – It is very easy to acquire bad habits such as eating too many sweets, too much food, drinking liquor or smoking.
2 – _____
3 – This is called the fore of habit.
(A) bad habits make a person slave to it
(B) the more we do a thing, the more we tend to like doing it
(C) we must fight against bad habits
(D) bad habits cost us dearly
17. 1 – It is the height of selfishness for men who fully appreciate in their own case, the great advantages of a good education
2 – _____
3 – It is argued that women have their domestic duties to perform and if they were educated they would bury themselves in their books and have little time to manage the household.
(A) The men deny the advantage of good education to women
(B) Women are less intelligent
(C) Women shall dominate men by receiving education
(D) Women education is imperative for empowerment

Directions (18 – 19): The following passages have five sentence each. In each passage the first and last sentence are given. Choose the order in which the three sentences (PQR) should appear to complete the paragraph.

18. S1 – Once the king was terribly annoyed with the behavior of the court jester and condemned him to death.
 S2 – _____
 S3 – _____
 S4 – _____
 S5 – The clever jester at once turned this concession to his advantaged by saying, “I choose to die of old age.”
 P – But the king refused to alter his sentence.
 Q – The Jester fell on his knees and pleaded for his life.
 R – At last the king relented and asked the Jester to choose the mode of death for himself.
 (A) RPQ (B) PRQ (C) QPR (D) RQP
19. S1 – A certain farmer’s daughter was going to market with a can of milk on her head.
 S2 – _____
 S3 – _____
 S4 – _____
 S5 – With great excitement she tossed her head in pride and the can of milk fell off her head.
 P – She refused brilliant offers of marriage.
 Q – She dreamt of becoming pretty rich.
 R – She asked herself what she could buy with the price of milk, sneaking into dream.
 (A) PQR (B) RQP (C) QRP (D) PRQ

Directions (20 – 23): Choose the correct spelling of following words from the options provided.

20. (A) pneminia (B) niemonia (C) neumunia (D) pneumonia
21. (A) accommodation (B) ackomodation (C) acommodation (D) accomodation
22. (A) anterprenure (B) interpreneur (C) entrepreneur (D) enterprenure
23. (A) superitedent (B) supuritedent (C) separintendent (D) superintendent

Directions (24 – 29): In the following passage there are some numbered blanks. Fill in the blanks by selecting the most appropriate tense forms of the verb for each blank from the given options.

One of the bonds which 24 the people all over India as one unit 25 English and it 26 foolish to 27 it from our lives just because it 28 a language of the foreigners where we 29 many of the things left behind by English men.

24. (A) bound (B) was binding (C) has been binding (D) is bound
25. (A) were (B) is (C) are (D) was
26. (A) was (B) were (C) is (D) would be
27. (A) ban (B) banned (C) have banned (D) banning
28. (A) was (B) is (C) were (D) will be
29. (A) are not refraining from (B) have not refrained from
 (C) will not refrain from (D) would not refrain from

Directions (30 – 35): Choose the appropriate meaning from the following underlined phrases/idioms.

30. One must account for one’s action.
 (A) describe (B) avoid (C) narrate (D) explain
31. The meeting was put off due to lack of quorum.
 (A) terminated (B) continued (C) postponed (D) delayed
32. This kind of conduct calls for severe action.
 (A) ignores (B) declares (C) requires (D) acquires

33. Superstitions must be done away with
(A) ignored (B) continued (C) carried (D) abolished
34. The president gave away the prizes
(A) distributed (B) displayed (C) threw (D) held
35. The girl takes after her mother with her bad temper.
(A) dislikes (B) resembles (C) misbehaves (D) imitates

Directions (36 – 43): Fill in the blanks with the most appropriate option from the given alternatives.

36. An honest and competent man is good for the _____ office of Chairman.
(A) sinful (B) corrupt (C) doubtful (D) hollowed
37. My friend's wife forgot to serve _____ at the end of the dinner.
(A) dessert (B) tea (C) coffee (D) liquor
38. His handwriting is totally _____.
(A) eligible (B) illegitimate (C) illegible (D) invisible
39. The coach cited a number of examples to _____ the morale of the participants.
(A) decrease (B) damage (C) sag (D) boost
40. A star is a _____ object but a planet is a moving object
(A) stationery (B) stationary (C) rambling (D) cacophonous
41. The two wrestlers are engaged in a _____.
(A) dual (B) duet (C) duel (D) slanging match
42. The type of mathematics that deals with the relationship between the sides and angles of a triangle is called _____
(A) geometry (B) trigonometry (C) calculus (D) arithmetic
43. He could not put a _____ on his horse
(A) robe (B) shawl (C) cloak (D) bridle

Directions (44 – 47): Find single words for each of the following expressions.

