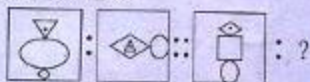


PART - A : GENERAL INTELLIGENCE & REASONING

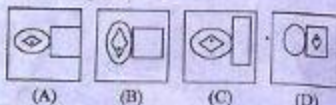
Directions: In question nos. 1 to 7, select the related word/letter/number/figure from the given alternatives.

1. Saint : Meditation :: Scientist : ?
 (A) Research (B) Knowledge
 (C) Spiritual (D) Rational
2. King : Palace :: Eskimo : ?
 (A) Caravan (B) Asylum
 (C) Monastery (D) Igloo
3. AFKP : DINS :: WBGL : ?
 (A) ORUX (B) OSWA
 (C) OTYD (D) OQSU
4. SINGER : QGLECP :: MONSTER : ?
 (A) KLNSCP (B) KLMSCP
 (C) KMLRCP (D) KLMTDO
5. 18 : 5 :: 12 : ?
 (A) 4 (B) 10 (C) 3 (D) 6
6. 12 : 20 :: ?
 (A) 15 : 37 (B) 16 : 64
 (C) 27 : 48 (D) 30 : 42

7. Question figures



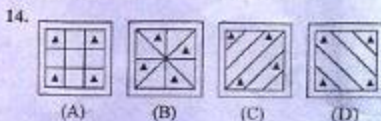
Answer figures



8. In the following questions number of letters skipped in between adjacent letters in the series increased by one. Which of the following series observe the rule?
 (A) KORYBGJ (B) LMEYTPK
 (C) KMPTIYL (D) KPTIELM
9. In the following letter series how many Ms are followed by N, but not preceded by N?
 NMWVMNBVWNMBNMMNWWMN
 (A) 1 (B) 2 (C) 3 (D) 4

Directions: In question nos. 10 to 14, find the odd word/letters/number pair/figure from the given alternatives.

10. (A) Tennis (B) Cricket
 (C) Volleyball (D) Football
11. (A) artificial (B) insincere
 (C) affected (D) naive
12. (A) 68 (B) 85
 (C) 153 (D) 174
13. (A) 7 : 98 (B) 9 : 162
 (C) 12 : 288 (D) 17 : 572



15. Which one of the given responses would be a meaningful order of the following?
 1. Orange 2. Indigo 3. Red 4. Blue
 5. Green 6. Yellow 7. Violet
 (A) 7, 2, 4, 5, 6, 1, 3
 (B) 7, 2, 4, 6, 5, 1, 3
 (C) 7, 2, 6, 4, 5, 1, 3
 (D) 7, 2, 6, 4, 1, 5, 3
16. Arrange the following words as per order in the dictionary.
 1. Forecast 2. Forget 3. Foreign
 4. Forsook 5. Force
 (A) 3, 5, 1, 2, 4 (B) 5, 1, 3, 2, 4
 (C) 5, 1, 3, 4, 2 (D) 5, 1, 2, 3, 4
17. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?
 rtx _ sx _ z _ txy _ _ yz
 (A) yyrxs (B) yyxrt
 (C) yyrsx (D) yyxrs

SPACE FOR ROUGH WORK

Directions : In question nos. 18 to 21, a series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

18. FAG, GAF, HAI, IAH, _____
 (A) JAK (B) HAK
 (C) JAI (D) HAL
19. 3, 6, 9, 15, 24, 39, 63, ?
 (A) 100 (B) 87
 (C) 102 (D) 99
20. -1, 0, ?, 8, 15, 24
 (A) 4 (B) 3 (C) 2 (D) 1
21. Question figures



Answer figures



- (A) (B) (C) (D)
22. Govind is 48 years old. He is twice as old as his son Prem is now. How old was Prem seven years before?
 (A) 16 (B) 17 (C) 13 (D) 18
23. Pointing to a man, a lady said "His mother is the only daughter of my mother". How is the lady related to the man?
 (A) Mother (B) Daughter
 (C) Sister (D) Aunt
24. Five policemen are standing in a row facing south. Shekhar is to the immediate right of Dhamsh. Bala is between Basha and Dhanish. David is at the extreme right end of the row. Who is standing in the middle of the row?
 (A) Bala (B) Basha
 (C) Shekhar (D) Dhanish

25. From the given alternatives select the word which can be formed using the letters given in the word.

ULTRANATIONALISM

- (A) ULTRAMONTANE
 (B) ULTRAMODERN
 (C) ULTRAIST
 (D) ULULATE

26. From the given alternatives select the word which *cannot* be formed using the letters of the given word.

LEGALIZATION

- (A) ALERT (B) ALEGATION
 (C) GALLANT (D) NATAL

27. In a certain code DEPUTATION is written as ONTADEPULI. How is DERIVATION written in that code?

- (A) ONVADERITI (B) ONDEVARITI
 (C) ONVAEDIRITI (D) ONVADEIRIT

28. If MADRAS is coded as 517916 and TENANT is coded as 432121, how would you encode RMAITSN?

- (A) 851353 (B) 951363
 (C) 951462 (D) 941562

29. Find the missing number from the given responses.



- (A) 12 (B) 10 (C) 9 (D) 8
30. If '-' stands for '+', '+' stands for 'x', 'x' stands for '-' then which one of the following is *not* correct?
 (A) $22 + 7 - 3 \times 9 = 148$
 (B) $33 \times 5 - 10 + 20 = 228$
 (C) $7 + 28 - 3 \times 52 = 127$
 (D) $44 - 9 = 6 \times 11 = 87$

