megaleap
Comprehensive MCA Entrance Coaching

SANMACS INDIA

309 & 313 PRATAP CHAMBERS, GURUDWARA ROAD,
KAROL BAGH, DELHI - 110005 PH.: 28757911, 28757630, 32917966

SAI SANMACS PLAZA, PLOT NO. - 6A, COMMUNITY CENTER,
DDA, SECTOR - 8, ROHINI, DELHI - 110085 PH.: 32458354, 32522575

e-mail : info@sanmacs.com website: www.sanmacs.com

M. C. A. ENTRANCE **TEST CODE: MTIP - I**

DIRECTIONS
(To be read carefully)

1. The test paper consists of 150 objective type questions in all. Each question is provided with four alternative answers marked as **(a)**, **(b)**, **(c)** and **(d)**. Of these, only one correct or most appropriate answer should be selected and marked on the answer sheet provided separately.
2. Test is of 2 hrs. 30 min. and carries 600 marks.
3. Each question carries four marks.
4. There will be negative marking for incorrect answers. One mark will be deducted for each incorrect answer.
5. The paper is divided into four sections:
   I. Mathematics II. English Language and Comprehension
   III. Computer Awareness IV. Logical and Analytical Ability

Section - I Mathematics

1. The foci of the ellipse $\frac{x^2}{16}+\frac{y^2}{b^2}=1$ and the hyperbola $\frac{x^2}{144}-\frac{y^2}{81}=\frac{1}{25}$ coincide. Then the value of b^2 is
(a) 5 (b) 7 (c) 9 (d) 1

2. If $1, \omega, \omega^2$ are the cube roots of unity, then $\Delta=\begin{bmatrix} 1 & \omega^n & \omega^{2n} \\ \omega^n & \omega^{2n} & 1 \\ \omega^{2n} & 1 & \omega^n \end{bmatrix}$ is equal to
(a) 1 (b) ω (c) ω^2 (d) 0

3. Let $\vec{u}=\hat{i}+\hat{j}, \vec{v}=\hat{i}-\hat{j}$ and $\vec{w}=\hat{i}+2\hat{j}+3\hat{k}$. If $\hat{n}$ is a unit vector such that $\vec{u}.\hat{n}=0$ and $\vec{v}.\hat{n}=0$ then $|\vec{w}.\hat{n}|$ is equal to
(a) 1 (b) 2 (c) 3 (d) 0

4. The area of the region bounded by the curves y = | x - 1 | and y = 3 - | x | is ..... sq. units.
(a) 3 (b) 4 (c) 6 (d) 2

5. The solution of the differential equation $(1+y^2)+(x-e^{\tan^{-1}y})\frac{dy}{dx}=0,$ is
(a) $2xe^{\tan^{-1}y}=e^{2\tan^{-1}y}+k$
(b) $xe^{\tan^{-1}y}=\tan^{-1}y+k$
(c) $xe^{2\tan^{-1}y}=e^{-\tan^{-1}y}+k$
(d) $(x-2)=ke^{-\tan^{-1}y}$

6. Let f(x) be a function satisfying f'(x) = f(x) with f(0)=1 and g(x) be a function that satisfies f(x) + g(x) = x^2.
Then the value of the integer $\int_0^1 f(x)\,g(x)\,dx,$ is
(a) $e+\frac{e^2}{2}-\frac{3}{2}$ (b) $e-\frac{e^2}{2}-\frac{3}{2}$
(c) $e+\frac{e^2}{2}+\frac{5}{2}$ (d) $e-\frac{e^2}{2}-\frac{5}{2}$

7. The function f(x) = log (x + $\sqrt{x^2+1}$), is
(a) an odd function
(b) a periodic function
(c) neither an even nor an odd function
(d) an even function

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8. If $\left(\frac{1+i}{1-i}\right)^x = 1$, then

(a) x = 2n, where n is any positive integer
(b) x = 4n + 1, where n is any positive integer
(c) x = 2n + 1, where n is any positive integer
(d) x = 4n, where n is any positive integer

9. The sum of the series
$\frac{1}{1.2} - \frac{1}{2.3} + \frac{1}{3.4} - .....\text{upto}\,\infty$ is equal to

(a) $\log_e 2 - 1$ (b) $\log_e 2$ (c) $\log_e\left(\frac{4}{e}\right)$ (d) $2\log_e 2$

10. If $\lim_{x\to 0}\frac{\log(3+x)-\log(3-x)}{x} = k$, the value of k is

(a) $-\frac{1}{3}$ (b) $\frac{2}{3}$

(c) $-\frac{2}{3}$ (d) 0

11. The number of ways in which 6 men and 5 women can dine at a round table if no two women are to sit together is given by
(a) 30 (b) 5 ! * 4! (c) 7 ! * 5! (d) 6 ! * 5!

