

Part - I
GENERAL INTELLIGENCE

1. The price of onions is shown below for every fortnight. Find the price in Feb. 3rd week.

Period	Dec 1 st wk	Dec. 3 rd wk	Jan. 1 st wk	Jan. 3 rd wk	Feb. 1 st wk	Feb. 3 rd wk
Price	20	60	40	120	100	?

- (A) 140 (B) 300
(C) 180 (D) 320
2. The population of a village in Madurai is increasing year after year. Find out the population (in lakhs) in 2013 from the following information :
- | Year | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|------------|------|------|------|------|------|------|
| Population | 4 | 7 | 13 | 22 | 34 | ? |
- (A) 49 (B) 46
(C) 45 (D) 43
3. Ram walk 12 kms to the North, then 10 kms to West, 12 kms South. How far is Ram from the starting point ?
(A) 9 kms (B) 13 kms
(C) 8 kms (D) 10 kms
4. Select the missing number from the given responses.
1 4 2 3 2 ?
(A) 2 (B) 3
(C) 4 (D) 5
5. Which of the following interchange of signs would make the given equation correct ?
 $(6 + 3) + (4 \times 7) = 29$
(A) + and - (B) ÷ and +
(C) × and + (D) ÷ and ×
6. Change the sign to find the equation
 $28 - 7 + 2 \times 2 = 0$
(A) Change + into × (B) Change × into ,
(C) Change - into + (D) Change + into -

7. Town A and town B were 600 km apart. Joshua left town A for town B and travelled at an average speed of 65 km/h. At the same time, Menon left town B for town A. The two of them met 5 hours later. Find Menon's average speed.
(A) 55 km/h (B) 60 km/h
(C) 65 km/h (D) 120 km/h

8. There are two statements labelled as Assertion (A) and Reason (R).
Assertion (A) : Dyslexia is a psychological disorder.
Reason (R) : Vitamin deficiency causes the disease.
Choose the correct option :
Codes :
(A) If both (A) and (R) are true.
(B) If both (A) and (R) are false.
(C) If (A) is false, but (R) is true.
(D) If (A) is true, but (R) is false.

9. Two statements are given followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You are to decide which of the given conclusions, if any, follow from the given statements. Indicate your answer.
Statements : All Americans are English-speaking.
No Eskimos are English-Speaking
Conclusions : I. No Eskimos are Americans.
II. No English-speakers are Eskimos.
(A) Only I follows.
(B) Neither I nor II follows.
(C) Only II follows.
(D) Both I and II follows.

SPACE FOR ROUGH WORK

$(6+3) +$
 $(9 + (2 \times 7)) = 29$
 $3 + 37 = 29$

$\begin{array}{r} 28 \\ 19 \\ \hline 37 \end{array}$
 $\begin{array}{r} 28 \\ 21 \\ \hline 49 \end{array}$
 $21 + 4 = 25$
 $5 \times 8 = 40$

MONEY = YENOM
 RIGHT = 16, 18, 19
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

Directions : In Question Nos. 10 to 18, select the related letter/word/number from the given alternatives.

10. MONEY : YENOM :: RIGHT : ?
 (A) HTIRG (B) THGIR
 (C) GIRHT (D) IRGHT
11. NIOLUSL : ILLUSION :: TBERVARE : ?
 (A) STRANGE (B) VERTEBRA
 (C) VABTERE (D) ERAVEBT
 E V E A R B R T
12. RUST : 9687 :: TSUR : ?
 (A) 7896 (B) 7869
 (C) 7689 (D) 6789
13. 13 : 169 :: ?
 (A) 12 : 140 (B) 3 : 6
 (C) 11 : 111 (D) 9 : 81
14. 23 : 29 :: 41 : ?
 (A) 43 (B) 45
 (C) 47 (D) 49
15. 6 : 10 :: 9 : ?
 (A) 10 (B) 12
 (C) 15 (D) 18
16. River : Tributary :: Tree : ?
 (A) Stem (B) Root
 (C) Branch (D) Flower
17. Lion : Forest :: Fish : ?
 (A) Cage (B) Nest
 (C) Sky (D) Water
18. Polio : Virus :: Anthrax : ?
 (A) Fungus (B) Bacteria
 (C) Virus (D) Insect

Directions : In Question Nos. 19 to 27, select the one which is different from the other three responses.

19. (A) 63 (B) 69
 (C) 65 (D) 66
 2) 91
 108
 168
20. (A) 108 (B) 91
 (C) 144 (D) 225
21. (A) 187 : 11 (B) 194 : 12
 (C) 195 : 13 (D) 224 : 14
22. (A) D (B) G
 (C) H (D) J
23. (A) SRT (B) PON
 (C) KJL (D) VUW
24. (A) EVFU (B) CXDW
 (C) AZBX (D) GTHS
25. (A) Square
 (B) Equilateral Triangle
 (C) Rhombus
 (D) Right Angle Triangle
26. (A) Aptitude (B) Altitude
 (C) Attitude (D) Behaviour
27. (A) SSA (B) RMSA
 (C) RUSA (D) NASA