44. A notice showing only the good qualities of a thing
(A) declaration (B) index (C) nomenclature (D) advertisement
45. The line of latitude on the north of the equator.
(A) The tropic of Capricorn (B) The tropic of Cancer
(C) The tropics (D) The trough line
46. Concerning an animal or vehicle adapted for both land and water.
(A) accommodative (B) bipolar (C) amphibious (D) ingenious
47. The politician gave an equivocal answer
(A) pertinent (B) evasive (C) smart (D) ambiguous

Directions (48 – 50): Choose the antonym of the underlined word from the alternatives.

48. The minister is explicit on the issue of abortion.
(A) concealed (B) veiled (C) implicit (D) suitable
49. Conservatives always believe in the policy of status quo.
(A) alignment (B) reform (C) violence (D) entanglement

50. Government should lay down financial rules in a transparent manner.
(A) clear (B) lazy (C) opaque (D) confusing



NTSE STAGE – I

SAT

PAPER – II

SSS – 2016 – 17

Time : 90 Minutes

Full Marks : 100

No. of items : 100

INSTRUCTIONS :

1. Each question has four probable answers of which one is correct. You have to choose the correct one and blacken your choice in the OMR answer sheet by a black/blue ball point pen.
2. For wrong answer, there is no deduction of marks. One mark shall be awarded for each correct response.
3. No mark will be awarded for a question if a candidate darkens more than one choice.

ROLL NO. : _____

NAME : _____

NTSE STAGE – I SAT

1. Rise in Green Net National Income implies higher sustainable development in an economy. Green Net National Income is the difference between
 (A) Difference between Net National Income and gross savings
 (B) Difference between Net National Income and depreciation of natural capital
 (C) Difference between Net National Income and depreciation of man-made capital
 (D) Both (B) and (C)

2. Match List-I with List-II and select answer using the appropriate code from among the following alternatives.

	List – I		List – II
(A)	Disparities in income in a developing economy	(I)	Trickle Down theory
(B)	Economic development benefits the poor	(II)	Change in occupational structure
(C)	Shifting of labour from agricultural to non agricultural sector	(III)	Less redistribution of income in favour of poor
(D)	Increase in the capabilities of people	(IV)	Human development

(A) A – II, B – III, C – I, D – IV

(B) A – I, B – II, C – III, D – IV

(C) A – III, B – I, C – II, D – IV

(D) A – IV, B – II, C – I, D – III

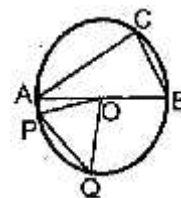
3. If Life Expectancy Index for a country is 0.53, Educational Attainment Index is 0.67 and Per Capita Real GDP Index is 0.42, then HDI for the country will be
 (A) 0.93 (B) 0.70 (C) 0.54 (D) 0.68
4. If cash reserve ratio of banks is 20% and currency reserves in the banking system amount to 50 million rupees, the maximum amount of demand deposits which can be created by the banks is
 (A) 200 million rupees (B) 250 million rupees (C) 500 million rupees (D) 1000 million rupees
5. The Government of India supplies food grains and other essential commodities to BPL households through fair price shops. Name of the programme is
 (A) ICDS (B) MDM (C) PDS (D) Antodaya
6. Free trade in goods among nations is called
 (A) Privatisation (B) Liberalisation (C) Globalisation (D) Exclusion
7. NITI Ayog prepares
 (A) Five year plans for the country (B) Five year plans for the states
 (C) Annual plans for the country as well as states (D) None of the above
8. Indira Awas Yojana houses are given to the
 (A) STs only (B) SCs only (C) BPL households (D) Both (A) and (B)
9. In which of the following countries the Baluchistan Plateau is located?
 (A) Afghanistan (B) Pakistan (C) China (D) India
10. What is the percentage of surface covered by India?
 (A) 2.4 (B) 3.4 (C) 4.4 (D) 5.4
11. Which of the following places is known as the “Island of Pearls”?
 (A) Australia (B) Madagascar (C) Baharin (D) Srilanka
12. Durand Line is the boundary between:
 (A) India and Pakistan (B) India and China
 (C) Pakistan and Afghanistan (D) India and Afghanistan
13. In which of the following countries world’s largest reserves of uranium is located?
 (A) Australia (B) Canada (C) China (D) Brazil