12. The mean and variance of a random variable X having a binomial distribution are 4 and 2 respectively, then P(X=1) is
(a) $\frac{1}{16}$ (b) $\frac{1}{8}$ (c) $\frac{1}{4}$ (d) $\frac{1}{32}$

13. If z and ω are two non-zero complex numbers such that | z ω | = 1, and Arg(z)- Arg(ω) = $\frac{\pi}{2}$, then $\bar{z}\omega$ =
(a) -1 (b) i (c) -i (d) 1

14. The number of integral terms in the expansion of $(\sqrt{3}+\sqrt[8]{5})^{256}$ is
(a) 33 (b) 34 (c) 35 (d) 32

15. If $\begin{vmatrix} a & a^2 & 1+a^3 \\ b & b^2 & 1+b^3 \\ c & c^2 & 1+c^3 \end{vmatrix} = 0$ and vectors (1, a, a^2), (1, b, b^2) and (1, c, c^2) are non-coplanar, the product abc =
(a) -1 (b) 1 (c) 0 (d) 2

16. If f(x) = $\begin{cases} xe^{-\left(\frac{1}{|x|}+\frac{1}{x}\right)}, & x \neq 0 \\ 0, & x = 0 \end{cases}$, then f(x) is
(a) continuous for all x but not differentiable at x=0
(b) neither differentiable nor continuous at x=0
(c) discontinuous everywhere
(d) continuous as well as differentiable for all x

17. The number of real solutions of the equation
$x^2 - 3|x| + 2 = 0$ is
(a) 4 (b) 1 (c) 3 (d) 2

18. The value of $\lim_{x\to 0}\frac{\int_0^{x^2}\sec^2 t\,dt}{x\sin x}$ *is*
(a) 2 (b) 1 (c) 0 (d) 3

19. Domain of definition of the function $f(x) = \frac{3}{4-x^2} + \log_{10}(x^3 - x)$, is
(a) $(-1,0)\cup(1,2)$ (b) $(1,2)\cup(2,\infty)$
(c) $(-1,0)\cup(1,2)\cup(2,\infty)$ (d) $(1,2)$

20. Let $\frac{d}{dx}F(x) = \left(\frac{e^{\sin x}}{x}\right), x > 0$. If $\int_1^4 \frac{3}{x}e^{\sin x^3}dx =$ F(k) - F(1) then one of the possible value of k, is
(a) 16 (b) 63
(c) 64 (d) 15

21. The domain of $\sin^{-1}[\log_3(x/3)]$ is
(a) [1, 9] (b) [-1, 9] (c) [-9, 1] (d) [-9, -1]

22. If $\alpha \neq \beta$ and $\alpha^2 = 5\alpha - 3, \beta^2 = 5\beta - 3$ then the equation having $\frac{\alpha}{\beta}$ and $\frac{\beta}{\alpha}$ as its roots, is

(a) $3x^2 + 19x + 3 = 0$ (b) $3x^2 - 19x + 3 = 0$
(c) $3x^2 - 19x - 3 = 0$ (d) $x^2 - 16x + 1 = 0$

23. If sin y = x sin (a + y), then $\frac{dy}{dx}$ is

(a) $\frac{\sin a}{\sin a \sin^2(a+y)}$ (b) $\frac{\sin^{-2}(a+y)}{\sin a}$

(c) sin a $\sin^2$ (a+y) (d) $\frac{\sin^2(a+y)}{\sin a}$

24. The function f(x) = $\cot^{-1}$ x + x increases in the interval

(a) $(1,\infty)$ (b) $(-1,\infty)$
(c) $(-\infty,\infty)$ (d) $(0,\infty)$

25. If $y=(x+\sqrt{1+x^2})^n$, then $(1+x^2)\frac{d^2y}{dx^2}+x\frac{dy}{dx}$ is
(a) n^2y (b) $-n^2y$ (c) $-y$ (d) $2x^2y$

26. $\cot^{-1}(\sqrt{\cos\alpha})-\tan^{-1}(\sqrt{\cos\alpha})=x$, then sin x =
(a) $\tan^2\left(\frac{\alpha}{2}\right)$ (b) $\cot^2\left(\frac{\alpha}{2}\right)$
(c) $\tan\alpha$ (d) $\cot\left(\frac{\alpha}{2}\right)$