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RUST
 9687
 TSUR
 7869

NIOLUSL : ILLUSION
 TBERVARE -
 14 + 9 + 9 + 15 + 12 + 21 + 19 + 12 = 15714

RUST = 9687 + 10 +
 TSUR = 1214 + 10 +
 9 + 12 + 12 + 21 + 19 + 9 +
 15714

TBERVARE -
 E V E A R B R T

28. Find the odd one out.

- (A) January, May
- (B) April, June
- (C) July, August
- (D) January, December

29. Which one of the given responses would be a meaningful order of the following ?

- 1. Earth 2. Jupiter 3. Venus
- 4. Mars 5. Mercury
- (A) 5, 3, 1, 2, 4 (B) 5, 3, 4, 1, 2
- (C) 5, 3, 1, 4, 2 (D) 5, 3, 2, 4, 1

Directions : In Question Nos. 30 to 36, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

30. ar, cs, et, ?
(A) wy (B) gv
(C) vb (D) gu
31. 9, 15, 23, 33, ?
(A) 44 (B) 36
(C) 38 (D) 45
32. 4, 7, 14, 24, 41, ?
(A) 71 (B) 68
(C) 72 (D) 51
33. 5, 16, 51, 158, ?
(A) 481 (B) 465
(C) 441 (D) 478
34. CBA, ABC, ABCD, DCBA, ABCDE, ?
(A) EDCBA (B) DBAC
(C) CABD (D) BACD
35. AD, EI, JN, PS, ?
(A) WY (B) XX
(C) WX (D) WW
36. PON, RQP, TSR, VUT, ?
(A) WUY (B) YXZ
(C) XWV (D) UVW

37. If 'NEWS' is written as 'WENS', then how 'MATE' will be written in this code?

- (A) TAME (B) META
- (C) EATM (D) AMET

38. If REASON is coded as 5 and BELIEVED as 7, what is the code number for GOVERNMENT ?

- (A) 6 (B) 8
- (C) 9 (D) 10

39. A shepherd had 17 sheep. All but nine died. How many sheep are left ?

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

40. Present ages of father & son are in the ratio of 5 : 1 respectively. Seven years later this ratio becomes 3 : 1. What is the son's present age in years ?

- (A) 8 (B) 7
- (C) 6 (D) 5

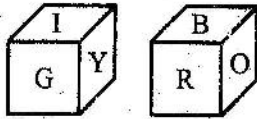
41. From the given alternative words, select the word which can be formed using the letters of the given word :

- TRADITIONAL
- (A) NATION (B) RADIO
 - (C) ANIMAL (D) DIRTY

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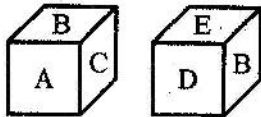
Handwritten rough work including calculations like $158 \div 51 = 3 \text{ R } 5$, $102 \div 51 = 2 \text{ R } 0$, $158 \div 51 = 3 \text{ R } 5$, $102 \div 51 = 2 \text{ R } 0$, $158 \div 51 = 3 \text{ R } 5$, $102 \div 51 = 2 \text{ R } 0$, $158 \div 51 = 3 \text{ R } 5$, $102 \div 51 = 2 \text{ R } 0$.

42. The sides of a cube show the colours of rainbow. Two positions of the cube are shown below. Which of the colours of rainbow is left out ?



- (A) Yellow ~~(B) Green~~
 (C) Violet (D) Indigo

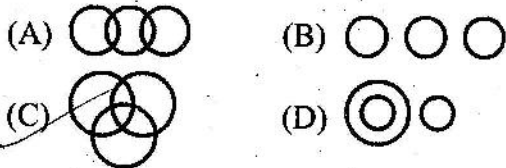
43. Based on the diagrams what is the letter which is opposite to A ?



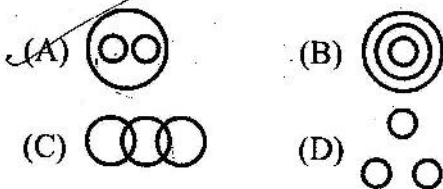
- (A) B (B) C
~~(C) D~~ (D) E

Directions : In Question Nos. 44 & 45, identify the diagram that best represents the relationship among classes given below :

44. Singers, Boys, Dancers.



45. Ornaments, Gold, Silver.

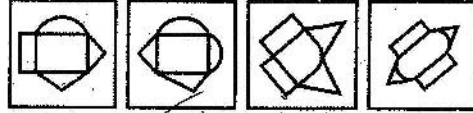


46. Identify the answer figure from which the piece given in question figure has been cut.

Question Figure :



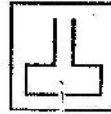
Answer Figures :



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

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

Question Figure :



Answer Figures :



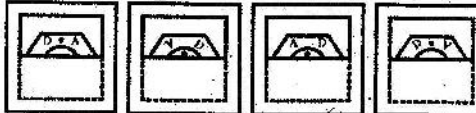
- (A) (B) (C) (D)

48. Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.

Question Figure :



Answer Figures :



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

SPACE FOR ROUGH WORK

49. Choose the alternative which most closely resembles the mirror-image of the given combination.

DANIEL

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

50. 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., 'I' can be represented by 13, 21, etc and 'R' can be represented by 57, 65 etc. Similarly, you have to identify the set for the word given in question. 'FADE'

MATRIX - I					
	0	1	2	3	4
0	I	E	A	O	U
1	A	O	U	I	E
2	E	I	O	U	A
3	O	U	E	A	I
4	U	A	I	E	O

MATRIX - II					
	5	6	7	8	9
5	F	D	B	G	H
6	B	G	H	F	D
7	D	F	G	H	B
8	G	H	D	B	F
9	H	B	F	G	D

- (A) 76, 02, 75, 32 (B) 68, 20, 57, 14
 (C) 55, 33, 65, 23 (D) 89, 10, 96, 41

FOR VISUALLY HANDICAPPED CANDIDATES ONLY

Directions : In Question Nos. 42 to 45, select the related letter/word/number from the given alternatives.