14. Select the odd one from the following:
 (A) Chilika (B) Pulicat (C) Vembanad (D) Kolleru
15. What is Karewa?
 (A) A type of soil (B) A type of plant (C) A type of animal (D) A type of tribe
16. Which of the following pairs is not correct?
 (A) Berlin – Rhine (B) London – Thames (C) New York – Hudson (D) Viena – Danube
17. Which of the following groups accounts for over 90% of India's annual coal production?
 (A) Bihar, Odisha, Madhya Pradesh (B) Bihar, Madhya Pradesh, Tamil Nadu
 (C) West Bengal, Odisha, Madhya Pradesh (D) Bihar, Odisha, West Bengal
18. Which National Highway connects Amritsar with Kolkata via Delhi?
 (A) N.H. 1 (B) N.H. 2 (C) N.H. 4 (D) N.H. 8
19. In which state is the Guru Sikhar Peak Located?
 (A) Gujarat (B) Rajasthan (C) Maharashtra (D) Madhya Pradesh
20. Tehri Hydropower Project is located on:
 (A) Alakananda River (B) Bhagirathi River (C) Mandakini River (D) Dhauliganga River
21. In the context of which event we read about the activities of Mensheviks and Bolsheviks?
 (A) French Revolution (B) World war I (C) Russian Revolution (D) Indian Nationalist movement
22. Who was the Czar of Russia in 1917?
 (A) Alexander I (B) Alexander II (C) Nicholas I (D) Nicholas II
23. In which country was the Weimar Republic formed after the World War I?
 (A) Germany (B) Italy (C) France (D) England
24. Find out which statement mentioned below is true
 (A) Hitler came to power in Italy
 (B) Hitler deliberately violated the terms of the Treaty of Versailles
 (C) Hitler was a poor orator
 (D) Hitler encouraged the Jews
25. Who has written the Odia novel Chhamana Athaguntha?
 (A) Rama Shankar Ray (B) Nandakishore Bal
 (C) Fakir Mohan Senapati (D) Surendra Mohanty
26. Where did Mahatma Gandhi start his first Satyagraha movement?
 (A) South Africa (B) Kheda (C) Champaran (D) Nagpur
27. Whose cause did Mahatma Gandhi champion in organizing a satyagraha movement in Ahemadabad in 1918?
 (A) Peasants (B) Agricultural Labours (C) Zamindars (D) Cotton mill workers
28. What was the date fixed for observing a countrywide hartalin protest against the Rowlatt Act?
 (A) 18 March 1919 (B) 19 March 1919 (C) 6 April 1919 (D) 9 April 1919
29. Who presided over the Lahore session of the Indian National Congress in December 1929?
 (A) Motilal Nehru (B) Jawaharlal Nehru
 (C) Subhas Chandra Bose (D) Mahatma Gandhi
30. Who was the Viceroy of India when the Salt Satyagraha began in 1930?
 (A) Lord Irwin (B) Lord Willingdon (C) Lord Linlithgow (D) Lord Wavell
31. How was response of the Indian women towards the Salt Satyagraha?
 (A) They were against the movement (B) They remained indifferent

- (C) They participated in large number (D) They were not allowed to participate
32. Which one of the following is written in correct chronological order of the given events?
 (A) Chaurichaura Incident, Gandhi – Irwin Pact, Second Round Table conference, Dandi March
 (B) Dandi March, Chaurichaura incident, Second Round Table Conference, Gandhi – Irwin Pact
 (C) Second Round Table Conference, Dandi March, Gandhi – Irwin Pact, Chaurichaura Incident
 (D) Chaurichaura Incident, Dandi March, Gandhi – Irwin Pact, Second Round Table Conference
33. Which part of the Indian Constitution mentions that the State shall endeavour to promote international peace and security?
 (A) Part I (B) Part II (C) Part III (D) Part IV
34. How many members from the Anglo-Indian Community be nominated to the State Legislative Assembly by the Governor?
 (A) 1 (B) 2 (C) 3 (D) 4
35. What happens if there is a disagreement between the two Houses of the Parliament regarding a Constitution Amendment Bill?
 (A) Joint sitting of both the House is convened. (B) The bill is sent to the State Legislative
 (C) There is an end to the Bill (D) Advice of the Supreme Court is solicited
36. What can be the maximum number of elected members of a State Legislative Assembly?
 (A) 500 (B) 507 (C) 509 (D) 510
37. Which of the following Amendments Converted Right to Property into a Legal Right?
 (A) 44th Amendment (B) 42nd Amendment (C) 73rd Amendment (D) 86th Amendment
38. How long a Chief Minister of a State holds office?
 (A) For full 5 years
 (B) So long as he remains the leader of the majority party in the State Legislative
 (C) So long as the Governor desires
 (D) None of the above
39. Who can create or abolish an All-India Service?
 (A) Lok Sabha (B) Rajya Sabha (C) President (D) The Parliament
40. Which of the Articles says that a Money Bill shall not be introduced in the Council of States?
 (A) Article 107 (B) Article 108 (C) Article 109 (D) Article 110
41. Which one of the following is not a factor of respiration?
 (A) Oxygen (B) Carbondioxide (C) Water (D) Temperature
42. Which one of the following does not contain any enzyme?
 (A) Bile (B) Gastric Juice (C) Saliva (D) Pancreatic Juice
43. Mark the tissue in which the starch is stored in the body of plants
 (A) Spongy parenchyma (B) Aerenchyma
 (C) Apical meristem (D) Stomata
44. Which one of the following tissues contains stone cells?
 (A) Parenchyma (B) Collenchyma (C) Sclerenchyma (D) Tracheids
45. Which of the following is the correct scientific name of man?
 (A) Homo Sapiens (B) Homo sapien (C) Homosapien (D) Homo sapiens
46. Which of the following does repire by the tracheal system?
 (A) Mollusca (B) Arthropoda (C) Anneilda (D) Nematohelminthes
47. Basing on classification, which of the following is different from the other three?