27. $\int_0^{10\pi}|\sin x|\,dx$ is
(a) 20 (b) 8 (c) 10 (d) 18

28. The value of $2^{1/4}\,.\,4^{1/8}\,.\,8^{1/16}$ ..... ∞ is
(a) 1 (b) 2 (c) 3/2 (d) 4

29. If $x^y=e^{x-y}$ *then* $\frac{dy}{dx}$ is
(a) $\frac{1+x}{1+\log x}$ (b) $\frac{1-\log x}{1+\log x}$
(c) not defined (d) $\frac{\log x}{(1+\log x)^2}$

30. Fifth term of a G. P. is 2, then the product of its 9 terms is
(a) 256 (b) 512 (c) 1024 (d) 128

31. $\lim_{x\to\infty}\left(\frac{x^2+5x+3}{x^2+x+2}\right)^x$
(a) e^4 (b) e^2 (c) e^3 (d) e

32. If $\begin{vmatrix}6i & -3i & 1\\ 4 & 3i & -1\\ 20 & 3 & i\end{vmatrix}$ = x + iy, then
(a) x = 3, y=1 (b) x=1, y=3
(c) x=0, y=3 (d) x=0, y=0

33. Let f(2) = 4 and f'(2) = 4
Then $\lim_{x\to2}\frac{xf(2)-2f(x)}{x-2}$ is given by
(a) 2 (b) -2 (c) -4 (d) 3

34. A biased coin with probability p, 0 < p < 1 of head is tossed until a head appears for the first time. If the probability that the number of tosses required is even is $\frac{2}{5}$, then p equals
(a) $\frac{1}{3}$ (b) $\frac{2}{3}$
(c) $\frac{2}{5}$ (d) $\frac{3}{5}$

35. $\tan^{-1}\left(\frac{1}{4}\right)+\tan^{-1}\left(\frac{2}{9}\right)=$
(a) $\frac{1}{2}\cos^{-1}\left(\frac{3}{5}\right)$ (b) $\frac{1}{2}\sin^{-1}\left(\frac{3}{5}\right)$
(c) $\frac{1}{2}\tan^{-1}\left(\frac{3}{5}\right)$ (d) $\tan^{-1}\left(\frac{1}{2}\right)$

36. The coefficient of x^5 in $(1 + 2x + 3x^2 + ...)^{-3/2}$ is
(a) 21 (b) 25 (c) 26 (d) 0

37. if $(\omega\neq1)$ is a cubic root of unity, then
$\begin{vmatrix}1 & 1+\omega^2 & \omega^2\\ 1-i & -1 & \omega^2-1\\ -i & -1+\omega & -1\end{vmatrix}$ equals
(a) zero (b) 1 (c) i (d) ω

38. The equation to the ellipse whose foci are $(\pm2,0)$ and eccentricity $\frac{1}{2}$ is
(a) $\frac{x^2}{12}+\frac{y^2}{16}=1$ (b) $\frac{x^2}{16}+\frac{y^2}{12}=1$
(c) $\frac{x^2}{16}+\frac{y^2}{8}=1$ (d) $\frac{x^2}{8}+\frac{y^2}{16}=1$

39. If the vectors $\vec{a},\vec{b}$ *and* $\vec{c}$ from the sides BC, CA, and AB respictively of a triangle ABC, then
(a) $\vec{a}.\vec{b}=\vec{b}.\vec{c}=\vec{c}.\vec{b}=0$
(b) $\vec{a}\times\vec{b}=\vec{b}\times\vec{c}=\vec{c}\times\vec{a}$
(c) $\vec{a}.\vec{b}=\vec{b}.\vec{c}=\vec{c}.\vec{a}=0$

(d) $\vec{a}\times\vec{a}+\vec{a}\times\vec{c}+\vec{c}\times\vec{a}=0$

40. The number of real roots of $3^{2x^2-7x+7}=9$ is
(a) zero (b) 2
(c) 1 (d) 4

Section - II English Language and Comprehension

Directions (Q. 41 - 45): Pick out the most effective word from the given words to fill in the blanks to make the sentence meaningfully complete.

41. Law making bodies can_____Laws with the help of executive.
(a) Abridge (b) Nebulous
(c) Abrogate (d) Felicitate

42. He left his job for a new one as the_____ were better there.
(a) Denotations (b) Emoluments
(c) Imbroglio (d) Cervices

43. The man called the priest to __the ghost from his house.
(a) Expedite (b) Exodus
(c) Exorcize (d) Eradicate

44. She has a _____ for sea food.
(a) Polishing (b) Alimony
(c) Acrimony (d) Penchant

45. The sudden rainstorm ___the expedition into the jungle.
(a) Reiterated (b) Eloped
(c) Depleted (d) Impeded

Directions (Q. 46 - 50): Choose the word which is nearly the same in meaning to the word given in capitals.