SPACE FOR ROUGH WORK

31. Some equations are solved on the basis of a certain system. Find the correct answer for the unsolved equation on that basis.

$$5 * 6 = 35, 8 * 4 = 28, 6 * 8 = ?$$

- (A) 46 (B) 34 (C) 23 (D) 38

32. Select the correct combination of mathematical signs to replace * signs and to balance the following equation.

$$12 * 3 * 4 = 6 * 8 * 8$$

- (A) +, ×, -, × (B) ×, +, -, ×
(C) ×, +, ×, - (D) ×, -, ×, +

Directions : In question nos. 33 and 34, select the missing number from the given responses.

33.

| | | |
|----|----|---|
| 7 | 9 | 8 |
| 2 | 4 | 3 |
| 5 | 7 | 6 |
| 16 | 32 | ? |

- (A) 17 (B) 23 (C) 47 (D) 73

34.



- (A) 1 (B) 8 (C) 6 (D) 16

35. A person walks towards his house at 8:00 am and observes his shadow to his right. In which direction he is walking?

- (A) North (B) South
(C) East (D) West

36. A boat moves from a jetty towards East. After sailing for 9 nautical miles, she turns towards right and covers another 12 nautical miles. If she wants to go back to the jetty, what is the shortest distance now from her present position?

- (A) 21 nautical miles (B) 20 nautical miles
(C) 18 nautical miles (D) 15 nautical miles

37. Find out the number of triangles in the given figure.



- (A) 13 (B) 15 (C) 16 (D) 17

38. Four positions of a dice are given below. Identify the number at the bottom when top is 6.

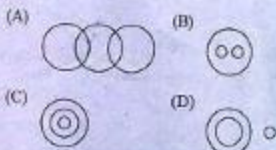
Question figures



- (A) 1 (B) 3 (C) 4 (D) 5

39. Identify the diagram that best represents the relationship among classes given below:

Food, Curd, Spoons



40. In the following figure, the boys who are cricketer and sober are indicated by which number?



- (A) 6 (B) 5 (C) 4 (D) 2

SPACE FOR ROUGH WORK

Directions : In question nos. 41 and 42, some statements are given followed by three/two conclusions/assumptions respectively. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions/assumptions if any, follow from the given statements.

41. **Statement :** Pictures can tell a story. All story books have pictures. Some story books have words.

Conclusions : I. Pictures can tell a story better than words can.
II. The stories in story books are very simple.
III. Some story books have both words and pictures.

- (A) Only conclusion I follows
(B) Only conclusion II follows
(C) Only conclusion III follows
(D) Both conclusions I and II follow

42. **Statement :** It is desirable to put the child in school at the age of 5 or so.

Assumptions : I. At that age the child reaches appropriate level of development and is ready to learn.

II. The schools do not admit children after 6 years of age.

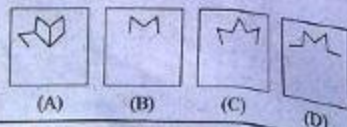
- (A) Only assumption I is implicit
(B) Only assumption II is implicit
(C) Neither assumption I nor II is implicit
(D) Both assumption I and II are implicit

43. Which answer figure will complete the pattern in the question figure?

Question figure



Answer figures



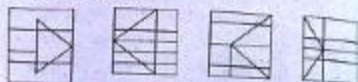
- (A) (B) (C) (D)

44. From the given answer figures, select the one in which the question figure is hidden/ embedded.

Question figure



Answer figures



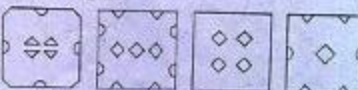
- (A) (B) (C) (D)

45. A piece of paper is folded and cut as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

Question figures



Answer figures



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

46. If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?

Question figure



Answer figures



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

SPACE FOR ROUGH WORK

47. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix I are numbered from 0 to 4 and that of Matrix II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, e.g., 'A' can be represented by 40, 01, 13, 32 etc. and 'N' can be represented by 56, 68, 89 etc. Similarly, you have to identify the set for the word given below :

SIX-KIDS.

Matrix I

| | | | | | |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | |
| 4 | A | F | R | P | U |
| 3 | F | K | A | U | P |
| 2 | P | U | F | K | A |
| 1 | K | P | U | A | F |
| 0 | U | A | P | F | K |

Matrix II

| | | | | | |
|---|---|---|---|---|---|
| 5 | 6 | 7 | 8 | 9 | |
| 9 | D | I | N | S | X |
| 8 | X | S | I | D | N |
| 7 | N | X | S | I | D |
| 6 | S | D | X | N | I |
| 5 | I | N | D | X | S |

- (A) 86, 87, 99 — 40, 41, 86, 64
 (B) 98, 96, 85 — 42, 78, 88, 77
 (C) 77, 69, 76 — 22, 95, 28, 31
 (D) 65, 55, 67 — 05, 25, 91, 40
48. A student is caught cheating in her test. What would you do in this situation?