- (A) Pumpkin (B) Maize (C) Pea (D) Groundnut
48. Which one of the following is involved in the formation of endosperm?
 (A) Antipodal cell (B) Polar nucleus (C) Synergids (D) Eggcell
49. Which one of the following is the crossing over seen?
 (A) Anaphase (B) Diplotene (C) zygotene (D) Diakinesis
50. Which one of the following is attached to the right ventricle?
 (A) Pulmonary artery (B) Pulmonary vein (C) Superior Venacava (D) Inferior venacava
51. Which one of the following is not a function of the kidney?
 (A) Filtration (B) Oxidation (C) Absorption (D) Secretion
52. How many spinal nerves are attached to the spinal cord of man?
 (A) 62 (B) 42 (C) 31 (D) 21
53. Which endocrine gland does regulate the level of phosphorus in blood?
 (A) Thyroid (B) Parathyroid (C) Adrenal (D) Pituitary
54. Which one of the following pairs do regulate the flowering in plants?
 (A) Auxin and Ethylene (B) Cytokinin and Ethylene
 (C) Florigen and Phytochrome (D) Gibberellin and Ethylene
55. If $a + 8b = 14$ and $5a - 2b = 16$, then what is the mean of a and b ?
 (A) 15 (B) 7.5 (C) 5 (D) 2.5
56. A letter is chosen at random from the word MATHEMAICS. What is the probability that it will be a vowel?
 (A) $\frac{1}{2}$ (B) $\frac{3}{8}$ (C) $\frac{3}{11}$ (D) $\frac{4}{11}$
57. The line containing the points $(c, 8)$ and $(a, 0)$ in perpendicular to the line containing the points $(-c, c)$ and $(3c, a)$. If $a = 10$, then what is the value of $a + c$?
 (A) 22 (B) 12 (C) 10 (D) 6
58. Which point in the y -axis is equidistant from the points $(3, -2)$ and $(4, 5)$?
 (A) $(0, 2)$ (B) $(0, -2)$ (C) $(0, 3)$ (D) $(0, -3)$
59. If $A + B + C = 180^\circ$ and $\cos B \cdot \cos C = \cos A$, then what is the value of $\tan B \cdot \tan C$?
 (A) -2 (B) -1 (C) 2 (D) 1
60. What is the solution of the equation $3x5^{2x-1} - 2x5^{x-1} = 0.2$?
 (A) $x = 5$ (B) $x = 1$ (C) $x = -1$ (D) $x = 0$
61. If α and β are the roots of the quadratic equation $4x^2 - 20x = p^2$, what is the difference between α and β ?
 (A) $\sqrt{25 + p^2}$ (B) $\sqrt{25 - p^2}$ (C) $5 + p$ (D) $5 - p$
62. In ΔABC , $2(m\angle A + m\angle B) = 3m\angle B = m\angle C$. If O is the circum centre of ΔABC and the diameter of the circum circle of ΔABC is 16 cm, what is the area of ΔOAB ?
 (A) 8 sq. cm (B) $8\sqrt{3}$ sq. cm (C) 16 sq. cm (D) $16\sqrt{3}$ sq. cm
63. If $a + b = 3$, $ab = 2$ and $a > b$, then what is the value of $2^{a^3 - b^3}$?
 (A) 32 (B) 64 (C) 128 (D) 256
64. If α , β and γ each is a zero of $x^3 - 6x^2 - x + 30$ and $\alpha \neq \beta \neq \gamma$, then what is the value of $5(\alpha\beta + \beta\gamma + \gamma\alpha)$?
 (A) -1 (B) -5 (C) 1 (D) 5

65. \overline{AB} is a diameter of the circle shown in the figure and O is the centre of it. If $m\angle A = 30^\circ$ and $m\angle POQ = 60^\circ$, what is the ratio between the areas of $\triangle POQ$ and $\triangle ABC$?