46. EMULATE
(a) Imitate (b) Modify
(c) Inhabit (d) Cultivate

47. ABATED
(a) Lengthened (b) Slow
(c) Decreased (d) Increased

48. DEMEANOUR
(a) Behaviour (b) Poise
(c) Deportment (d) Sick

49. MITIGATE
(a) Solve (b) Alleviate
(c) Pacify (d) Disolve

50. RAVAGE
(a) Bombard (b) Devastate
(c) Burn (d) Kill

Directions (Q. 51 - 55): Choose the word which is most opposite in meaning to the word given in the capitals.

51. UNDERMINED
(a) grown (b) multiplied
(c) secured (d) strengthend

52. SPURNED
(a) realised (b) approached
(c) demanded (d) welcomed

53. UNINTERRUPTED
(a) blocked (b) confused
(c) doubted (d) questioned

54. ACCELERATED
(a) normalised (b) slowed
(c) hampered (d) hindered

55. COUNTER
(a) refrain (b) confront
(c) recede (d) support

Directions (Q. 56 - 60): In each of the following sentences three words or phrases have been underlined. Only one underlined part in each sentence is not acceptable in standard English. Pick up that part-**(a)**, **(b)** or **(c)**. If there is no error, mark **(d)** as your choice.

56. I must find out some means of balancing my budget.
(a) out (b) some means
(c) of balancing (d) No Error

57. Had I known you were coming I would stay at home.
(a) known (b) you were
(c) would stay (d) No Error

58. Twenty miles are a long way to walk.
(a) Twenty miles (b) are
(c) long way (d) No Error

59. Long life is good if one be happy and has friends.
(a) Long (b) if one
(c) be (d) No Error

60. You have been more able to withstand the treaties than
(a) have been (b) withstand
(c) did he (d) No Error

Directions (Q. 61 - 64): Read the following passage carefully and answer the questions given below it.

Women of Vedic India were educated and there was a clear-cut instruction that a woman on finishing her studies should be married to a learned young man. Gargi and Maitreyi are famous examples of women of that age. It was possible for women to become scholars only so long as they were allowed to be initiated for Vedic study. This privilege was indirectly denied to woman by introducing the practice of her early marriage Manu enunciates the ideal of wifehood as in essence meaning the negation of her personality. She must worship her husband, never displease him. She would attain paradise not by any austere penance but as a result of her obedience and devotion to her husband. When her husband goes abroad she should avoid amusements, social gatherings, festivals, smiling, visiting others, etc.

The National movement brought women from their kitchen to face lathis and bullets and gave them consciousness of their own strength. It gave them a new vision of their true place in society. This was a great event for more than one reason in the history of Hindu womankind.

61. Which of the following conclusively helped women to emerge out of their traditional role and realise their potential?
(a) National Freedom Movement
(b) Social gatherings
(c) Keeping the husband happy
(d) Marrying educated young men

62. Which of the following appears to be the view about marriage of women during Vedic period?
(a) Marriage to precede Vedic studies
(b) Vedic studies followed by marriage
(c) Permission for marriage only but not for study of Vedas
(d) Only Vedic studies to continue, no permission for marriage

63. Gargi and Maitreyi are appreciated for
(a) their resistance to the ideals of Manu
(b) their intellectual attainment
(c) devoting themselves to their husbands
(d) forgoing social life to serve their husbands

64. According to Manu, how would women seek paradise after death?
(a) By becoming Vedic scholar
(b) By negating husband's personality
(c) By completely surrendering to husband
(d) By avoiding all amusements

Directions (Q. 65 - 69): In each of the following questions an idomatic expression and its four possible meanings are given. Find out the corect meaning of the idomatic expression and work the number of that meaning as your answer.

65. In a dead faint
(a) Sudden death
(b) Utterly insensible
(c) In a weak position
(d) In a drunk state

66. To hold over
(a) To initiate
(b) To appreciate
(c) To postpone
(d) To deviate

67. In no time
(a) No possibility
(b) Occasionally
(c) Suddenly
(d) Very quickly

68. In high feather
(a) Flying very high
(b) On a great height
(c) In happy mood
(d) In great demand

69. In line with
(a) In agreement with
(b) In the serial
(c) Placed in order
(d) In association with

Directions (Q. 70 - 72): In each of the following sentences, a part or whole of the sentence has been underlined. Pick out from the four choices, the choice that can most effectively replace the original underlined.

70. Who do I ask?
(a) Whom do me ask
(b) Whom do I ask
(c) Who do me ask
(d) No improvement required

71. I wish I was in school again.
(a) I wish I were
(b) I wish I am
(c) I wish I had been
(d) No improvement required

72. This secret should be kept between you and me.
(a) Between you and I.
(b) Among you and I.
(c) Among you and me.
(d) No improvement required

Directions (Q. 73 - 75): Rearrange the following four sentences A, B, C and D in the proper sequence to form a meaningful paragraph; then answer the questions given below them.