- (A) Warn her and let her off
 (B) Warn her and give her counselling
 (C) Tell her parents
 (D) Put up her name on the board

49. An address has been given below, which has been reproduced against A, B, C and D alternatives. Three of these have some mistake or the other. Identify the one without any mistake.

FG EUROFRED LIMITED

Centennial Park,
 Centennial Avenue,
 Elstree, Hertfordshire
 United Kingdom
 WD6 3SG

- (A) FG EUROFRED LIMITED

Centennial Park,
 Elstee, Hertfordshire,
 United Kingdom
 WD6 3SG

- (B) FG EUROFRED LIMITED

Centennial Park,
 Centennial Avenue,
 Elstree, Hertfordshire
 United Kingdom
 WD6 3SG

- (C) FG EUROFRED LIMITED

Centennial Park,
 Centennial Avenue,
 Elstree, Hertfordshire
 United Kingdom
 WD6 3SG

- (D) FG EUROFRED LIMITED

Centennial Park,
 Centennial Avenue,
 Elstee, Hertfordshire
 United Kingdom
 WD6 3SG

50. Given below are numbers in the first line and symbols in the second line. Numbers and symbols are code for each other. Choose the correct code for given symbols.

1 2 3 4 5 6 7 8 9
 + - × ÷ ≠ ↑ → □ β

Which number can be decoded from the following :

- ≠ □ ↑ × →
 (A) 5 8 6 3 7 (B) 5 6 8 7 3
 (C) 5 7 8 6 3 (D) 5 8 3 6 7

SPACE FOR ROUGH WORK

PART - B : GENERAL KNOWLEDGE AND GENERAL AWARENESS

51. In the balance of payments account, unrequited receipts and payments are also regarded as
 (A) bilateral transfers
 (B) unilateral transfers
 (C) capital account transfers
 (D) invisible transfers
52. Price and output are determined in a market structure other than
 (A) monopoly
 (B) perfect competition
 (C) oligopoly
 (D) monopsony
53. A philosophy that the worker should share in industrial decisions is termed as
 (A) industrial democracy
 (B) worker sovereignty
 (C) industrial socialism
 (D) worker dictatorship
54. If average cost falls, marginal cost
 (A) increases at a higher rate
 (B) falls at the same rate
 (C) increases at a lower rate
 (D) falls at a higher rate
55. Which one of the following disburses long term loans to private industry in India?
 (A) Food Corporation of India
 (B) Life Insurance Corporation of India
 (C) Primary Credit Society
 (D) Land Development Banks
56. Most important safeguard of liberty is
 (A) bold and impartial judiciary
 (B) well-knit party system
 (C) decentralisation of power
 (D) declaration of rights
57. What is the ancient school of law?
 (A) The Philosophical school
 (B) The Historical School
 (C) The Analytical School
 (D) The Sociological School
58. Liberty stands for
 (A) absence of restraint
 (B) consists in the presence of restraint
 (C) feeling enjoyed in a congenial atmosphere
 (D) the eager maintenance of that atmosphere in which men have the opportunity to be their best selves - Laski
59. When the Vice-President is acting as President he
 I. will have all powers and functions of both President and Vice-President
 II. gets all the allowances and privileges of the President
 III. should continue to work as the Chairman of the Rajya Sabha
 (A) I, II and III (B) I and III
 (C) I and II (D) II only
60. In Presidential Government, the President is
 (A) independent of the Legislature
 (B) dependent on the Legislature
 (C) dependent on the Judiciary
 (D) bound by the advice of the Council of Ministers
61. The method of amending the Constitution by popular veto is found in
 (A) Britain (B) Switzerland
 (C) Russia (D) India
62. Which of the following is the inalienable attribute of the parliamentary system of government?
 (A) Flexibility of the Constitution
 (B) Fusion of Executive and Legislature
 (C) Judicial Supremacy
 (D) Parliamentary Sovereignty
63. Which one of the following kinds of equality is *not* compatible with the liberal notion of equality?
 (A) Legal Equality (B) Political Equality
 (C) Social Equality (D) Economic Equality
64. Which was the second capital of Akbar?
 (A) Delhi (B) Agra
 (C) Fateh-pur-Sikri (D) Patna

