

Section-1 (Analytical Ability & Logical Reasoning)

Direction(1 to 4) : Read the following information to answer the given question:

On a shelf are placed six volumes side by side labelled A, B, C, D, E and F. Three volumes B, C and E have green covers while the other volumes have yellow covers. A, D and B are new volumes while the rest are old volumes. A, C and B are law reports, while the rest are Gazetteers.

- Which volume is new, yellow-covered and a Gazetteer?
(a) B (b) D (c) C (d) F
- Which is green-covered, old and a law report volume?
(a) A (b) B (c) C (d) D
- Which is the yellow-covered new law report volume?
(a) A (b) C (c) E (d) D
- Which of the following is the old volume of a Gazetteer?
(a) C (b) D (c) E (d) B

Directions (5-9) : In the following questions, the symbols \$, ©, @, ¥ and Φ are used as illustrated below :

'P \$ Q' means 'P is neither greater than nor smaller than Q'

'P © Q' means 'P is neither smaller than nor equal to Q'

'P @ Q' means 'P is neither greater than nor equal to Q'

'T ¥ Q' means 'P is not greater than Q'.

'P Φ Q' means 'P is not smaller than Q'.

Now in each of the following questions assuming the given statements to be true, find which of the two conclusions I and II given below them is/are definitely true ?

Give answer (a) if only Conclusion I is true.

Give answer (b) if only Conclusion II is true.

Give answer (c) if either Conclusion I or II is true.

Give answer (d) if neither Conclusion I nor II is true.

- Statements
A © B, B Φ C, Q \$ A
Conclusions
I. Q Φ C
II. A \$ C
(a) (b) (c) (d)
- Statements
A ¥ B, P ¥ B, C ¥ P
Conclusions

- C @ B
- B © A
(a) (b) (c) (d)

7. Statements

A Φ D, C @ B, D @ B

Conclusions

- D \$ C
- B © A
(a) (b) (c) (d)

8. Statements

A @ B, B © C, D @ C

Conclusions

- A \$ C
- B © D
(a) (b) (c) (d)

9. Statements

A Φ C, B \$ A, D ¥ C

Conclusions

- B © D
- B \$ D
(a) (b) (c) (d)

10. A is 40m South-west of B, C is 40m South-East of B then, C is in which direction of A

- South
- West
- East
- North-East

Directions (11-12) : Following questions have 2 statements followed by 2 conclusions. Disregarding any commonly known fact, taking only statements as complete true, mark your answer as :

- If conclusion I follows
- If conclusion II follows
- If neither I nor II follows/either I or II follows
- If both follow

11. Statements :

- All humans are bad.
 - All the terrorists are humans.
- Conclusions :
- All terrorists are bad.
 - No human can be terrorist.

12. Statements :

- Some oranges are papayas.
- All apples are oranges.

Conclusions :

I. Some apples are papayas.

II. Some papayas are apples.

13. If ENGLAND is written as 1234526 and FRANCE is written as 785291, how is GREECE coded ?
(a) 381171 (b) 381191 (c) 832252 (d) 835545

Directions (14-16) : A is R's daughter S is R's sister. S's daughter is called C and son is called D. L is C's maternal Aunt.

14. A is L's
(a) Aunt (b) Nephew (c) Uncle (d) None
15. C is R's
(a) Nephew (b) Niece (c) Uncle (d) None
16. D is L's
(a) Niece (b) Aunt (c) Nephew (d) None
17. Vimal was born on 9th June 1975. The day on his birthday was :
(a) Monday (b) Tuesday (c) Wednesday (d) Friday
18. In the following number series, a wrong number is given find out that number
3, 10, 19, 30, 42, 58, 75
(a) 10 (b) 42 (c) 58 (d) 19
19. The average of four consecutive even numbers is 7. Which of the following is the first number ?
(a) 2 (b) 6 (c) 4 (d) None
20. The difference between the sum of two numbers and their product is 20. What is the difference between these two numbers ?
(a) 10 (b) 15
(c) 30 (d) data inadequate
21. A train running at the speed of 180 km/hr crosses a pole in one minute. What is the length of the train ?
(a) 50 m (b) 500 m (c) 3 m (d) None
22. Four years ago, the father's age was three times the age of his son. The total of the ages of the father and the son after four years will be 64 years. What is father's age at present ?
(a) 44 years (b) 36 years (c) 32 years (d) None
23. At 2 : 15 o'clock, the hour and minute hands of a clock form an angle at :
(a) 30° (b) 5° (c) $22\frac{1}{2}^\circ$ (d) $7\frac{1}{2}^\circ$
24. A total of 28 handshakes was exchanged at the conclusion of a party. Assuming that each participant was equally polite toward all the others the number of people present was :
(a) 14 (b) 28 (c) 56 (d) 8