A. Now they are attributing the worsening of drought to the non-completion of the Narmada (Sardar Sarovar) project just to gain some political mileage.

B. For years, the political elite in Gujrat have known the situtation, and even the solutions, but the state government has not done anything substantial for water-harvesting and water-recharging.
C. As the drought situtation in Gujrat and Rajasthan continues to worsen, political leaders are busy playing games of allocations for emergency relief work and visible mega-schemes.
D.The situtation is grim, but has not come all of a sudden.

73. Which is the last sentence in the paragraph?
(a) A (b) B (c) C (d) D

74. Which sentence is at the third place paragraph?
(a) D (b) B (c) C (d) A

75. The correct order of sentences to form a meaningful paragraph ?
(a) DCBA (b) CDBA
(c) BADC (d)BACD

Section - III Computer Awareness

76. Computer virus is a software program which has the essential ability to
(a) clone itself
(b) damage programs only
(c) damage data only
(d) hide itself

77. Inputs to a computer is accomplished using the
(a) Screen (b) Keyboard (c) Printer (d) Plotter

78. High-level programming languages were first developed during the generation
(a) first (b) second (c) third (d) fourth

79. A term used to describe computers with two or more independent CPUs that simultaneously execute several programs
(a) multiprogramming (b) multiprocessing
(c) time sharing (d) batch processing

80. The barcode that is used on all types of items, is read by a scanning device directly into the computer. What is the name of the scanning device?
(a) OCR (b) MICR
(c) OMR (d) Laser scanner

81. Floating-point numbers normally represent
(a) very large or small numbers
(b) only large positive numbers
(c) only large negative numbers
(d) negative numbers within computer

82. Representation of programmer logic graphically is
(a) Pseudo code (b) Algorithm chart
(c) Flow chart (d) COBOL

83. Find odd man out
(a) Speaker
(b) Liquid Crystal Display
(c) Digitizer
(d) Plotter

84. Find odd man out
(a) Optical Mark Reader (OMR)
(b) Optical Character Reader (OCR)
(c) Bar Code Reader (BCR)
(d) Magnetic Ink Character Recognition (MICR)

85. Which of the following statement is true?
(a) Virtual memory allows each program to exceed the size of the primary memory
(b) Virtual memory increases the degree of multiprogramming
(c) Virtual memory increases the swapping
(d) all of the above

86. In terms of levels of integration, an IC containing about 10 gates would be classified as
(a) VLSI (b) LSI (c) MSI (d) SSI

87. Which storage device can be carried around?
(a) Floppy disk (b) Main memory
(c) Register (d) Core memory

88. The ultimate goal of fifth generation computers is to develop computers that can
(a) understand natural language
(b) apply common sense to everyday problems
(c) make inferences from facts stored in knowledge based system
(d) all of the above

89. Direct-access organization means
(a) storing records in contiguous blocks
(b) stores records sequentially but uses an index to locate records
(c) uses an index for each key type
(d) has records placed randomly throughout the file

90. Interleaved execution of two or more different and independent programs by the same computer
(a) multiprogramming (b) multiprocessing
(c) time sharing (d) batch processing

91. Which of the following memories has the shortest access time?

(a) Cache memory (b) Magnetic
(c) Magnetic core memory (d) RAM

92. PARAM series of machines manufatured by C-DAC (in India) can be catergorised as
(a) Personal Computer (b) mini computer
(c) super computer (d) mainframe

93. Who developed C language?
(a) N. Writh (b) Donald Knuth
(c) Denis Ritche (d) Seymour Papert

94. Which of the following is used as storage locations both in the ALU and the control section of a computer?
(a) Accumulator (b) Register
(c) Adder (d) Diskette

95. Find odd man out
(a) Touch screen (b) Plotter
(c) Track Ball (d) Microphone

96. A microprocessor is a..... electronic device
(a) Semi-Analog (b) Digital
(c) Analog (d) Semi-Digital

97. Which of the following memory is capable of operating at electronics speed?
(a) Semiconductor memory (b) Magnetic disks
(c) Magnetic drums (d) Magnetic tapes

98. A computer consists of
(a) CPU (b) memory
(c) input and output units (d) all of the above

99. Mnemonic codes and variable names are used in
(a) a machine language (b) an assembly language
(c) a high-level language (d) all of the above