65. The first country which discovered sea route to India was
 (A) Portugal (B) Dutch
 (C) French (D) Britain
66. The unification of Karnataka was achieved in the year
 (A) 1956 (B) 1957
 (C) 1958 (D) 1960
67. Who introduced the Indian University Act?
 (A) Lord Curzon (B) Lord Minto
 (C) Lord Morelay (D) Lord Rippon
68. Chinese travellers visited India primarily because
 (A) they were interested in Buddhism
 (B) they were invited by the Indian kings
 (C) they were interested to study Indian culture
 (D) they were interested to stay in India
69. The first short based integrated steel plant in the country is
 (A) Vijaynagar (B) Salem
 (C) Vishakapatnam (D) Bhadravati
70. Name the condition which influences the development of plants into distinctive forms.
 (A) Climatic conditions
 (B) Soil conditions
 (C) Environmental conditions
 (D) Social conditions
71. Agriculture should serve as an instrument of income, livelihood and opportunity to the local community — this statement is given by
 (A) Dr Madhavan Nair
 (B) Dr Manmohan Singh
 (C) Dr Abdul Kalam
 (D) Dr M S Swaminathan
72. When was the Geological Survey of India established?
 (A) 1841 (B) 1851
 (C) 1941 (D) 1951
73. Development that meets the needs of the present, without compromising the ability of future generations to meet their own needs was the focal point of Brundtland Commission is
 (A) sustainable development
 (B) mitigation
 (C) disaster management
 (D) capacity building
74. The pancreas secretes
 (A) Insulin (B) Bile juice
 (C) Peptic juice (D) None of these
75. When we touch leaves of "Touch me not plant", they close, these movements are called
 (A) photonastic movements
 (B) nyctinastic movements
 (C) seismonastic movements
 (D) chemonastic movements
76. The concept of tissue culture was introduced by
 (A) Halfmeister (B) Hanstein
 (C) Haberlandt (D) Hanning
77. Beak is formed by
 (A) cheeks (B) jaws
 (C) teeth (D) none
78. Pinna (external ear) is present in
 (A) Amphibian (B) Fish
 (C) Mammal (D) Reptile
79. Purity of a metal can be determined with the help of
 (A) Pascal's law
 (B) Boyle's law
 (C) Archimedes principle
 (D) Conservation of mass principle
80. If both the mass and the velocity of a body is increased to twice of their magnitude, the kinetic energy will increase by
 (A) 2 times (B) 4 times
 (C) 8 times (D) 16 times
81. Two bodies kept at a certain distance feel a gravitational force F to each other. If the distance between them is made double the former distance, the force will be
 (A) $2F$ (B) $\frac{1}{2}F$
 (C) $4F$ (D) $\frac{1}{4}F$
82. Stationary wave is formed by
 (A) a transverse wave superposing a longitudinal wave
 (B) two waves of the same speed superposing
 (C) two waves of same frequency travelling in the same direction
 (D) two waves of same frequency travelling in the opposite direction

83. Which is *not* an extension of a picture file on a computer ?
 (A) .jpeg (B) .png
 (C) .gif (D) .mlb
84. Which measure of memory is the largest ?
 (A) MB Megabyte (B) GB Gigabyte
 (C) TB Terabyte (D) KB Kilobyte
85. Which of the following is the maximum number of electrons that can be present in M-shell ?
 (A) 2 (B) 8 (C) 18 (D) 32
86. In an oxygen molecule, two atoms are united by
 (A) one bond (B) two bonds
 (C) three bonds (D) four bonds
87. The inert gas which is substituted for nitrogen in the air used by deep sea divers for breathing is
 (A) Neon (B) Krypton
 (C) Argon (D) Helium
88. How many neutrons are there in ${}_{92}^{238}\text{U}$ atom ?
 (A) 92 (B) 238
 (C) 146 (D) 330
89. Root pressure is measured by
 (A) Barometer (B) Atmometer
 (C) Manometer (D) Auxanometer
90. Cell becomes turgid because of
 (A) Plasmolysis (B) Exosmosis
 (C) Endosmosis (D) Diffusion
91. The process of imbibition involves
 (A) Diffusion (B) Capillary action
 (C) Absorption (D) Both (A) & (B)
92. A cell increases in volume when it is placed in
 (A) Hypertonic solution
 (B) Hypotonic solution
 (C) Isotonic solution
 (D) None of these
93. Who launched National Peoples Party on 5th January, 2013 ?
 (A) Somnath Chatterjee
 (B) Shivraj Patil
 (C) K. S. Hegde
 (D) P. A. Sangma
94. Which Indian University bagged Best Research Award at 100th Indian Science Congress ?
 (A) University of Delhi
 (B) University of Kashmir
 (C) University of Mumbai
 (D) University of Sikkim
95. Who was the first woman winner of Karm Banega Crorepati 6 ?
 (A) Kiran Bedi
 (B) Lata Mangeshkar
 (C) Sumeet Kaur Sawhney
 (D) Priyanka Zinta
96. Who was appointed new United State Defence Secretary in January 2013 ?
 (A) Donald Rumsfeld
 (B) Robert M. Gates
 (C) Leon Panetta
 (D) Chuck Hagel
97. Who took the charge as new Deputy Governor of Reserve Bank of India in January 2013 ?
 (A) Ujjit Patel
 (B) Dr. C. Rangarajan
 (C) S. Vejitaraman
 (D) Dr. Y. Venugopal Reddy
98. Which political leader was sent to jail for teacher recruitment scam in January 2013 ?
 (A) Om Prakash Chautala
 (B) D. V. Sadananda Gowda
 (C) Raja Bhailya
 (D) Suresh Kalmadi
99. Which player got stripped of his seven Tour de France titles and got banned for life after the International Cycling Union ?
 (A) Nicola Adams
 (B) Chris Hoy
 (C) Lance Armstrong
 (D) Jason Kenny
100. Who won the Top Ranker's Entrepreneurial Path Breaker Award 2013 ?
 (A) Prof. D. K. Bandyopadhyay
 (B) Ajay Shankar
 (C) B. Prasada Rao
 (D) Pratip Chaudhuri