Direction for Questions 25 to 29

Read the following information carefully and answer the questions that follow :

- (i) P, Q, R, S, T and U are six students procuring their Master's degree in six different subjects — English, History, Philosophy, Physics, Statistics and Mathematics .
- (ii) Two of them stay in hostel, two stay as paying guest (PG) and the remaining two stay at their home.
- (iii) R does not stay as PG and studies Philosophy.
- (iv) The students studying Statistics and History do not stay as PG.
- (v) T studies Mathematics and S studies Physics.
- (vi) U and S stay in hostel. T stays as PG and Q stays at home.
25. Who studies English ?
(a) R (b) S (c) T (d) None
26. Which of the following combinations of subject and place of stay is not correct ?
(a) English — Hostel (b) Mathematics — PG
(c) Philosophy — Home (d) Physics — Hostel
27. Which of the following pairs of students stay one each at hostel and at home ?
(a) QR (b) SR
(c) US (d) Data inadequate
28. Which subject does Q study ?
(a) History (b) Statistics
(c) History or Statistics (d) Data inadequate
29. Which of the following pairs of students stay at home ?
(a) PQ (b) QR (c) RS (d) ST

Directions (Q.30 and 31) :

A group of seven singers, facing the audience, are standing in a line on the stage as follows :

- (i) D is to the right of C
- (ii) F is near
- (iii) B is to the left of F
- (iv) E is to the left of A
- (v) C and B have one person between them
- (vi) A and D have one singer between them
30. Who is on the extreme right ?
(a) D (b) F (c) G (d) E
31. If we start counting from the left, on which number is C ?
(a) 1st (b) 2nd (c) 3rd (d) 5th
32. In a certain code language, '851' means 'good sweet fruit'; '783' means 'good red rose' and '341' means 'rose and fruit'. Which of the following digits stands for 'sweet' in that language ?
(a) 8 (b) 5 (c) 1 (d) 3
33. Pointing towards a person in a photograph, Anjali said, "He is the only son of the father of my sister's brother". How is that person related to Anjali ?
(a) Mother (b) Father
(c) Maternal uncle (d) None of these

Directions (Q.34 to 38) : Read the following information to answer the given question :

- (i) Five friends P, Q, R, S and T travelled to five different cities of Chennai, Calcutta, Delhi, Bangalore and Hyderabad by the different modes of transport of Bus, Train, Aeroplane, Car and Boat from Mumbai.
- (ii) The person who travelled to Delhi did not travel by boat.
- (iii) R went to Bangalore by car and Q went to Calcutta by aeroplane.
- (iv) S travelled by boat where as T travelled by train.
- (v) Mumbai is not connected by bus to Delhi and Chennai.

34. Which of the following combination of person and mode is not correct?
 (a) P-Bus (b) Q-Aeroplane
 (c) R-Car (d) T-Aeroplane
35. Which of the following combinations is true for S ?
 (a) Delhi - Bus (b) Chennai - Bus
 (c) Chennai - Boat (d) Chennai - Train
36. Which of the following combinations of place and mode is not correct ?
 (a) Delhi - Bus (b) Chennai - Aeroplane
 (c) Bangalore - Car (d) Chennai - Boat
37. The person travelling to Delhi went by which of the following modes ?
 (a) Bus (b) Train (c) Aeroplane (d) Car
38. Who among the following travelled to Delhi ?
 (a) R (b) S (c) T (d) none

Directions (Q.39 to 40) :

Find out that number which will come next in the series:

39. 2, 5, 9, 10, 13, 17, 18, 21, 25, 26, ?
 (a) 27 (b) 28 (c) 29 (d) 30
40. 3, 2, 6, 8, 18, 40, 72, 240 ?
 (a) 360 (b) 320 (c) 440 (d) 432

Section-2 (Computer)

41. UPS stands for
 (a) Undefined phlying suspect
 (b) Uniform Power Supply
 (c) Uninterrupted Power System
 (d) Universal Power Source
42. The digital computer was developed primarily in
 (a) USSR (b) Japan
 (c) USA (d) UK
43. A hexadecimal number system has a base of
 (a) 2 (b) 4 (c) 8 (d) 16
44. If input values in 'AND' gate are 0 and 1 then output is :
 (a) 0 (b) 1 (c) 0 or 1 (d) can't say
45. The fastest memory among the following is
 (a) main memory (b) cache memory
 (c) auxiliary memory (d) None of these
46. RAM is
 (a) Random access (b) Volatile
 (c) Sequential access (d) a and b both
47. Conversion of an octal number 7432_8 to its binary number equivalent is :
 (a) 1111000110111_2 (b) 111100011010_2
 (c) 110011010111_2 (d) None of these
48. Conversion of a hexadecimal number 31_{16} to its binary number equivalent is :
 (a) 101010_2 (b) 110101_2
 (c) 110001_2 (d) 100101_2
49. Conversion of a binary number 1100011_2 to hexadecimal number is :
 (a) 63_{16} (b) 57_{16} (c) 47_{16} (d) 40_{16}
50. Conversion of a hexadecimal number $93FA_{16}$ to its binary number equivalent is :
 (a) 1001001111111010_2
 (b) 10010011111110111_2
 (c) 110011111110011_2
 (d) 111110000111_2

Section - 3 (Mathematics)

51. Period of $|2\sin 3\theta + 4\cos 3\theta|$ is
(a) $2\pi/3$ (b) $\pi/4$ (c) $\pi/2$ (d) $\pi/3$
52. In a $\triangle ABC$, If $c^2 + a^2 - b^2 = ac$, then $\angle B =$
(a) $\pi/6$ (b) $\pi/4$ (c) $\pi/3$ (d) None
53. If a system of linear equations
 $x + ay + a^2z = 0, \quad x + by + b^2z = 0,$
 $x + cy + c^2z$ has a non zero solution, then
(a) $a + b + c = 0$ (b) either $a = b$ or $b = c$ or $a = c$
(c) a, b, c are in A.P. (d) none of these
54. The expression $\frac{\cos 6x + 6 \cos 4x + 15 \cos 2x + 10}{\cos 5x + 5 \cos 3x + 10 \cos x}$ is equal to
(a) $\cos 2x$ (b) $2 \cos x$ (c) $\cos^2 x$ (d) $1 + \cos x$
55. The circumcenter of the triangle formed by the lines $xy + 2x + 2y + 2 = 0$ and $x + y + 2 = 0$ is
(a) $(0, 0)$ (b) $(-2, -2)$ (c) $(-1, -1)$ (d) none
56. $\lim_{x \rightarrow 0} \frac{\log(2+x^2) - \log(2-x^2)}{x^2} = k$, the value of k is
(a) -1 (b) 2 (c) 1 (d) 0
57. If the distance between the foci of an ellipse be equal to its minor axis, then its eccentricity is
(a) $1/2$ (b) $1/\sqrt{2}$ (c) $1/3$ (d) $1/\sqrt{3}$
58. The sum of the series
 $\frac{3}{1^2 \cdot 2^2} + \frac{5}{2^2 \cdot 3^2} + \frac{7}{3^2 \cdot 4^2} + \dots + \infty$ is equal to :
(a) 1 (b) 0 (c) -1 (d) 2
59. $f(x) = \begin{cases} \frac{\sin(a+1)x + \sin x}{x} & \text{for } x < 0 \\ c & \text{for } x = 0 \\ \frac{(x+bx^2)^{1/2} - x^{1/2}}{bx^{3/2}} & \text{for } x > 0 \end{cases}$
is continuous at $x = 0$ then $a =$
(a) $3/2$ (b) $-3/2$ (c) $1/4$ (d) $-1/4$
60. If $a = 4\hat{i} + 6\hat{j}$ and $b = 3\hat{j} + 4\hat{k}$, then the components of a along b is