42. Pen : ink :: _____
 (A) Doctor : coat (B) Tank : petrol
 (C) Police : gun (D) Fisherman : net
43. Coconut : Shell :: Letter : ?
 (A) Letter-box (B) Stamp
 (C) Mail (D) Envelope
44. AJT : CMW :: EJO : ?
 (A) GMQ (B) GLR
 (C) GLQ (D) GKS
45. 393 : 857 :: 467 : ?
 (A) 468 (B) 526
 (C) 483 (D) 589

Directions : In Question Nos. 46 to 49, find the odd number/letters/pair from the given alternatives.

46. (A) Snake (B) Whale
 (C) Crocodile (D) Lizard
47. (A) Hurricane (B) Explosion
 (C) Earthquake (D) Tsunami
48. (A) 631 (B) 862
 (C) 530 (D) 357
49. (A) Dholak (B) Madal
 (C) Mridanga (D) Tabla
50. Find the odd one in the series :
 4, 9, 19, 34, 79
 (A) 34 (B) 79
 (C) 9 (D) 19

SPACE FOR ROUGH WORK

Part - II
ENGLISH LANGUAGE

Directions : In Question Nos. 51 to 60, in the following passage some of the words have been left out. Read the passage carefully and choose the correct answer to each question out of the four alternatives and fill in the blanks.

Rajan is a salesman. He goes from door to door 51 vacuum cleaners. On his first day of work, he 52 to sell his goods by 53 on the doors of a private housing estate. "My first 54," he thought as he 55 the doorbell of the first house. A middle-aged woman with curlers in her hair opened the door. Rajan began to 56 who he was and the 57 he was selling. The 58 minute, the door was 59 shut. "Not interested !" John heard her shout 60 the closed door.

51. (A) purchasing (B) buying
(C) gifting (D) selling
52. (A) decided (B) undecided
(C) finalized (D) cancelled

53. (A) hacking (B) knocking
(C) breaking (D) shaking

54. (A) consumer
(B) customer
(C) supplier
(D) manufacturer

55. (A) pressed (B) impressed
(C) depressed (D) suppressed

56. (A) complain (B) explain
(C) refrain (D) plain

57. (A) produce (B) material
(C) product (D) ingredients

58. (A) after (B) before
(C) next (D) subsequent

59. (A) slammed (B) damned
(C) tamed (D) crammed

60. (A) before (B) on
(C) aside (D) behind

Directions : In Question Nos. 61 to 65, 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 errors, blacken the oval corresponding to (D) in the Answer Sheet.

61. Every citizen is / entitled to /
 (A) / (B) /
the voting. / No error
 (C) / (D)
62. The collector /
 (A) /
visits the office regularly. / Isn't it ? /
 (B) / (C) /
No error
 (D)
63. No sooner did the rabbit /
 (A) /
come out of the bush /
 (B) /
when the hunter killed it. / No error
 (C) / (D)
64. 'The Arabian Nights' / are enjoyed /
 (A) / (B) /
by all kinds of readers. / No error
 (C) / (D)
65. She has not completed / her course /
 (A) / (B) /
Isn't it ? / No error
 (C) / (D)

Directions : In Question Nos. 66 to 70, 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.

66. His path was beset _____ difficulties.
 (A) by (B) with
 (C) of (D) from
67. The plan is worth considering, think it _____ carefully.
 (A) of (B) on
 (C) off (D) over
68. The priest was innocent _____ he could not prove it.
 (A) and (B) but
 (C) for (D) so
69. Many people who _____ practising photography as a hobby turn it eventually into a livelihood.
 (A) resume (B) prefer
 (C) imply (D) start
70. She is _____ of lizards.
 (A) fearful (B) frightened
 (C) afraid (D) terrified

Directions : In Question Nos. 71 to 75, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

71. Fluent
(A) Inappropriate (B) Halting
(C) Degrading (D) Insensitive
72. Adversity
(A) Prosperity (B) Curiosity
(C) Animosity (D) Sincerity
73. Reluctant
(A) Hesitant (B) Reserved
(C) Anxious (D) Willing
74. Novel
(A) Naughty (B) Novelist
(C) Banal (D) Nasty
75. Eloquent
(A) Elegant (B) Lucid
(C) Articulate (D) Inarticulate

Directions : In Question Nos. 76 to 80, out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

76. Forsaken
(A) Nurtured (B) Neglected
(C) Pardoned (D) Abandoned
77. Vivacious
(A) Lonely (B) Lively
(C) Beautiful (D) Brooding
78. Amiable
(A) Rude (B) Curt
(C) Friendly (D) Annoyed
79. Curious
(A) Doubtful (B) Inquisitive
(C) Sad (D) Suspicious
80. Candid
(A) Honest (B) Greedy
(C) Dishonest (D) Secretive

Directions : In Question Nos. 81 to 85, 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.