PART - C : QUANTITATIVE APTITUDE

101. Evaluate $\frac{\sqrt{24} + \sqrt{6}}{\sqrt{24} - \sqrt{6}}$
- (A) 2 (B) 3
(C) 4 (D) 5
102. Three tankers contain 403 litres, 434 litres, 465 litres of diesel respectively. Then the maximum capacity of a container that can measure the diesel of the three container exact number of times is
- (A) 31 litres (B) 62 litres
(C) 41 litres (D) 84 litres
103. The value of $3 + [(8-5) + \{(4-2) + (2 + \frac{8}{13})\}]$ is
- (A) $\frac{15}{13}$ (B) $\frac{17}{13}$
(C) $\frac{18}{13}$ (D) $\frac{19}{13}$
104. If '+' means '×', '×' means '-', '÷' means '+' and '-' means '+', what will be the value of the following expression?
- $$9 + 3 + 4 - 8 \times 2 = ?$$
- (A) $6\frac{1}{2}$ (B) $6\frac{3}{4}$
(C) $-1\frac{1}{2}$ (D) 18
105. The next term of the sequence, $(1 + \frac{1}{2}), (1 + \frac{1}{2})(1 + \frac{1}{3}), (1 + \frac{1}{2})(1 + \frac{1}{3})(1 + \frac{1}{4}), \dots$ is
- (A) 3 (B) $(1 + \frac{1}{4})$
(C) 5 (D) $(1 + \frac{1}{2})(1 + \frac{1}{3})$
106. A can do $\frac{1}{4}$ of work in 28 days, B can do $\frac{1}{5}$ of the same work in 20 days. The number of days they will take to complete if they do it together is
- (A) $15\frac{1}{2}$ days (B) $17\frac{1}{2}$ days
(C) $14\frac{1}{2}$ days (D) $13\frac{1}{2}$ days
107. Seventy-five men are employed to lay down a railway line in 3 months. Due to certain emergency conditions, the work was to be finished in 18 days. How many more men should be employed to complete the work in the desired time?
- (A) 300 (B) 325
(C) 350 (D) 375
108. A trader who marks his goods up to 50% offered a discount of 20%. What % profit the trader makes after offering the payment?
- (A) 30% (B) 70%
(C) 20% (D) 50%
109. A retailer buys a sewing machine at a discount of 15% and sells it for ₹ 1955. Thus he makes a profit of 15%. The discount is
- (A) ₹ 270 (B) ₹ 290
(C) ₹ 300 (D) ₹ 310
110. If $x : y :: 2 : 3$ and $2 : x :: 4 : 8$ the value of y is
- (A) 6 (B) 8
(C) 4 (D) 12

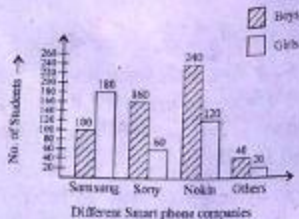
SPACE FOR ROUGH WORK

111. ₹ 730 were divided among A, B, C in such a way that if A gets ₹ 3, then B gets ₹ 4 and if B gets ₹ 3.50 then C gets ₹ 3. The share of B exceeds that of C by
- (A) ₹ 30 (B) ₹ 40
(C) ₹ 70 (D) ₹ 210
112. A boy found that the average of 20 numbers is 35 when he writes a number '61' instead of '16'. The correct average of 20 numbers is
- (A) 32.75 (B) 37.25
(C) 34.75 (D) 34.25
113. 11 friends went to a hotel and decided to pay the bill amount equally. But 10 of them could pay ₹ 60 each, as a result 11th has to pay ₹ 50 extra than his share. Find the amount paid by him.
- (A) ₹ 105 (B) ₹ 110
(C) ₹ 115 (D) ₹ 120
114. A tea-merchant professes to sell tea at cost price but uses a false weight of 900 gram for a kilogram. The profit percent in his transaction is
- (A) $11\frac{1}{3}\%$ (B) 10%
(C) $9\frac{1}{11}\%$ (D) 15%
115. Mahesh earned a profit of 20% by selling 60 apples at the rate of ₹ 42.50 for 5 apples. Then the total cost, at which the apples were bought is
- (A) ₹ 452 (B) ₹ 425
(C) ₹ 450 (D) ₹ 485
116. In an examination 75% candidates passed in English and 60% passed in Mathematics. 25% failed in both and 240 passed the examination. Find the total number of candidates.
- (A) 492 (B) 300
(C) 500 (D) 400
117. If 40% of $\frac{4}{7}$ of $\frac{3}{4}$ of a number is 48, then what is 1% of the same number?
- (A) 20 (B) 2
(C) 10 (D) 1
118. A student goes to school at the rate of $\frac{5}{2}$ km/hr and reaches 6 minutes late. If he travels at the speed of 3 km/hr, he reaches 10 minutes earlier. The distance of the school is
- (A) 45 km (B) 20 km
(C) 10 km (D) 4 km
119. A train 50 metre long passes a platform 100 metre long in 10 sec. The speed of the train in km/hr is
- (A) 10 (B) 54
(C) 15 (D) 100
120. A sum amounts double in 8 years by simple interest. Then the rate of simple interest p.a. is
- (A) 10% (B) 12.5%
(C) 15% (D) 20%

SPACE FOR ROUGH WORK

121. Rekha invested a sum of ₹12000 at 5% per annum compound interest. She received an amount of ₹13250 after n years. Find n .
- (A) 2.8 years (B) 3.0 years
(C) 2.5 years (D) 2.0 years

The bar chart representing the number of first year B. Com. students of St. Xavier's College using different companies' smart phones. Study bar chart and answer question nos. 122 to 125.