- (a) $\frac{18}{10\sqrt{3}}(3j+4k)$ (b) $\frac{18}{25}(3j+4k)$
(c) $\frac{18}{\sqrt{3}}(3j+4k)$ (d) $3j+4k$
61. In a triangle PQR, $2pq \sin(1/2(P+Q-R)) =$
(a) $p^2 + q^2 - r^2$ (b) $r^2 + p^2 - q^2$
(c) $q^2 - r^2 - p^2$ (d) $r^2 - p^2 - q^2$
62. The value of $\int_0^{[x]} \{t\} dt$ is (where $[]$ - greatest integer, $\{ \}$ - fractional part)
(a) $[x]$ (b) $2[x]$ (c) $1/(2[x])$ (d) $[x]/2$
63. Let $\frac{d}{dx} F(x) = e^x$. If $\int_{f/4}^{f/3} \sec^2 x e^{\tan x} dx = F(k) - F(1)$ then value of k is :
(a) $1/\sqrt{3}$ (b) $\sqrt{3}$ (c) $-\sqrt{3}$ (d) $-1/\sqrt{3}$
64. Let $A = \begin{bmatrix} 1 & 2 \\ 0 & 1 \end{bmatrix}$, then $A^n =$
(a) $\begin{bmatrix} 1 & 2n \\ 0 & 1 \end{bmatrix}$ (b) $\begin{bmatrix} 2 & n \\ 0 & 1 \end{bmatrix}$ (c) $\begin{bmatrix} 1 & 2^n \\ 0 & 1 \end{bmatrix}$ (d) $\begin{bmatrix} 1 & n \\ 0 & 2 \end{bmatrix}$
65. If $y = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots + \frac{x^n}{n!}$, then $\frac{dy}{dx} =$
(a) y (b) $y + \frac{x^n}{n!}$ (c) $y - \frac{x^n}{n!}$ (d) $y - 1 - \frac{x^n}{n!}$
66. The vector \vec{c} directed along the bisectors of the angle between the vectors $\vec{a} = 7\hat{i} - 4\hat{j} - 4\hat{k}$ and $\vec{b} = -2\hat{i} - \hat{j} + 2\hat{k}$, where $|\vec{c}| = 3\sqrt{6}$ is given by
(a) $\hat{i} - 7\hat{j} + 2\hat{k}$ (b) $\hat{i} + 7\hat{j} - 2\hat{k}$
(c) $\hat{i} + 7\hat{j} + 2\hat{k}$ (d) $\hat{i} - 7\hat{j} - 2\hat{k}$

67. The area of a parallelogram whose diagonals coincide with the following pair of vectors is $5\sqrt{3}$. The vectors are

- (a) $3\hat{i} + 2\hat{j} - \hat{k}$, $3\hat{i} - \hat{j} + 4\hat{k}$
 (b) $\frac{3}{2}\hat{i} + \frac{1}{2}\hat{j} - \hat{k}$, $2\hat{i} - 6\hat{j} + 8\hat{k}$
 (c) $3\hat{i} + \hat{j} - 2\hat{k}$, $\hat{i} + 3\hat{j} + 4\hat{k}$
 (d) none of these

68. The area of the smaller region bounded by the curves $x^2 + y^2 = 5$ and $y^2 = 4x$ is :

- (a) $\frac{f}{4} + \frac{1}{6}$ (b) $\frac{f}{4} - \frac{1}{6}$
 (c) $2\left(\frac{1}{3} - \frac{5}{2}\sin^{-1}\frac{2}{\sqrt{5}}\right)$ (d) $2\left(\frac{1}{3} + \frac{5}{2}\sin^{-1}\frac{2}{\sqrt{5}}\right)$

69. Line $y = 2x + 2$ cuts the circle $x^2 + y^2 = 1$ in two distinct points. Equation of circle with these points as end of its diameter is :

- (a) $5x^2 + 5y^2 - 8x - 4y - 3 = 0$
 (b) $5x^2 + 5y^2 + 8x - 4y + 3 = 0$
 (c) $5x^2 + 5y^2 - 8x + 4y - 3 = 0$
 (d) $5x^2 + 5y^2 + 8x + 4y + 3 = 0$