81. His argument does not hold water.
(A) to have effect
(B) to influence
(C) to check the flow of water
(D) sound logical fact
82. It was her maiden speech on the stage and she performed well.
(A) unprepared speech
(B) sudden speech
(C) primary speech
(D) first speech
83. The detective went abroad in search of a culprit but his journey proved to be a wild goose chase.
(A) expensive
(B) full of difficulties
(C) unprofitable adventure
(D) ill advised
84. A close shave.
(A) A narrow escape from danger
(B) Stubble
(C) Very short hair
(D) Hairless skin
85. Please be as brief as you can, I have other fish to fry.
(A) to cook the food
(B) to take rest
(C) some important work to attend to
(D) to attend the friends

Directions : In Question Nos. 86 to 90, 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.

86. Only me I can solve the problem.
(A) Only me can
(B) Only I can
(C) I can only
(D) No improvement.
87. They congratulated me for my victory in the debate competition.
(A) about
(B) at
(C) on
(D) No improvement.
88. When the little girl losses her doll, she began to cry.
(A) losing her doll
(B) loss her doll
(C) lost her doll
(D) No improvement.
89. I brushed my teeth every day at 7 O'clock in the morning.
(A) I brushes my teeth every day at 7 O'clock in the morning.
(B) I brush my teeth every day at 7 O'clock in the morning.
(C) I brush my tooth every day at 7 O'clock in the morning.
(D) No improvement.
90. More than 60% of India's population live under the poverty line.
(A) live by the poverty line
(B) live below poverty line
(C) live beside the poverty line
(D) No improvement.

Directions : In Question Nos. 91 to 95, out of the four alternatives choose the one which can be substituted for the given words/sentence.

91. A book written by an unknown author
(A) Anonymous (B) Acrimonious
(C) Audacious (D) Assiduous
92. An event that causes great harm or dams
(A) Problem (B) Disaster
(C) Pain (D) Relief
93. Beyond Correction
(A) Inverterate (B) ~~Chb~~
(C) Incurrigible (D) Incongruous
94. Widespread scarcity of food
(A) Hunger (B) Drought
(C) Poverty (D) Famine
95. Inflammation of gums
(A) Gangerene (B) Gingivitis
(C) Conjunctivitis (D) ~~Orchitis~~

Directions : In Question Nos. 96 to 100, 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.

96. (A) fortuneate (B) fortuneit
(C) forchunate (D) fortunate
97. (A) misfourtnue
(B) ~~miscelaneous~~ *fortunate*
(C) misdemenour
(D) misspell
98. (A) nuisense (B) ~~nuisance~~
(C) nuissance (D) nuisance
99. (A) saimultaneous
(B) simultaenous
(C) simultaneous
(D) ~~simultanious~~
100. (A) honourarium
(B) honorarium
(C) ~~honourerium~~
(D) honourrarium

Part - III
QUANTITATIVE APTITUDE

101. In a ΔABC , if $2\angle A = 3\angle B = 6\angle C$, value of $\angle B$ is

- (A) 60° (B) 30° (C) 45° (D) 90°

102. If $\sec \theta + \tan \theta = 4$, ($\theta \neq 90^\circ$), then the value of $\cos \theta$ is

- (A) 0 (B) $\frac{8}{17}$ (C) $\frac{17}{8}$ (D) $\frac{4}{5}$

103. Two circles touches externally at P. QR is a common tangent of the circles touching the circles at Q and R. Then measure of $\angle QPR$ is

- (A) 60° (B) 30° (C) 90° (D) 45°

104. If in a triangle ABC, D & E are on the sides AB and AC, such that, DE is parallel to BC and $\frac{AD}{BD} = \frac{3}{5}$

If AC = 4 cm, then AE is

- (A) 1.5 cm (B) 2.0 cm
(C) 1.8 cm (D) 2.4 cm

105. If $x = 997$, $y = 998$ and $z = 999$, then the value of $x^2 + y^2 + z^2 - xy - yz - zx$ is

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

106. If $2\left(x^2 + \frac{1}{x^2}\right) - \left(x - \frac{1}{x}\right) - 7 = 0$, then two values of x are

- (A) 1, 2 (B) $2, -\frac{1}{2}$

- (C) 0, 1 (D) $\frac{1}{2}, 1$

107. In a ΔABC , $\angle A + \angle B = 70^\circ$ and $\angle B + \angle C = 130^\circ$, value of $\angle A$ is

- (A) 20° (B) 50°

- (C) 110° (D) 30°

108. If $\sqrt{.05 \times .5 \times a} = .5 \times .05 \times \sqrt{b}$, then $\frac{a}{b}$ is equal to

- (A) .0025 (B) .025
(C) .25 (D) .00025

109. If X is 20% less than Y, then find

$$\frac{Y-X}{Y} \cdot \frac{X}{X-Y}$$

- (A) $\frac{1}{5}, -4$ (B) $5, -\frac{1}{4}$

- (C) $\frac{2}{5}, -\frac{5}{2}$ (D) $\frac{3}{5}, -\frac{5}{3}$

110. A person has three iron bars whose lengths are 10, 15 and 20 metres respectively. He wants to cut pieces of same length from each of the three bars. What is the least number of total pieces if he is to cut without any wastage?