The bar chart representing the no. of students using different smart phones.

122. The ratio of the number of boys to the number of girls using the smart phones of Samsung and Sony together is
- (A) 12 : 13 (B) 13 : 12
(C) 14 : 11 (D) 11 : 14
123. What percentage of boys are using the smart phones of Samsung?
- (A) 16.52% (B) 17.52%
(C) 18.52% (D) 15.52%
124. What percentage of girls are using the smart phones of Nokia?
- (A) 33.58% (B) 32.58%
(C) 30.58% (D) 31.58%
125. The difference between the total number of students using smart phone of Samsung combined together and the total number of students using smart phone of Sony taken together is
- (A) 20 (B) 60
(C) 80 (D) 40
126. The radius of a right circular cone is 3 cm and its height is 4 cm. The total surface area of the cone is
- (A) 48.4 sq.cm (B) 64.4 sq.cm
(C) 96.4 sq.cm (D) 75.4 sq.cm
127. A wooden box of dimension 8 metre \times 7 metre \times 6 metre is to carry rectangular boxes of dimensions 8 cm \times 7 cm \times 6 cm. The maximum number of boxes that can be carried in 1 wooden box is
- (A) 7500000 (B) 9800000
(C) 1200000 (D) 1000000
128. Two circular cylinders of equal volume have their heights in the ratio 1 : 2; Ratio of their radii is (Take $\pi = \frac{22}{7}$)
- (A) 1 : 4 (B) 1 : $\sqrt{2}$
(C) $\sqrt{2}$: 1 (D) 1 : 2

SPACE FOR ROUGH WORK

129. A rectangular piece of paper of dimensions 22 cm by 12 cm is rolled along its length to form a cylinder. The volume (in cm^3) of the cylinder so formed is (use $\pi = \frac{22}{7}$)
- (A) 562 (B) 412
(C) 462 (D) 362
130. A sphere is placed inside a right circular cylinder so as to touch the top, base and the lateral surface of the cylinder. If the radius of the sphere is R , the volume of the cylinder is
- (A) $2\pi R^3$ (B) $4\pi R^3$
(C) $8\pi R^3$ (D) $\frac{8}{3}\pi R^3$
131. If $a = \sqrt{6} + \sqrt{5}$, $b = \sqrt{6} - \sqrt{5}$, then $2a^2 - 5ab + 2b^2 =$
- (A) 38 (B) 39
(C) 40 (D) 41
132. If $p = \frac{5}{18}$, then $27p^3 - \frac{1}{27} - \frac{2}{3}p^2 + \frac{1}{3}p$ is equal to
- (A) $\frac{4}{27}$ (B) $\frac{5}{27}$
(C) $\frac{8}{27}$ (D) $\frac{10}{27}$
133. If $x + \frac{1}{x} = 2$, then $x^{2013} + \frac{1}{x^{2014}} = ?$
- (A) 0 (B) 1
(C) -1 (D) 2
134. If $a = 331$, $b = 336$ and $c = -667$, then the value of $a^2 + b^2 + c^2 - 3abc$ is
- (A) 1 (B) 6
(C) 3 (D) 0
135. The simplified value of $(\sqrt{6} + \sqrt{10} - \sqrt{21} - \sqrt{35})(\sqrt{6} - \sqrt{10} + \sqrt{21} - \sqrt{35})$ is
- (A) 13 (B) 12
(C) 11 (D) 10
136. In a ΔABC , $\frac{AB}{AC} = \frac{BD}{DC}$, $\angle B = 70^\circ$ and $\angle C = 50^\circ$, then $\angle BAD = ?$
- (A) 60° (B) 20°
(C) 30° (D) 50°
137. In a ΔABC , AD , BE and CF are three medians. The perimeter of ΔABC is always
- (A) equal to $(\overline{AD} + \overline{BE} + \overline{CF})$
(B) greater than $(\overline{AD} + \overline{BE} + \overline{CF})$
(C) less than $(\overline{AD} + \overline{BE} + \overline{CF})$
(D) None of these
138. In a ΔABC , \overline{AD} , \overline{BE} and \overline{CF} are three medians. Then the ratio $(\overline{AD} + \overline{BE} + \overline{CF}) : (\overline{AB} + \overline{AC} + \overline{BC})$ is
- (A) equal to $\frac{3}{4}$ (B) less than $\frac{3}{4}$
(C) greater than $\frac{3}{4}$ (D) equal to $\frac{1}{2}$
139. Two circles with radii 25 cm and 9 cm touch each other externally. The length of the direct common tangent is
- (A) 34 cm (B) 30 cm
(C) 36 cm (D) 32 cm

SPACE FOR ROUGH WORK

140. If $AB = 5$ cm, $AC = 12$ and $AB \perp AC$ then the radius of the circumcircle of ΔABC is
 (A) 6.5 cm (B) 6 cm
 (C) 5 cm (D) 7 cm

141. If $0 < \theta < \frac{\pi}{2}$ and $\sec^2 \theta + \tan^2 \theta = 7$, then θ is

- (A) $\frac{5\pi}{12}$ radian (B) $\frac{\pi}{3}$ radian
 (C) $\frac{\pi}{5}$ radian (D) $\frac{\pi}{6}$ radian