70. The number of real solutions of the equation $x^2 + 5|x| + 6 = 0$ is :

- (a) 1 (b) 2 (c) 0 (d) none

71. If x is a positive real number then the minimum value of

$$x + \frac{1}{x} + \sqrt{3} \text{ is :}$$

- (a) $-2 + \sqrt{3}$ (b) $2 + \sqrt{3}$
 (c) $\sqrt{3}$ (d) 0

72. $\lim_{x \rightarrow 0} \frac{(1 - \cos 2x)(2 + \cos 2x)}{x \tan 3x}$

- (a) -1/2 (b) 2 (c) 0 (d) -1

73. The value of integral $\int \frac{x^2 - x + 2}{(x^2 + 1)^2} e^x dx$ is :

(a) $e^x \left(\frac{x+1}{x^2+1} \right) + C$ (b) $e^x \left(\frac{x-1}{x^2+1} \right) + C$

(c) $e^x \left(\frac{x^2+1}{x^2-1} \right) + C$ (d) $e^x \left(\frac{x+1}{x-1} \right) + C$

74. $\int_0^{f/2} \frac{\cos x}{1 + \cos x + \sin x} dx =$

- (a) $\frac{1}{4} + \frac{1}{2} \log 2$ (b) $\frac{1}{4} + \log 2$
 (c) $\frac{1}{4} - \frac{1}{2} \log 2$ (d) none of these

75. If $I_1 = \int_0^1 x e^{-x^2-3x} dx$, $I_2 = \int_0^1 e^{-x^2-3x} dx$, then

- (a) $3I_1 + 2I_2$ (b) $2I_1 + 3I_2$
 (c) $1 - e^{-4}$ (d) $3e^{-4} + 2$

76. If $y = 2x + 5$ and $4x + 5y + 1 = 0$ are perpendicular then axes are inclined at an angle :

- (a) $\pi/4$ (b) $\pi/3$ (c) $\pi/6$ (d) $\tan^{-1}(5/2)$

77. If $I = \int_0^{100\pi} \sqrt{1 - \cos 2x} dx$, then the value of I is

- (a) $100\sqrt{2}$ (b) $200\sqrt{2}$ (c) $50\sqrt{2}$ (d) None

78. If $F(x) = \int_{x^2}^{x^4} \sin \sqrt{t} dt$, then $F'(x)$ equals

- (a) $\sin x^2 - \sin x$ (b) $4x^3 \sin x^2 - 2x \sin x$
 (c) $x^4 \sin x^2 - x \sin x$ (d) None of these

79. The set of values of λ for which the real circles $x^2 + y^2 = \lambda^2$ and $x^2 + y^2 - 2\sqrt{2}x - 2\sqrt{2}y - \lambda = 0$ have exactly one common tangent, is :

- (a) $\{0, 5\}$ (b) $\{-3, 5\}$ (c) $\{-3, 0, 5\}$ (d) $\{-3\}$

80. A bag A contains 2 white and 3 red balls and bag B contains 4 white and 5 red balls. One ball is drawn at random from a randomly chosen bag and is found to be red. The probability that it was drawn from bag B was