100. A program used to start the computer is
(a) compiler (b) system software
(c) bootstrap (d) operating system

101. RAM chips
(a) allow the computer to store data electronically
(b) store data indefinitely unless you delete it
(c) are always measured in thousand of bytes
(d) all of the above

102. The term sum-of-products in boolean algebra means
(a) the AND functions of several OR functions
(b) the OR functions of several AND functions
(c) the OR functions of several OR functions
(d) the AND function of several AND functions

103. Find odd man out
(a) Input unit (b) Memory unit
(c) Output unit (d) Computer unit

104. Auxiliary memory is
(a) main memory (b) extended memory
(c) secondary memory (d) cache memory

105. Sequential organization means
(a) storing records in contiguous blocks
(b) stores records sequentially but uses an index to locate records
(c) uses an index for each key type
(d) has records placed randomly throughout the file

106. Machine language programs
(a) consist of long sequences of binary numbers
(b) can express the same meaning in fewer statements than can BASIC programs
(c) both **(a)** and **(b)** above
(d) consists of symbolic code

107. Find odd man out
(a) Drum printer (b) Chain printer
(c) Dot matrix printer (d) Inkjet printer

108. Compared to vacuum tubes, transistors
(a) were smaller (b) generated less heat
(c) were faster (d) all of the above

109. Applications software is best used to
(a) control the operating system
(b) include programs designed to help programmers
(c) perform a specific task for computer users
(d) all of the above

110. Which memory system is not used as a mass memory medium?
(a) Semiconductor memory (b) Magnetic tape
(c) Magnetic disk (d) Magnetic drum

111. The full form of UNIVAC is
(a) Universal Analog Computer
(b) Universal Automatic Computer
(c) Universal Vacuum Tube Automatic Computer
(d) Universal Analog Calculator

112. Instruction formats available in CPU are
(a) memory reference (b) register reference
(c) input/output reference (d) all of the above

113. Digital system is a system which
(a) deal with digital information in the external world to users

(b) use analog signals
(c) use continuous quantities of information to computer
(d) handle information in digital form internaly

114. Which of the following statements is true about the Program Counter (PC)?
(a) a type of ROM
(b) a type of register
(c) a type of software
(d) a type of network device

115. Match the following

(A) Input device	(i) sharpness of an image display
(B) Laser printer	(ii) allows to enter data into computer system
(C) Resolution	(iii) television-like screen to display information
(D) Monitor	(iv) quality printer with output similar to photocopying

(a) A-(i) B-(ii) C-(iii) D-(iv)
(b) A-(ii) B-(iv) C-(i) D-(iii)
(c) A-(iii) B-(iv) C-(i) D-(ii)
(d) A-(ii) B-(i) C-(iv) D-(iii)

Section - IV Logical and Analytical Ability

Directions (Q. 116 - 118): In each question below is given a statement followed by two assumptions numbered I and II. You have to decide which of the assumptions is implicit in the statement. Give answer **(a)** if only assumption I is implicit; **(b)** if only assumption II is implicit; **(c)** if either I or II is implicit; **(d)** if neither I nor II is implicit.

116. Statement: Opening a library in Rambli will be a wastage.
Assumptions: I. Inhabitants of Rambli are illiterate.
II. Inhabitants of Rambli are not interested in reading.

117. Statement: Films have become indispensable for the entertainment of people.
Assumptions: I. Films are the only medium of entertainment.
II. People enjoy films.

118. Statement: Detergents should be used to clean clothes.
Assumptions: I. Detergents form more lather.
II. Detergents help to dislodge grease and dirt.

Directions (Q. 119 - 121): Each question given below is followed by two arguments numbered I and II. You have to decide which of the arguments is a 'strong' argument and which is a 'weak' argument. Give answer **(a)** if only argument I is strong; **(b)** if only argument II strong; **(c)** if either argument I or II is strong; **(d)** if neither argument I nor II is strong.

119. Statement: Should religion be taught in our schools?
Arguments: I. No. Ours is a secular state.
II. Yes. Teaching religion helps inculcate moral values among children.

120. Statement: Should there be students' union in college/university?
Arguments: I. No. This will definitely create a politically harmful atmosphere in the campus.
II. Yes. It is very necessary. Students are the future political leaders.

121. Statement: Should high chimneys be installed in industries?
Arguments: I. Yes. It reduces pollution at ground level.
II. No. It increases pollution in upper atmosphere.

Directions (Q. 122 - 124): In each of the following questions, a statement or two are followed by two conclusions. Give answer **(a)** if conclusion I follows; **(b)** if conclusion II follows; **(c)** if either I or II follows; and **(d)** if neither I nor II follows.