142. The simplest value of $\sin^2 x + 2 \tan^2 x - 2 \sec^2 x + \cos^2 x$ is
 (A) 1 (B) 0
 (C) -1 (D) 2

143. A kite is flying at a height of 50 metre. If the length of string is 100 metre then the inclination of string to the horizontal ground in degree measure is
 (A) 90 (B) 60
 (C) 45 (D) 30

144. From the top of a light-house at a height 20 metres above sea-level, the angle of depression of a ship is 30° . The distance of the ship from the foot of the light-house is
 (A) 20 m (B) $20\sqrt{3}$ m
 (C) 30 m (D) $30\sqrt{3}$ m

145. If $x = a \sin \theta$ and $y = b \tan \theta$ then prove

$$\text{that } \frac{a^2}{x^2} - \frac{b^2}{y^2} \text{ is}$$

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

The following pie-chart shows the monthly expenditure of a family on food, house rent, clothing, education, fuel and miscellaneous. Study the pie-chart and answer question nos. 146 to 150.



146. If the expenditure for food is ₹ 9000, then the expenditure for education is
 (A) ₹ 5000 (B) ₹ 5200
 (C) ₹ 5400 (D) ₹ 6000

147. The central angle of the sector for the expenditure on fuel (in degrees) is
 (A) 50.4 (B) 54
 (C) 57.6 (D) 72

148. If the expenditure on fuel is ₹ 3000, then the total expenditure excluding expenditure on house rent and education is
 (A) ₹ 11600 (B) ₹ 12000
 (C) ₹ 12400 (D) ₹ 12500

149. If the percentage of expenditure on food is $x\%$ of the total percentage of expenditure on clothing, education and fuel, then x equals
 (A) 66 (B) $66\frac{2}{3}$
 (C) $66\frac{1}{3}$ (D) 67

150. Total percentage of expenditure on house rent, clothing and fuel is greater than the percentage of expenditure on food by
 (A) 16 (B) 17 (C) 18 (D) 20

SPACE FOR ROUGH WORK

PART - D : ENGLISH COMPREHENSION

Directions : In question nos. 151 to 155, some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval [●] corresponding to the appropriate letter (A, B, C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

151. In 1906 a earthquake destroyed much
(A) (B)
of San Francisco. No error.
(C) (D)

152. His parents does not approve of
(A) (B)
his business. No error.
(C) (D)

153. The college library is
(A)
not only equipped with
(B)
very good books but also with the latest
(C)
journals. No error.
(D)

154. The lovers walked besides each other
(A) (B)
in silence. No error.
(C) (D)

155. Men are wanted for the army,
(A) (B)
and the navy, and the air force. No error.
(C) (D)

Directions : In question nos. 156 to 160, sentences are given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate oval [●] in the Answer Sheet.

156. China is a big country, in area it is bigger than any other country _____ Russia.
(A) accept (B) except
(C) expect (D) access

157. The masks worn by the men helped them _____ their identity.
(A) conceal (B) congeal
(C) masquerade (D) cheat

158. On the _____ occasion of Laxmi Puja the Mathurs bought a new car.
(A) officious (B) auspicious
(C) fortuitous (D) prosperous

159. Precautions are to be taken with any one who seems _____.
(A) contagious (B) infectious
(C) diseased (D) defiled

160. The treasure was hidden _____ a big shore.
(A) on (B) underneath
(C) toward (D) off

Directions : In question nos. 161 to 165, out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

161. Scorn
(A) concise (B) despise
(C) bias (D) fierce

162. Catastrophe
(A) tragedy (B) anger
(C) violence (D) hatred

163. Abjure
(A) renounce (B) announce
(C) pronounce (D) denounce

164. Assess

- (A) overload (B) measure
(C) permit (D) enter

165. Elastic

- (A) free (B) liberal
(C) flexible (D) broad

Directions : In question nos. 166 to 170, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

166. Safe

- (A) rash (B) insecure
(C) beneficial (D) harsh

167. Redundant

- (A) repentant (B) surplus
(C) singular (D) required

168. Fair

- (A) untrue (B) unjust
(C) coarse (D) harsh

169. Boisterous

- (A) serenity (B) calm
(C) cheerful (D) courageous

170. Substantial

- (A) flimsy (B) hefty
(C) actual (D) excess

Directions : In question nos. 171 to 175, four alternatives are given for the Idiom/Phrase underlined in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

171. We must work with all our might and main, otherwise we cannot succeed.

- (A) full force (B) complete trust
(C) exceptional skill (D) full unity

172. The sailors nailed their colours to their mast.

- (A) put up a colourful mast
(B) refused to climb down
(C) took over the ship
(D) decided to abandon the ship

173. We had (had) better batten down the hatches. The weather is unpredictable.

- (A) stay in-door
(B) prepare for a difficult situation
(C) go somewhere safe
(D) face the obstacles

174. It is difficult to have a sensible discussion with her as she flies off at a tangent.

- (A) gets carried away
(B) starts discussing something irrelevant
(C) loses her temper easily
(D) does not really understand anything

175. The students found it hard to go at equal speed with the professor.

- (A) get away from (B) put up with
(C) keep up with (D) race against

Directions : In question nos. 176 to 180, a sentence/a part of the sentence is underlined. Below are given alternatives to the underlined part at (A), (B), (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed your answer is (D). Mark your answer in the Answer Sheet.