- (a) $\frac{5}{14}$ (b) $\frac{5}{16}$ (c) $\frac{5}{18}$ (d) $\frac{25}{52}$

81. Urn A contains 6 red and 4 black balls and Urn B contains 4 red and 6 black balls. One ball is drawn at random from Urn A and placed in Urn B. Then one ball is drawn at random from Urn B and placed in Urn A. If one ball is now drawn at random from Urn A, the probability that it is found to be red, is
(a) $\frac{32}{55}$ (b) $\frac{21}{55}$ (c) $\frac{19}{55}$ (d) None
82. If the equations $ax^2 + bx + c = 0$ and $5x^2 + 12x + 13 = 0$ have a common root, where a, b and c are the sides of a triangle ABC, then :
(a) $\triangle ABC$ is acute angled
(b) $\triangle ABC$ is right angled
(c) $\triangle ABC$ is isosceles
(d) $\triangle ABC$ is right angled isosceles
83. The probability that a marksman will hit a target is given as $\frac{1}{5}$. Then his probability of at least one hit in 10 shots, is
(a) $1 - \left(\frac{4}{5}\right)^{10}$ (b) $\frac{1}{5^{10}}$ (c) $1 - \frac{1}{5^{10}}$ (d) None
84. The value of $\tan\left(\cos^{-1}\frac{4}{5} + \tan^{-1}\frac{2}{3}\right)$ is :
(a) $\frac{6}{17}$ (b) $\frac{7}{16}$ (c) $\frac{17}{6}$ (d) None
85. The number of solutions $\tan^{-1}\sqrt{x(x+1)} + \cos^{-1}\sqrt{x^2+x+1} = 0$ of :
(a) 0 (b) one (c) two (d) infinite
86. The condition on a, b, c for which the system
 $x + 2y - 3z = a$
 $3x - y + 2z = b$
 $x - 5y + 8z = c$
has a solution, is :
(a) $2a - b + c = 0$ (b) $b = c$
(c) $2a + c = 0$ (d) $b = 2a$
87. If $2\cos x + \sin x = 1$, then value of $7\cos x + 6\sin x$ is equal to :
(a) 2 or 6 (b) 1 or 3 (c) 2 or 3 (d) none
88. The system of equations $4x - 5y - 2z = 2$
 $5x - 4y + 2z = 3$ is
 $2x + 2y + 8z = 1$
(a) Consistent (Unique Solution)
(b) Inconsistent
(c) Consistent (Infinite Solution)
(d) None of these
89. The number of divisors of 9600 including 1 and 9600 are
(a) 60 (b) 58 (c) 48 (d) 46
90. If $\frac{\pi}{4} < x < \frac{\pi}{2}$ then $\int \frac{\sin x - \cos x}{\sqrt{1 - \sin 2x}} \cdot e^{\sin x} \cdot \cos x dx =$
(a) $e^{\sin x} + C$ (b) $e^{\sin x - \cos x} + C$
(c) $-e^{\sin x} + C$ (d) $e^{\cos x} + C$
91. If $x = 2 + 2^{2/3} + 2^{1/3}$, then $x^3 - 6x^2 + 6x =$
(a) 3 (b) 2
(c) 1 (d) None of these
92. If $\int_0^x f(t)dt = x + \int_x^1 tf(t)dt$, then $f(1) =$
(a) $\frac{1}{2}$ (b) 0 (c) 1 (d) $-\frac{1}{2}$
93. The solution of $|\cos x| = \cos x - 2\sin x$ is
(a) $x = n$ (b) $x = n + \frac{\pi}{4}$
(c) $x = n + (-1)^n \frac{\pi}{4}$ (d) $x = (2n+1)\pi + \frac{\pi}{4}, n \in \mathbb{Z}$
94. If $\alpha + \beta = \gamma$ then
 $\cos^2 \alpha + \cos^2 \beta + \cos^2 \gamma - 2\cos \alpha \cos \beta \cos \gamma =$
(a) $\frac{1}{2}$ (b) +1 (c) $-\frac{1}{2}$ (d) 0
95. The number of arrangements that can be made taking 4 letters, at a time, out of the letter of the word 'PASSPORT' is :
(a) 606 (b) 4464 (c) 4356 (d) 4644
96. The minimum value of the intercept cut by a tangent to the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ between the coordinate axes is
(a) $a + b$ (b) $a^2 + b^2$
(c) $\sqrt{a^2 + b^2}$ (d) does not exist
97. The element of second row and third column in the inverse of $\begin{bmatrix} 1 & 2 & 1 \\ 2 & 1 & 0 \\ -1 & 0 & 1 \end{bmatrix}$ is :
(a) -2 (b) -1 (c) 1 (d) 2

98. Sum of the series

$$\lim_{n \rightarrow \infty} \left[\frac{1}{n+1} + \frac{1}{n+2} + \frac{1}{n+3} + \dots + \frac{1}{2n} \right]$$

is equal to

- (a) $\log 2$ (b) $\log_e 3$
(c) $\log_e 6$ (d) None of these

99. If $\sqrt{1-x^4} + \sqrt{1-y^4} = k(x^2 - y^2)$ then $\frac{dy}{dx}$ is :

- (a) $\frac{x\sqrt{1-y^4}}{y\sqrt{1-x^4}}$ (b) $\frac{x\sqrt{1-y^8}}{y\sqrt{1-x^8}}$
(c) $\frac{y\sqrt{1-x^8}}{x\sqrt{1-y^8}}$ (d) $\frac{y\sqrt{1-x^4}}{x\sqrt{1-y^4}}$