- (A) $\sqrt{3} : 2$ (B) $\sqrt{3} : 1$
 (C) $3 : 2$ (D) $1 : 2$
66. The roots of the quadratic equation $x^2 - 4x - \log_3 a = 0$ are real. Then what is the least value of a?

- (A) 64 (B) $\frac{1}{81}$ (C) $\frac{1}{64}$ (D) 81

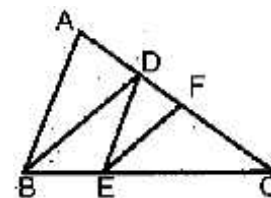
67. The sum of the lengths of all the edges of a cube is 6 cm. What is the volume of the cube in cubic cm?

- (A) $\frac{1}{8}$ (B) $\frac{1}{6}$ (C) $\frac{1}{4}$ (D) $\frac{1}{2}$

68. If $\operatorname{cosec} \theta + \cot \theta = m$, then what is the value of $\sec \theta$?

- (A) $m^2 + 1$ (B) $m^2 - 1$ (C) $\frac{m^2 - 1}{m^2 + 1}$ (D) $\frac{m^2 + 1}{m^2 - 1}$

69. In the given figure, $\triangle ABC$ has points D and F in \overline{AC} and point E in \overline{BC} such that $\overline{DE} \parallel \overline{AB}$ and $\overline{EF} \parallel \overline{BD}$. If $CF = 4\text{ cm}$ and $AC = 9\text{ cm}$, what is the length of \overline{DC} ?



- (A) 7 cm (B) 6 cm
 (C) 5 cm (D) 4 cm

70. If $a : b = 3 : 5$ and $a : c = 5 : 7$, what $(b - c) : (b + c)$ equal to?

- (A) $4 : 49$ (B) $49 : 4$ (C) $5 : 48$ (D) $48 : 5$

71. If the m^{th} term of an A.P. is $\frac{1}{n}$ and the n^{th} term of it is $\frac{1}{m}$, then what is the mn^{th} term equal to?

- (A) 1 (B) 2 (C) $\frac{m}{n}$ (D) $\frac{n}{m}$

72. The area of a circle inscribed in an equilateral triangle is 48π sq. cm. What is the perimeter of the triangle?

- (A) 24 cm (B) 27 cm (C) 36 cm (D) 72 cm

73. A is the centre of a circle with diameter 8 cm and B is the centre of another circle with radius 8 cm. If the two circles touch each other externally, then what is the area in sq. cm of the circle drawn with \overline{AB} as diameter?

- (A) 12π (B) 36π (C) 48π (D) 64π

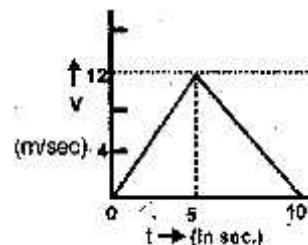
74. Two tangent segments \overline{BC} and \overline{BD} are drawn to a circle with centre O. If $m\angle CBD = 120^\circ$ and $OB = 12\text{ cm}$, then what is the length of \overline{CD} ?

- (A) $6\sqrt{3}$ cm (B) $12\sqrt{3}$ cm (C) 6 cm (D) 12 cm

75. First half of the distance between two places is covered by a car at a speed of 40 km/hr and the second half is covered at a speed of 80 km/hr. Then what would be the average speed of the car?

- (A) 50 km/hr (B) 120 km/hr (C) 53.3 km/hr (D) 40 km/hr

76. The speed (v) time (t) graph of a body moving along a fixed direction is as shown in the figure below. Then how much distance the body must have travelled during time $t = 0$ to $t = 10$ sec?