- (A) 45 (B) 15 (C) 9 (D) 30

111. The 12th term of the series

$$\frac{1}{x} + \frac{x+1}{x} + \frac{2x+1}{x} + \dots$$

- (A) $\frac{11x+1}{x}$ (B) $\frac{12x+1}{x}$

- (C) $\frac{x+12}{x}$ (D) $\frac{x+11}{x}$

112. The value of $\frac{4 - \sqrt{0.04}}{4 + \sqrt{0.4}}$ is close to

- (A) 0.4 (B) 0.8 (C) 1.0 (D) 1.4

SPACE FOR ROUGH WORK

113. An elephant of length 4 m is at one corner of a rectangular cage of size (16 m × 30 m) and faces towards the diagonally opposite corner. If the elephant starts moving towards the diagonally opposite corner it takes 15 seconds to reach this corner. Find the speed of the elephant.

- (A) 1 m/sec (B) 2 m/sec
(C) 1.87 m/sec (D) 1.5 m/sec

114. A shopkeeper allows a rebate 12% on the marked price of an article such that the selling price is ₹ 440. Then the marked price of the article is

- (A) ₹ 490 (B) ₹ 500
(C) ₹ 600 (D) ₹ 550

115. 40 men can complete a work in 18 days. Eight days after they started working together, 10 more men joined them. How many days will they now take to complete the remaining work?

- (A) 6 (B) 8 (C) 10 (D) 12

116. 16 women take 12 days to complete a work which can be completed by 12 men in 8 days. 16 men started working and after 3 days 10 men left and 4 women joined them. How many days will it take them to complete the remaining work?

- (A) 4 (B) 6 (C) 8 (D) 10

117. The area of an equilateral triangle is 48 sq. cm. The length of the side is

- (A) $\sqrt{8} \times 4$ cm (B) $4\sqrt{3}$ cm
(C) 8 cm (D) 16 cm

118. A cricketer whose bowling average is 12.4 runs per wicket, takes 5 wickets for 26 runs and thereby decreases his average by 0.4. The number of wickets taken by him till the last match was

- (A) 64 (B) 72 (C) 80 (D) 85

119. The average monthly income of P and Q is ₹ 5,050. The average monthly income of Q and R is ₹ 6,250 and the average monthly income of P and R is ₹ 5,200. The monthly income of P is

- (A) ₹ 3,500 (B) ₹ 4,000
(C) ₹ 4,050 (D) ₹ 5,000

120. Mr. Y purchased a flat for ₹ 9,25,000 and spent ₹ 35,000 for its renovation. If he sold the flat for ₹ 10,80,000, then his profit percent is

- (A) 15.0 (B) 17.5
(C) 20.0 (D) 12.5

121. A tradesman marks his goods at 25 p.c. above the cost price. If he reduces the marked price by $12\frac{1}{2}$ p.c., then his profit will be

- (A) $9\frac{3}{8}$ p.c. (B) $7\frac{3}{5}$ p.c.
(C) $6\frac{3}{8}$ p.c. (D) $5\frac{1}{3}$ p.c.

122. If $A : B = 7 : 9$ and $B : C = 3 : 5$, then $A : B : C$ is equal to

- (A) 7 : 9 : 5 (B) 21 : 35 : 45
(C) 7 : 9 : 15 (D) 7 : 3 : 15

123. Three numbers are in the ratio 1 : 2 : 3 and their H.C.F. is 12. The numbers are

- (A) 4, 8, 12 (B) 5, 10, 15
(C) 10, 20, 30 (D) 12, 24, 36

SPACE FOR ROUGH WORK

124. A motorist travels along the boundary of a square field of area 1476225 m^2 , at 36 km/hr . He returns to starting point in
 (A) 8 min, 8 sec ~~(B) 6 min, 8 sec~~
 (C) 8 min, 6 sec (D) 6 min, 6 sec
125. A sum of ₹ 800 amounts to ₹ 920 in 3 years at the simple interest rate. If the rate is increased by 3% p.a., what will be the sum amount to in the same period?
 (A) ₹ 992 ~~(B) ₹ 962~~
 (C) ₹ 942 (D) ₹ 982
126. Each edge of a regular tetrahedron is 4 cm. Its volume (in cubic cm) is
 (A) $\frac{16\sqrt{3}}{3}$ (B) $16\sqrt{3}$
 (C) $\frac{16\sqrt{2}}{3}$ ~~(D) $16\sqrt{2}$~~
127. A table is sold at a profit of 13%. If it is sold for ₹ 25 more, profit is 18%. Cost price of table is
 (A) ₹ 100 (B) ₹ 500 25
 (C) ₹ 200 (D) ₹ 1,000 20
128. In an examination, 19% students fail in Mathematics and 10% students fail in English. If 7% of all students fail in both subjects, then the number of students passed in both subjects is
~~(A) 36% of all students~~
 (B) 64% of all students
 (C) 71% of all students
~~(D) 78% of all students~~
129. Mr. X spends 35% of his salary on food and 5% of his salary on children education. In January 2011, he spent ₹ 17,600 on these two items. His salary for that month is
 (A) ₹ 40,000 ~~(B) ₹ 44,000~~
 (C) ₹ 48,000 (D) ₹ 46,000
130. If the radius of a cylinder is decreased by 50% and the height is increased by 50%, then the change in volume is
 (A) 52.5% (B) 67.5%
 (C) 57.5% (D) 62.5%
131. The simplified value of $\frac{3\sqrt{2}}{\sqrt{3} + \sqrt{6}} - \frac{4\sqrt{3}}{\sqrt{6} + \sqrt{2}} + \frac{\sqrt{6}}{\sqrt{3} + \sqrt{2}}$ is
 (A) $\sqrt{2}$ (B) $\frac{1}{\sqrt{2}}$
 (C) $\sqrt{3} - \sqrt{2}$ ~~(D) 0~~
132. If $\left(a + \frac{1}{a}\right)^2 = 3$, then the value of $a^3 + \frac{1}{a^3}$ is
 (A) 0 ~~(B) 1~~ (C) 2 (D) 6
133. If $a + \frac{1}{a} = \sqrt{3}$, then the value of $a^{18} + a^{12} + a^6 + 1$ is
 (A) 0 ~~(B) 1~~ (C) -1 (D) 4
134. If the numerical value of the circumference and area of a circle is same, then the area is
 (A) 6π sq. unit ~~(B) 4π sq. unit~~
 (C) 8π sq. unit (D) 12π sq. unit
135. The median of an equilateral triangle is $6\sqrt{3}$ cm. The area (in cm^2) of the triangle is
 (A) 72 (B) 108
~~(C) $72\sqrt{3}$~~ (D) $36\sqrt{3}$
136. If the perimeter of an equilateral triangle be 18 cm, then the length of each median is
 (A) $3\sqrt{2}$ cm (B) $2\sqrt{3}$ cm
~~(C) $3\sqrt{3}$ cm~~ (D) $2\sqrt{2}$ cm