100. If $f: [1, 2] \rightarrow R$ is differentiable and $f(2) = 4$, $f'(2) = 1$

then $\lim_{x \rightarrow 2} \frac{xf(2) - 2f'(x)}{x-2}$ is equal to

- (a) 1 (b) 2 (c) -2 (d) none

SECTION - 4 ENGLISH

Directions for Q.101 to Q.103 : There are four sentences in each of the following questions. One of the sentences is correct, and the rest are incorrect. You are to select the correct sentence in each question :

101. (a) She is either right nor wrong.
(b) She is nor right or wrong.
(c) She is neither right or wrong.
(d) She is niether right nor wrong.
102. (a) He went to Nepal five years ago.
(b) He went to Nepal five years back.
(c) He went to Nepal five years before.
(d) He went to Nepal five years past.
103. (a) Before leaving home, it began to rain.
(b) As since I was leaving home, it began to rain.
(c) As I was leaving home, it began to rain.
(d) When leaving home, it began to rain.

Directions for Q.104 & Q.105 : A part of the each of the following sentences is italicized from the answer choices which follow pick up one which can substitute the italicized part correct.

104. *Despite of his age his skill at tennis* is good.
(a) Despite his age his skill at tennis
(b) Despite his age his skill of tennis
(c) Despite his age his skill in tennis
(d) No change
105. Take his statements *with a grain of salt*.
(a) happily (b) with reservations
(c) in proper spirit (d) exaggerated

Directions for Q.106 & Q.107 : For each of the following words in CAPITAL letters pick up correct antonym from the answer choices :

106. LAUD
(a) seize (b) praise
(c) denounce (d) patronise

107. AGONY

- (a) Pleasure (b) Bliss
(c) Ecstasy (d) Fear

Direction for Q. 108 and Q. 109 : Choose the correct word which best expresses the meaning of the given word.

108. MAJESTIC
(a) Attractive (b) extra-ordinary
(c) Grand (d) Interesting
109. NEMESIS
(a) Victory (b) Adventure
(c) Reward (d) Punishment

Direction for Q. 110 : In the following sentences a blank has been given which can be filled correctly by one the four alternatives given under it. That is your answer.

110. My boss my request to increase my allowances.
(a) refused (b) denied
(c) resisted (d) withheld

Direction Question 111 and 112 : In each of the following question, a sentence is given with a black followed by four alternatives. Choose the word or phrase that most correctly complete the sentences.

111. Chuck came to Britain from the U.S.A. nearly three years ago. Next Monday it will be exactly three years so on Monday he in Britain for exactly three years.
(a) will be (b) will have Been
(c) will had been (d) none of these
112. Phone me after 8 'O' clock dinner by then
(a) we will finish (b) we will finished
(c) we had finished (d) None of these

Direction Question 113 and 114 : In each of the following questions, a related pair of words or phrase is followed by four pairs of words or phrase, selected the pair that best expresses a relationship similar to that expressed in the original pair.

113. Coin : Mint
(a) Grain : Field (b) Hay : Stable
(c) Wine : Brewary (d) Book : Publisher
114. Traitor : Disloyalty
(a) Executioner : Reliability (b) Rebel : Defiance
(c) Manager : Administration (d) Hope : Pessimism

Direction for Q. 115 to Q. 120 : Fill in the blanks :

115. The people you socialise are called friends.
(a) with whom (b) who
(c) with who (d) whom
116. Every one of them to the music every day.
(a) Listen (b) Listening
(c) Listens (d) None of these
117. I didn't work hard when I was school.
(a) in (b) on (c) at (d) by
118. Where are you?
(a) from (b) by (c) of (d) to
119. Which of these is an adjective in "It is"
(a) Hard (b) Hardly
(c) Hardship (d) Harden
120. I have been working here six months.
(a) since (b) by (c) for (d) in