- (A) 120 m
(B) 60 m
(C) 50 m
(D) 10 m
77. A machine gun of mass 10 kg fires 20 g bullets with speed of 500 m/s at the rate of 10 bullets per second. To hold the gun steady in its position how much force is necessary?
(A) 200 N (B) 500 N (C) 100 N (D) 250 N
78. The relative density of ice with respect to sea water is 0.90. Then the percentage of the submerged portion of an iceberg would be:
(A) 45% (B) 90% (C) 60% (D) 50%
79. A man weighing 60 kg climbs up 45 steps stair case of a building in 9 seconds. If height of each step is 10 cm, then how much power the man has employed? (Take $g = 10 \text{ m/s}^2$)
(A) 300 w (B) 250 w (C) 500 w (D) 450 w
80. If the momentum of a body is increased by 3 times of its initial momentum, then by how much its kinetic energy will increase above its initial value which was 100J?
(A) 200 J (B) 300 J (C) 900 J (D) 800 J
81. Velocity of sound in air at 47°C is 360 m/s. what would be this velocity at 17°C ?
(A) 336 m/s (B) 342.7 m/s (C) 350 m/s (D) 330 m/s
82. A convex lens of focal length f produces a real image of size m -times the size of the object. Then the object distance is:
(A) $\left(\frac{m+1}{m}\right)f$ (B) $(m+1)f$ (C) $\frac{(m+1)}{f}$ (D) $\frac{fm}{(m+1)}$
83. The absolute refractive index of a medium is 1.5. Then what would be the velocity of light in this medium?
(A) $2 \times 10^8 \text{ m/s}$ (B) $1.5 \times 10^8 \text{ m/s}$ (C) $3.5 \times 10^8 \text{ m/s}$ (D) $2.5 \times 10^8 \text{ m/s}$
84. Two lenses of power +4 and -6 dioptres are placed in contact with each other. The focal length of the combination will be:
(A) 0.5 meter (B) -0.1 meter (C) -0.5 meter (D) 0.1 meter
85. Two electric bulbs with ratings (100 W, 250 V) and (50 W, 250 V) are connected in series across a 250 V source. Calculate the output power.
(A) 150 W (B) 33.33 W (C) 50 W (D) 250 W
86. A long straight wire carries 5A current. Find the magnetic field induction produced at a radial distance of 5 cm from its axis. (Here $\mu_0 = 4\pi \times 10^{-7} \text{ N/A}^2$)
(A) 0.1×10^{-4} Tesla (B) 0.3×10^{-5} Tesla (C) 0.2×10^{-4} Tesla (D) 0.5×10^{-4} Tesla
87. Two resistors $R_1 = 6\Omega$ and $R_2 = 12\Omega$ are connected in parallel to a source of voltage V and a current I_A is flowing in the circuit. If Q_1 and Q_2 are the heat produced in R_1 and R_2 respectively, what is Q_1/Q_2 ?
(A) 1/2 (B) 1/4 (C) 3/4 (D) 2
88. Copper sulfate solution is electrolysed with platinum electrodes. Which of the following changes does not occur in the process?
(A) The blue colour of the solution gradually fades.
(B) $\text{O}_2(\text{g})$ is liberated at anode
(C) PH of the solution decreases
(D) H^+ concentration decreases