122. Statement: Parents are prepared to pay any price for an elite education to their children.
Conclusions: I. All parents these days are very well-off.
II. Parents have an obsessive passion for a perfect development of their children through good schooling.

123. Statement: In deserts, camels are indispensable for people to travel from one place to another.
Conclusions: I. Camels are the only cheapest mode of transport available in deserts
II. There are plenty of camels in deserts.

124. Statement: No country is absolutely self-dependent these days.
Conclusions: I. It is impossible to grow and produce all that a country needs.
II. Countrymen in general have become lazy.

Directions (Q. 125 - 127): In each question below is given a statement followed by two courses of action

numbered I and II. A course of action is a step or administrative decision to be taken for improvement, follow-up, or further action in regard to the problem, policy etc. on the basis of the information given in the statement. You have to decide which of the two given suggested courses of action logically follows for pursuing. Give answer **(a)** if only I follows; **(b)** if only II follows; **(c)** if both I and II follow; and **(d)** if neither I nor II follows.

125. Statement: A recent study shows that children below five die in the cities of the developing countries mainly of diarrhoea and parasitic intestinal worms.
Courses of action:
I. Governments of the developing countries should take adequate measures to improve the hygienic conditions in the cities.
II. Children below five years in the cities of the developing countries need to be brought under constant medication.

126. Statement: A leading US multinational engineering and construction firm is keen to invest in India in a variety of sectors ranging from power to land management.
Courses of action:
I. Such multinational companies should not be allowed to operate in India
II. India should encourage multinational companies from other developed countries to invest in power sectors to bring in a competitive climate.

127. Statement: A train was derailed near a station while moving over a bridge and fell into the river.
Courses of action:
I. The Railway authorities should clarify the reason of the accident to the Government.
II. The Government should allocate funds to compensate for the destruction caused.

Directions (Q. 128 - 130): Below is given a question followed by two statements numbered I and II. The question may or may not be answered with the help of these statements. You have to decide if these statements are sufficient to answer the question. Give answer **(a)** if only statement I is sufficient to answer the question but statement II is not; **(b)** if only statement II is sufficient to answer the question but statement I is not; **(c)** if both statements I and II are together sufficient to answer the question although neither statement suffices by itself; **(d)** if the two statements are not sufficient but still more data is needed to answer the question.

128. On which day did Radha reach Shimla?
Statements: I. Sunday is a holiday.
II. Radha travels only on a holiday.

129. Among three friends A, B, and C, who is the tallest?
Statements: I. A is taller than B.
II. A is taller than C.

130. Is Ram taller than Shyam?
Statements: I. Madan is shorter than Shyam.
II. Shyam is shorter than Ram.

Directions (Q. 131 – 132): Do as directed in each of the following questions.
131. For our nation to compete successfully in the high-technology enterprises of the future, workers with skills in maths and science will be needed. But it is doubtful that they will be available, since there is a shortage of high school maths and science teachers that shows no signs of improving. Industry can help alleviate this problem by funding scholarship grants and aid to college students who graduate in maths and science with the hope of pursuing teaching careers.
Which of the following, if true, would most probably prevent the proposed plan from achieving its intended effect?
(a) After graduation from college, most maths and science graduates opt for jobs in industry rather than in teaching.
(b) Many high schools have been forced to lower their standards in hiring maths and science teachers.
(c) More scholarship money is already available for students of maths and science than is available for those in any other field.
(d) Population statistics show that the number of high school students is expected to decline over the next ten years.

132. In the past, to run for one's country in the Olympics was the ultimate achievement of any athlete. Nowadays on athlete's motives are more and more influenced by financial gain, and consequently we do not see our best athletes in the Olympics, which is still only for amateurs.
Which of the following will most weaken the above conclusion?
(a) The winning of a race is not as important as participating.
(b) The publicity and fame that can be achieved by competing in the Olympics makes athletes more "marketable" by agents and potential sponsors, while allowing the athletes to retain their amateur status.
(c) There is a widely-held belief that our best Olympic athletes already receive enough in terms of promotion and sponsorship.
(d) It has been suggested that professional athletes should be allowed to compete in the games.

Directions (Q. 133 to 135): In each question below are given two statements followed by two conclusions numbered I and II. You have to take the two given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts. Give Answer: **(a)** if only conclusion I follows; **(b)** if only conclusion II follows; **(c)** if both I and II follow. **(d)** if neither I nor II follows.

133. Statements: A graduate is a man.
This thief is a graduate.
Conclusions: I. This thief is a man.
II. Some men are thieves.

134. Statements: Men are sinners.
Saints are men.
Conclusions: I. Saints are sinners.
II. Sinners are saints.

135. Statements: Few takers are givers.
No givers are almighty.
Conclusions: I. Some takers are not givers.
II. Some almighty are takers.