SPACE FOR ROUGH WORK

137. The angle of elevation of sun changes from 30° to 45° , the length of the shadow of a pole decreases by 4 metres, the height of the pole is

(Assume $\sqrt{3} = 1.732$)

- (A) 1.464 m (B) 9.464 m
(C) 3.648 m (D) 5.464 m
138. From an aeroplane just over a river, the angle of depression of two palm tree on the opposite bank of the river are found to be 60° and 30° respectively. If the breadth of the river is 400 metres, then the height of the aeroplane above the river at that instant is

(Assume $\sqrt{3} = 1.732$)

- (A) 173.2 metres
(B) 346.4 metres
(C) 519.6 metres
(D) 692.8 metres
139. If θ is a positive acute angle and $\operatorname{cosec} \theta = \sqrt{3}$, then the value of $\cot \theta - \operatorname{cosec} \theta$ is

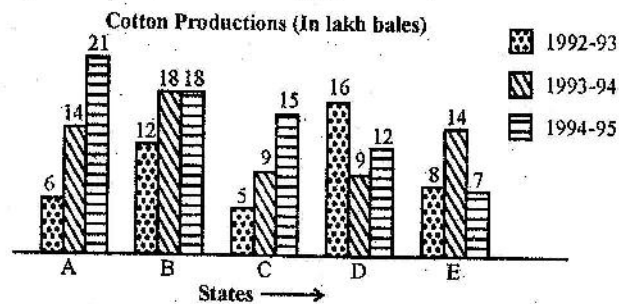
- (A) $\frac{3\sqrt{2}-\sqrt{3}}{3}$ (B) $\frac{\sqrt{2}(3+\sqrt{3})}{3}$
(C) $\frac{\sqrt{2}(3-\sqrt{3})}{3}$ (D) $\frac{3\sqrt{2}+\sqrt{3}}{3}$

140. If $0^\circ < A < 90^\circ$, then the value of $\tan^2 A + \cot^2 A - \sec^2 A \operatorname{cosec}^2 A$ is
(A) 0 (B) 1 (C) 2 (D) -2

141. If α and β are positive acute angles, $\sin(4\alpha - \beta) = 1$ and $\cos(2\alpha + \beta) = \frac{1}{2}$, then the value of $\sin(\alpha + 2\beta)$ is

- (A) 0 (B) 1 (C) $\frac{\sqrt{3}}{2}$ (D) $\frac{1}{\sqrt{2}}$

Study the graph carefully and answer the questions (142 to 145) given below it.



142. The production of state D in 1993-94 is how many times its production in 1994-95?

- (A) 1.33 (B) 0.75
(C) 0.56 (D) 1.77

143. Which of the following statement is false?

- (A) State A and E showed the same production in 1993-94.
(B) There was no improvement in the production of cotton in state B during 1994-95.
(C) State A has produced maximum cotton during the given period.
(D) Production of state C and D together is equal to that of state B during 1993-94.

144. How many states showing below average production in 1992-93 showed above average production in 1993-94?

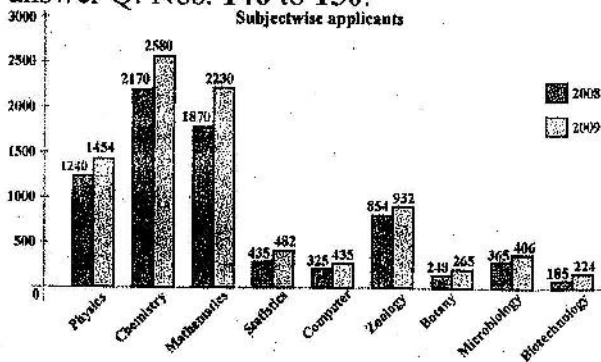
- (A) 4 (B) 2 (C) 3 (D) 1

145. What is the average production of the four states in the year 1994-95 taken together?

- (A) 12.3 (B) 14.6
(C) 15.6 (D) 16.3

SPACE FOR ROUGH WORK

The subjectwise no. of applicants for the year 2008 and 2009 in a college is given in the following chart. Study the graph and answer Q. Nos. 146 to 150.