89. Which of the following salts fails to give brown gas on heating?
 (A) Lead nitrate (B) Lithium nitrate (C) Magnesium nitrate (D) Potassium nitrate
90. A colourless gas G_1 , produced on treating conc. H_2SO_4 with common salt, is introduced into one end of a glass-tube. Through the other end, another pungent smelling colourless gas, G_2 , of molecular mass 17 is introduced. A white sublimate, S is produced inside the tube. Which of the following statements is wrong?
 (A) Both the gas G_1 and G_2 are water-soluble
 (B) Sublimate S, contains covalent bond and ionic bond
 (C) Sublimate, S when treated with caustic soda liberates G_2 gas
 (D) Aqueous solution of each G_1 and G_2 gas is acidic in nature
91. A metal is strongly heated in presence of air to form a black mass. So the metal is
 (A) Potassium (B) Platinum (C) Copper (D) Zinc
92. Which of the following is not a redox reaction?
 (A) $2Mg + O_2 \rightarrow 2MgO$ (B) $CaCO_3 + 2HCl \rightarrow CaCl_2 + CO_2 + H_2O$
 (C) $2CuCl_2 \rightarrow Cu_2Cl_2 + Cl_2$ (D) $SO_2 + I_2 + 2H_2O \rightarrow H_2SO_4 + 2HI$
93. Bauxite is an ore of aluminium. It is concentrated suitably on treating with
 (A) Conc. NaOH solution (B) Na_2CO_3
 (C) Coke and N_2 (D) Any of the above
94. Pick up the incorrect pair of metal-ore from the following:
 (A) Ag – Galena (B) Mg – Carnallite (C) Sn – Cassiterite (D) Hg – Cinnabar
95. An element, X has electronic configuration 2, 8, 4. Which of the following is not appropriate for X?
 (A) It belongs to group 14 and 3rd period of periodic Table
 (B) It is a chalcogen
 (C) Its oxide is a solid
 (D) It can have maximum covalency of six
96. Which of the following organic molecules does not have carbon-carbon double bond
 (A) C_3H_4O (B) $C_3H_4O_2$ (C) C_3H_8O (D) C_6H_6O
97. Soaps are used to clean clothes. Which one is correct statement in this respect?
 (A) Soap is a sodium salt of an aromatic acid
 (B) During cleaning micelles are formed
 (C) Using soap hard-water cannot be distinguished
 (D) Soap can be used in hard-water for better cleaning of clothes
98. An organic compound A on treating with acidified potassium dichromate solution gives B with molecular mass 60 gm/mol. A on heating with conc. H_2SO_4 at 443 K produces a gas that decolourises bromine water. The compound A is
 (A) n – propyl alcohol (B) iso –propylalcohol
 (C) ethyl alcohol (D) acetaldehyde
99. Which of the following does not form salt either with acid or with alkali?
 (A) BeO (B) ZnO (C) CaO (D) SnO
100. Aquaregia can dissolve gold because:
 (A) it contains an oxidant, conc. H_2SO_4 (B) It is 3 : 1 mixture of conc. HNO_3 and conc. HCl
 (C) it contains a strong reducing agent (D) it contains nascent Cl.



NTSE STAGE – I_SAT_SET-C_06.11.2016**ANSWERS**

1.	B or D	21.	C	41.	A	61.	A	81.	B
2.	C	22.	D	42.	A	62.	D	82.	A
3.	C	23.	A	43.	A	63.	C	83.	A
4.	B	24.	B	44.	C	64.	B	84.	C
5.	C	25.	C	45.	D	65.	D	85.	B
6.	B	26.	A	46.	B	66.	B	86.	C
7.	D	27.	D	47.	B	67.	A	87.	D
8.	C	28.	C	48.	B	68.	D	88.	D
9.	B	29.	B	49.	B	69.	B	89.	D
10.	A	30.	A	50.	A	70.	A	90.	D
11.	C	31.	C	51.	B	71.	A	91.	C
12.	C	32.	D	52.	A	72.	D	92.	B
13.	A	33.	D	53.	B	73.	B	93.	D
14.	D	34.	A	54.	C	74.	A	94.	A
15.	A	35.	C	55.	D	75.	C	95.	B
16.	A	36.	A	56.	D	76.	B	96.	C
17.	D	37.	A	57.	B	77.	C	97.	B
18.	A	38.	B	58.	A	78.	B	98.	C
19.	B	39.	B	59.	C	79.	A	99.	C
20.	B	40.	A	60.	D	80.	D	100.	D

ANSWERS, HINTS & SOLUTIONS**BIOLOGY**

41. A (Oxygen is considered as a extinction point, not a factor).
 42. A
 43. A
 44. C (Sclereid also known as stone cells found in Sclerenchyma)
 45. D
 46. B
 47. B (Pumpkin, Pea plant, Groundnut all are dicot plant except maize)
 48. B
 49. B (Followed by pachytene)
 50. A
 51. B
 52. A
 53. B (Parat hormone)
 54. C (Florigen is a flowering hormone and phytochrome is a pigment controls photoperiodism also known as flowering)

MATHEMATICS

55. D
 Given, $a + 8b = 14$
 $5a - 2b = 16$
 $\therefore 6a + 6b = 30 \Rightarrow a + b = 5$
 $\therefore \text{mean } \frac{a+b}{2} = 2.5$
56. D
 $n(E) = 4$
 $n(s) = 11$
 $P(E) = \frac{4}{11}$
57. B
 $A(c, 8), B(a, 0), C(-c, c), D(3c, a)$
 Slope of (AB) \times slope of CD = -1
 $\therefore c = 2$
 $\therefore a + c = 12$
58. A
 $A(3, -2), B(4, 5)$
 Let $C(0, y)$. Here $AC = BC \Rightarrow y = 2$
 $\therefore C(0, 2)$
59. C
 Given $A + B + C = 180 \downarrow \cos B \cos C = \cos A \dots (1)$
 $\therefore \cos(B + C) = -\cos A$
 $\cos A - \sin B \sin C = -\cos A$
 $\sin B \sin C = 2 \cos A \dots (2)$
 $(2)/(1) = \tan B \tan C = 2$