176. He will revise it when he is comes back.

- (A) when he come back
(B) on coming back
(C) when he came back
(D) No improvement

177. The members of the student's union did not give the examination in protest.

- (A) did not write
(B) did not sit for
(C) did not show up for
(D) No improvement

178. She was kept from her assignment because of her loquacious room-mate.

- (A) noisy (B) irritating
(C) talkative (D) No improvement

179. James epitomizes everything that a leader should be.
 (A) worships (B) loves
 (C) adores (D) No improvement
180. The businessman is respectively connected.
 (A) respectfully (B) respectably
 (C) receptively (D) No improvement

Directions : In question nos. 181 to 185, out of the four alternatives, choose the one which can be substituted for the given words/sentences and indicate it by blackening the appropriate oval [●] in the Answer Sheet.

181. One who offers his service of his own free will
 (A) Worker (B) Slave
 (C) Volunteer (D) Servant
182. One who is always doubting
 (A) Sceptic (B) Deist
 (C) Rationalist (D) Positivist
183. A collection of slaves
 (A) Coffle (B) Crew
 (C) Company (D) Cortege
184. A professional soldier hired to serve in a foreign army
 (A) Mercenary (B) Liquidator
 (C) Venal (D) Hiring
185. Not likely to be easily pleased
 (A) Fastidious (B) Infallible
 (C) Fatalist (D) Communist

Directions : In question nos. 186 to 190, four words are given in each question, out of which only one word is correctly spelt. Find the correctly spelt word and mark your answer in the Answer Sheet.

186. (A) Resilient (B) Presuade
 (C) Dubious (D) Depplete
187. (A) Ineffectual (B) Iniffectual
 (C) Inefctual (D) Inefictual
188. (A) Massacer (B) Masseur
 (C) Masacre (D) Massacre

189. (A) Conciance (B) Consience
 (C) Conscience (D) Connsience
190. (A) Nirvana (B) Nirvena
 (C) Nirvanna (D) Nyrvana

Directions : In question nos. 191 to 200, you have two brief passages with 5 questions following each passage. Read the passages carefully and choose the best answer to each question out of the four alternatives and mark it by blackening the appropriate oval [●] in the Answer Sheet.

PASSAGE I

(Question Nos. 191 to 195)

Street theatre in India is a well established ancient art form. Despite the proliferation of modern means of entertainment and communication, street theatre continues to flourish in India.

Street theatre as a channel of communication has for centuries been propagating reforms by highlighting social, economic and political issues present in the society. Unlike in the olden days, its performance is no longer restricted to villages or small localities of the city. Today small groups of performers including students, would stage performances to mobilize public opinion or to help create or raise awareness over a particular issue of public importance. Themes on substance abuse, AIDS awareness, and domestic violence are some of the areas highlighted by contemporary street theatre troupe. Unlike in regular drama street drama employ very little props and images. The human body becomes the main tool in which choreography, mime, dialogues, songs and slogans are extensively used.

Street theatre is one of the most intimate media. Its appeal is to the emotions leading to quick psychological impact on audiences. By being local and live they also are able to establish not only direct contact with the audience but by being cost-effective and flexible they are popular among all age groups.

191. Modern means of entertainment and communication _____ street theatre.
(A) does affect (B) does not affect
(C) helps popularise (D) helps establish

192. In the olden days street theatre _____ to villages or small localities of the city.
(A) was restricted
(B) was not restricted
(C) was opened
(D) was entertained

193. Street theatre usually _____ with issues of public importance.
(A) is distanced (B) is performed
(C) deals (D) does not deal

194. Street theatre is _____ to stage.
(A) nothing (B) costly
(C) reasonable (D) affordable

195. Street theatre creates an/a _____ impact on audiences.
(A) intimate (B) emotional
(C) mystical (D) physical

PASSAGE II

(Question Nos. 196 to 200)

Self-directed learning, in its broadest meaning, describes a process in which individuals take the initiative with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying resources for learning, choosing and implementing learning strategies and evaluating learning outcomes. Thus it is important to attain new knowledge easily and skillfully for the rest of his or her life.

What is the need for self-directed learning? One reason is that there is convincing evidence that people, who take the initiative in learning, learn more things and learn better than people who sit at the feet of teachers passively waiting

to be taught. The second reason is that self-directed learning is more in tune with our natural processes of psychological development; an essential aspect of maturing is developing the ability to take increasing responsibility of our own lives to become increasingly self-directed. The third reason is that many of the new developments in education put a heavy responsibility on the learners to take a good deal of initiative in their own learning. To meet the challenges in today's instructive environment, self-directed learning is most essential.

196. In self-directed learning, an individual
(A) Takes initiative with or without the help of others
(B) Is passive and waits for directions
(C) Is helpless and dependent
(D) Takes initiative, without an objective

197. There is need for self-directed learning because
(A) it is less challenging
(B) it helps people to learn more things and learn better
(C) it is a more cost-effective method
(D) it is a modern method of learning

198. Which word best describes self-directed learning?
(A) Active learning
(B) Passive learning
(C) Compulsory learning
(D) Repulsive learning

199. The modern environment according to the author is
(A) Restrictive (B) Instructive
(C) Less developed (D) Impracticable

200. The synonym of the word "diagnosing" is
(A) Searching (B) Examining
(C) Identifying (D) Complying