146. The subject for which growing of demand is maximum is
 (A) Chemistry (B) Mathematics
 (C) Computer (D) Biotechnology
147. The subject for which growing of demand is minimum is
 (A) Statistics (B) Zoology
 (C) Botany (D) Microbiology
148. The number of Chemistry seeking applicants increased by
 (A) 17.26% (B) 18.89%
 (C) 19.25% (D) 21.08%
149. The number of Physics seeking applicants increased by
 (A) 17.26% (B) 18.89%
 (C) 19.25% (D) 21.08%
150. The number of Mathematics seeking applicants increased by
 (A) 17.26% (B) 18.89%
 (C) 19.25% (D) 21.08%

FOR VISUALLY HANDICAPPED CANDIDATES ONLY

142. 70 cattle can graze a piece of land for 28 days. How many cattle can graze a field three times as large in 70 days?
 (A) 168 (B) 84 (C) 64 (D) 252
143. Five years ago, the ratio of A's age and B's age was 5 : 6. The ratio of their ages will be 7 : 8 after five years. The ratio of their present age is
 (A) 6 : 7 (B) 4 : 3 (C) 7 : 6 (D) 3 : 4

144. If 10% of $x = 20\%$ of y , then $x : y$ is equal to
 (A) 1 : 2 (B) 3 : 1 (C) 2 : 1 (D) 1 : 4
145. A farmer borrowed ₹ 2,400 at 12% interest per annum. At the end of $2\frac{1}{2}$ years he cleared his account by paying ₹ 1,200 and a cow. Then the cost of cow is ₹
 (A) 720 (B) 3120 (C) 1920 (D) 2120
146. When the Sun's altitude increases from 45° to 60° , the shadow of the vertical post is diminished by 6 metres. The height (in metres) of the post is
 (Take $\sqrt{3} = 1.732$)
 (A) 7.608 (B) 9.464
 (C) 14.196 (D) 28.392
147. The value of $1 + \frac{\sin^2 27^\circ}{\sin^2 63^\circ} - \frac{\cos^2 63^\circ}{\cos^2 27^\circ}$ is
 (A) $\frac{3}{2}$ (B) $\frac{1}{2}$ (C) 1 (D) 0
148. If $a^2 + b^2 + c^2 - ab - bc - ca = 0$, then a relation between a , b and c is
 (A) $a + b = c$ (B) $a + b + c = 0$
 (C) $b + c = a$ (D) $a = b = c$
149. If 10% of $x = 15\%$ of $y = 20\%$ of z , then $x : y : z$ is
 (A) 2 : 3 : 4 (B) 3 : 4 : 6
 (C) 6 : 4 : 3 (D) 4 : 3 : 2
150. A road which is 7 metre wide surrounds a circular park whose circumference is 352 metre. The area of the road in square metre is
 (taking $\pi = \frac{22}{7}$)
 (A) 2518 (B) 2581
 (C) 2618 (D) 2681

SPACE FOR ROUGH WORK

Part - IV
GENERAL AWARENESS

151. Winner of the Indira Gandhi Peace Prize 2013
(A) Ela Bhatt
(B) Angela Merkel
(C) Lydia Davis
(D) Christina Legarde
152. Pandit Shiv Kumar Sharma is an exponent of
(A) Mandolin (B) Santoor
(C) Sitar (D) Veena
153. Moortidevi Award is given annually in which of the following fields?
(A) Literature (B) Films
(C) Journalism (D) Music
154. Nobel Prizes are distributed annually at
(A) Manila (B) Stockholm
(C) Geneva (D) New York
155. 'Freedom From Fear' is a book written by
(A) Benazir Bhutto
(B) Corazon Aquino
(C) Aung San Suu Kyi
(D) Nayantara Sehgal
156. Who is the author of the book 'Nineteen Eighty Four' ?
(A) J.M. Barrie (B) Walter Scott
(C) George Orwell (D) Thomas Hardy
157. The 28th Annual Lata Mangeshkar Samman Alankaran 2013 was conferred to
(A) Sonu Nigam (B) Kailash Kher
(C) Hariharan (D) A.R. Rahman
158. The Jawaharlal Nehru Port is located at
(A) Paradip (B) Cochin
(C) Mumbai (D) Kolkata
159. How many islands are there in Lakshadweep ?
(A) 17 (B) 27
(C) 36 (D) 47
160. Tagore Award for Cultural Harmony 2013 has been given to
(A) Zubin Mehta
(B) Narendra Kohli
(C) Shalini Singh
(D) Arvind Aadiga
161. The theory of "Maximum Social Advantage" in Public Finance was given by
(A) Robbins (B) Musgrave
(C) Findley (D) Dalton
162. The value of investment multiplier relates to
(A) change in income due to change in autonomous investment.
(B) change in autonomous investment due to change in income.
(C) change in income due to change in consumption.
(D) change in the income due to change in induced investment.
163. The internal rate of return
(A) must be less than the interest rate if the firm is to invest.
(B) makes the present value of profits equal to the present value of costs.
(C) falls as the annual yield of an investment rises.
(D) is equal to the market interest rate for all the firm's investment.
164. As the number of investments made by a firm increases, its internal rate of return
(A) declines due to diminishing marginal productivity.
(B) declines because the market rate of interest will fall, ceteris paribus.
(C) increases to compensate the firm for the current consumption foregone.
(D) increases because the level of savings will fall.
165. Capacity utilisation
(A) is usually near 100 percent.
(B) represents the percent of the labour force that is employed.
(C) is a measure of the proportional of the existing capital stock used for current production.
(D) rises as the economy moves into a recession, since firms must replace unemployed workers with some other resources to maintain production.