Directions (Q. 136 to 138): In each question below, there are two statements followed by four conclusions numbered I, II, III and IV. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follow(s) from the given statements.

136. Statements: All hunters are punters.
Some punters are tigers.
Conclusions: I. Some hunters are tigers.
II. All tigers are punters.
III. Some punters are hunters.
IV. No punters are hunters.
(a) I and II (b) III only
(c) I and III (d) II and IV

137. Statements: Some copies are desks.
No desks are pens.
Conclusions: I. Some copies are pens.
II. Some copies are not pens.
III. Some pens are desks.
IV. Some pens are not desks.
(a) Only II (b) II and III
(c) Either I or II (d) II and IV

138. Statements: Some blankets are pillows.
All pillows are books.
Conclusions: I. Some books are blankets.
II. Some books are pillows.
III. No book is a pillow.
IV. Some blankets are not books.
(a) I and IV (b) I and II
(c) I and either II or III (d) Either I or IV and II

Directions (Q. 139 – 143): The following are the criteria that a newspaper has made while considering the applications for the posts of editors:
I. The candidate must be at least 30 years old but not more than 45 years old as on 1-1-94.
II. The candidate must have post-graduate diploma in either Media Communications or Investigative Journalism or an equivalent qualification.
[An M. Phil. or a Ph.D. is considered an equivalent qualification.]
III. The candidate must have at least five years experience in a newspaper or a weekly magazine.
IV. The candidates must possess a certificate of good conduct (CGC) given to him by his previous employer, if any.
V. The candidate must obtain 60% marks in the interview, the full marks being 150.
If a person fulfills these criteria he will be employed as an editor. However, if a person fulfills all these criteria except
(i) I above, the case may be referred to the President of the newspaper's company.

(ii) II above, but is an L.L.B./C.A./M.B.A., he may yet be selected.
(iii) III above, the case may be referred to the GM, Printing and Execution.
On the basis of the above criteria decide about the course of action that has to be taken for each of the candidates. You are not to assume anything in the case of any candidate.
Mark Answer:
(a) if the candidate has to be selected as editor.
(b) if the case has to be referred to the President.
(c) if the case has to be referred to the GM, Printing and Execution Deptt.
(d) if the candidate is not to be selected.

139. Avinash Bokli previously worked with Sandhya Express, a newspaper, for more than a decade; he was fired over a small ego class with his boss. However, the boss was human enough to give him the CGC. He has a postgraduate diploma in investigative journalism. He has obtained 95 marks in the interview. He is 43 years old.

140. Sandip Kurnam has a work experience of seven years with a weekly magazine. He has obtained 89 marks in the

interview. He has a PG Diploma in Mass communications. He was born in 1940 and has obtained the required CGC.

141. Pramil Dhanoa has obtained 65% marks in the interview. He was born on 25-11-1963. He has the certificate of good conduct. He is an MBA and has a work experience of four-and-a-half years with a newspaper.

142. Pradeep Biswas is a Ph.D. He is 39 years old and has obtained 93 marks in the interview. He has a work experience of seven years in a monthly magazine. He has obtained the CGC.

143. Kalpana Trehan is an M. Phil. in Social Anthropology. She has obtained 75 percent marks in the interview. She used to work in the same newspaper in which Shanu Khurana worked. She has an experience of seven years and has got the CGC. She was born on 1st of February, 1964.

Directions (Q. 144– 148): Read the following information carefully and answer the questions that follow.
There are six cities A, B, C, D, E and F.
A is not a hill-station.
B and E are not historical places.
D is not an industrial city.
A and D are not historical cities.
A and B are not alike.

144. Which two cities are industrial centres?
(a) A and B (b) E and F
(c) C and D (d) B and F

145. Which two cities are historical places?
(a) A and C (b) B and F
(c) C and F (d) B and E

146. Which two cities are hill stations?
(a) A and B (b) C and A
(c) B and D (d) A and F

147. Which city is a hill station and an industrial centre but not a historical place?
(a)E (b) F (c)A (d) B

148. Which two cities are neither historical places nor industrial centres?
(a) A and B (b) D and E
(c) F and C (d) B and D

Directions (Q. 149 – 150): Read each question carefully and then answer accordingly.

149. Pointing to a photograph, a person tells his friend, 'She is the granddaughter of the elder brother of my father.' How is the girl in the photograph related to this man?
(a) Niece (b) Sister
(c) Aunt (d) Sister-in-law

150. E is the son of A. D is the son of B. E is married to C. C is B's daughter. How is D related to E?
(a) Brother (b) Uncle
(c) Father-in-law (d) Brother-in-law