60. D

$$\text{Let } 5^x = y$$

$$\therefore y = 1 \text{ or } y = -\frac{1}{3}x$$

$$\therefore 5^x = 1 \Rightarrow x = 0.$$

61. A

$$\alpha + \beta = 5$$

$$\alpha\beta = -\frac{p^2}{4}$$

$$\text{We know, } (\alpha - \beta)^2 = (\alpha + \beta)^2 - 4\alpha\beta$$

$$\therefore \alpha - \beta = \sqrt{25 + p^2}$$

62. D

From given relation,

$$\angle A = 20^\circ, \angle B = 40^\circ, \angle C = 120^\circ$$

$$[\text{AOB}] = \frac{1}{2}r^2 \sin 120 (\because \angle \text{AOB} = 120)$$

$$= \frac{8^2}{2} \times \frac{\sqrt{3}}{2} = 16\sqrt{3} \text{ cm}^2$$

63. C

$$a = 2, b = 1$$

$$2^{a^3 - b^3} = 128$$

64. B

$$\alpha\beta + \beta\gamma + \gamma\alpha = \frac{c}{a} = -1$$

$$\therefore 5(\alpha\beta + \beta\gamma + \gamma\alpha) = -5$$

65. D

$$[\text{POQ}] = \frac{\sqrt{3}}{4}r^2$$

$$[\text{ACB}] = \frac{\sqrt{3}}{2}r^2$$

$$\therefore \frac{[\text{POQ}]}{[\text{ACB}]} = \frac{1}{2}$$

66. B

$$D \geq 0$$

$$\therefore 16 + 4 \log_3 a \geq 0$$

$$\log_3 a \geq -4$$

$$a \geq 3^{-4}$$

67. A

Given length of each edge = $\frac{1}{2}$

$$\therefore v = \frac{1}{8} \text{cm}^3$$

68. D

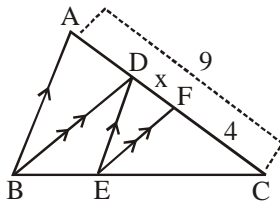
$$\operatorname{cosec} \theta + \cot \theta = m$$

$$\operatorname{cosec} \theta - \cot \theta = \frac{1}{m}$$

$$\therefore \sin \theta = \frac{2m}{m^2 + 1}$$

$$\sec \theta = \frac{n^2 + 1}{m^2 - 1}$$

69. B



Given $\triangle CFE \sim \triangle CDB$

$$\therefore \frac{EC}{BC} = \frac{4}{4+n} \dots (1)$$

Given, $\triangle CDF \sim \triangle CAB$

$$\frac{EC}{BC} = \frac{4+n}{9} \dots (2)$$

From (1) and (2), $4+n=6$

70. A

None (Close Option A)

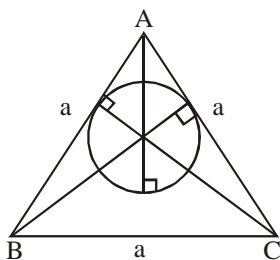
71. A

$$a + (m-1)d = \frac{1}{n}$$

$$a + (n-1)d = \frac{1}{m}$$

$$\therefore a = d = \frac{1}{mn}$$

72. D



$$\text{Here } [ABC] = \frac{\sqrt{3}}{4} a^2$$

$$\frac{1}{2} r(a + a + a) = \frac{\sqrt{3}}{4} a^2$$

$$\frac{4\sqrt{3}}{2} (3a) = \frac{\sqrt{3}}{4} a^2$$

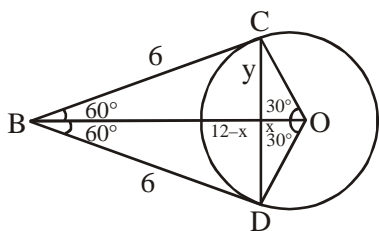
$$a = 24$$

$$\therefore \text{perimeter} = 3a = 3 \times 24 = 72.$$

73. B

Answer is 36π .

74. A



$$OB = 12$$

$$\text{Let } OD = x$$

$$\therefore BD = 12 - x$$

$$\therefore y^2 = (12 - x)^2 - 6^2 = -x^2 + \left(\frac{6}{\sqrt{3}}\right)^2$$

$$\therefore y = 3\sqrt{3} \quad CD = 6\sqrt{3}$$

CHEMISTRY

99. C (Nearest answer)

Reason: BeO, ZnO, SnO are amphoteric in nature. CaO is basic in nature which forms salt with acid but not with base.