166. How many times was the Preamble of the Constitution amended ?
(A) Three times (B) Two times
(C) Once (D) Not amended

167. An ordinance issued by Governor is subject to approval by
(A) The President
(B) The State Legislature
(C) The State Council of Ministers
(D) The Parliament

168. Which rebellion in Bengal was highlighted by Bankim Chandra Chatterjee in his novel 'Anand Math' ?
(A) Chaur Uprising
(B) Sanyasi Rebellion
(C) Kol Uprising
(D) Santhal Uprising

169. Name the Greek Ambassador at the Mauryan Court.
(A) Alexander (B) Megasthenes
(C) Plato (D) Aristotle

170. When the rule of the Delhi Sultan began ?
(A) 1106 A.D. (B) 1206 A.D.
(C) 1306 A.D. (D) 1406 A.D.

171. Who introduced leather token currency in India ?
(A) Akbar
(B) Mohammad-Bin-Tughlaq
(C) Babur
(D) Humayun

172. When did the Constituent Assembly adopt National Anthem ?
(A) 25th January 1950
(B) 26th January 1950
(C) 24th January 1950
(D) 29th January 1950

173. The President of India is an integral part of the
(A) The Parliament
(B) The Lok Sabha
(C) Rajya Sabha
(D) Council of Ministers

174. Union Public Service Commission has to submit the report to the
(A) President (B) Parliament
(C) Lok Sabha (D) Rajya Sabha

175. The area which is resistant to any massive structural transformation is called
(A) rigid mass
(B) ancient landmass
(C) tectonic plate
(D) shield

176. Llanos are the grasslands of
(A) Guyana Highlands
(B) Brazilian Highlands
(C) Argentina
(D) Chile

177. The areas marked by internal drainage
(A) Plateau (B) Plains
(C) Deserts (D) Mountains

178. The space retaining life in any form is called
(A) Biomass (B) Biosphere
(C) Lithosphere (D) Hydrosphere

179. Rhizobium is a kind of
(A) Photosynthetic bacteria
(B) Symbiotic bacteria
(C) Parasitic bacteria
(D) Saprophytic bacteria

180. Who was the contemporary South Indian ruler of Harshavardhana ?
(A) Krishnadevaraya
(B) Pulakeshin II
(C) Mayuravarma
(D) Chikkadevaraja Wodeyar

181. Nappe is a kind of
(A) fluvial feature (B) folded structure
(C) erosional plain (D) delta region

182. The Panama Canal is different from the Suez Canal as it has
(A) Lock system
(B) Shorter route
(C) Busy route
(D) Less busy route

183. The best example of Polyembryony is
 (A) Cocoa (B) Capsicum
 (C) Citrus (D) Cycas
184. A moving neutron collides with a stationary α -particle. The fraction of the kinetic energy lost by the neutron is
 (A) $\frac{1}{4}$ (B) $\frac{1}{16}$
 (C) $\frac{9}{25}$ (D) $\frac{16}{25}$
185. Which of these waves can be polarized?
 (A) Sound waves in air
 (B) Longitudinal waves on a string
 (C) Transverse waves on a string
 (D) Light waves
186. The unit of Planck's constant is
 (A) Js (B) $J s^{-2}$
 (C) J/s (D) $J s^2$
187. If a wire of resistance R is melted and recast to half of its length, then the new resistance of the wire will be
 (A) R/4 (B) R/2
 (C) R (D) 2R
188. Hard copies can be obtained from
 (A) Scanner (B) Speaker
 (C) Printer (D) Recorder
189. A Parenchyma cell which stores ergastic substance is known as
 (A) Phragmoblast (B) Idioblast
 (C) Conidioplast (D) Chloroplast
190. Root Hairs arise from
 (A) Cortex (B) Pericycle
 (C) Epidermis (D) Endodermis
191. The gametophyte is called prothallus in
 (A) Pteridophyta (B) Bryophyta
 (C) Spermatophyta (D) Thallophyta
192. A non-electronic conductor is
 (A) Iron
 (B) Gas Carbon
 (C) Copper Sulphate
 (D) Mercury
193. Which of the following will replace hydrogen from acids to form salts?
 (A) S (B) Na
 (C) Ag (D) P
194. Which type of lake is formed by volcanic activities?
 (A) Lagoon
 (B) Fresh water lake
 (C) Cladera lake
 (D) Karst lake
195. Green manure is obtained from
 (A) Domestic vegetable waste
 (B) Oil seed husk cakes
 (C) Fresh animal excreta
 (D) Decomposing green legume plants
196. The environment includes
 (A) Abiotic factors
 (B) Biotic factors
 (C) Oxygen and Nitrogen
 (D) Abiotic and Biotic factors
197. The temperate grasslands of North America are known as
 (A) Pampas (B) Downs
 (C) Steppes (D) Prairies
198. In an E-R diagram, ellipse represents
 (A) relation (B) entity
 (C) fields (D) key
199. Chemical name of common salt is
 (A) Sodium Chloride
 (B) Sodium Bicarbonate
 (C) Sodium
 (D) Sodium Oxide
200. Which one of the following mineral does not contain oxygen?
 (A) Haematite (B) Bauxite
 (C) Cryolite (D) Calcite