

DIRECTIONS (To be read carefully)

- 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.
- Test is of 2 hrs. 30 min. and carries 600 marks.
- Each question carries four marks.
- There will be negative marking for incorrect answers. One mark will be deducted for each incorrect answer.
- 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. If $f(x) = x^5 + \cos x$, then $f(x)$ is

- an even function
- an odd function
- neither even nor odd function
- a constant function

2. If $f(x) = \begin{cases} x^3 + 1, & x < 0 \\ x^2 + 1, & x \geq 0 \end{cases}$, $g(x) = \begin{cases} (x-1)^{1/3}, & x < 1 \\ (x-1)^{1/2}, & x \geq 1 \end{cases}$

then $(g \circ f)(x)$ is equal to

- $x, \forall x \in R$
- $x-1, \forall x \in R$
- $x+1, \forall x \in R$
- $x-2, \forall x \in R$

3. $(1+i)^6 + (1-i)^3$ is equal to

- $2+i$
- $2-10i$
- $-2+i$
- $-2-10i$

4. The value of $\left(\frac{1+i\sqrt{3}}{1-i\sqrt{3}}\right)^6 + \left(\frac{1-i\sqrt{3}}{1+i\sqrt{3}}\right)^6$ is

- 2
- 2
- 1
- 0

5. $\Delta_1 = \begin{vmatrix} x & b & b \\ a & x & b \\ a & a & x \end{vmatrix}$ and $\Delta_2 = \begin{vmatrix} x & b \\ a & x \end{vmatrix}$ are the given determinants, then

- $\Delta_1 = 3(\Delta_2)^2$
- $\frac{d}{dx}(\Delta_1) = 3\Delta_2$
- $\frac{d}{dx}(\Delta_1) = 3(\Delta_2)^2$
- $\Delta_1 = 3(\Delta_2)^{3/2}$

6. If $\begin{vmatrix} -a^2 & ab & ac \\ ab & -b^2 & bc \\ ac & bc & -c^2 \end{vmatrix} = \lambda a^2 b^2 c^2$, then the value of λ is

- 1
- 2
- 4
- 3

7. If A and B are symmetric matrices of order n ($A \neq B$) then

- $A+B$ is skew-symmetric
- $A+B$ is symmetric
- $A+B$ is a diagonal matrix
- $A+B$ is a zero matrix

8. The value of determinant

$$\Delta = \begin{vmatrix} \log x & \log y & \log z \\ \log 2x & \log 2y & \log 2z \\ \log 3x & \log 3y & \log 3z \end{vmatrix} \text{ is}$$

- (a) 0 (b) $\log(xyz)$
(c) $\log(6xyz)$ (d) $6 \log(xyz)$

9. Solution of $|2x - 3| < |x + 2|$ is

- (a) $\left(-\infty, \frac{1}{3}\right)$ (b) $\left(\frac{1}{3}, 5\right)$
(c) $(5, \infty)$ (d) $\left(-\infty, \frac{1}{3}\right) \cup (5, \infty)$

10. Solution of $|3 - x| = x - 3$ is

- (a) $x < 3$ (b) $x > 3$
(c) $x \geq 3$ (d) $x \leq 3$

11. For the equation $|x|^2 + |x| - 6 = 0$

- (a) there is only one root
(b) there are two distinct roots
(c) there are three distinct roots
(d) there are four distinct roots

12. If one root of $x^2 - x - k = 0$ is square of the other, then k is equal to

- (a) $2 \pm \sqrt{3}$ (b) $3 \pm \sqrt{2}$
(c) $2 \pm \sqrt{5}$ (d) $5 \pm \sqrt{2}$

13. If α and β are the roots of the equation $8x^2 - 3x + 27 = 0$, then the value of $\left(\frac{\alpha^2}{\beta}\right)^{1/3} + \left(\frac{\beta^2}{\alpha}\right)^{1/3}$ is

- (a) $1/3$ (b) $1/4$ (c) $7/2$ (d) 4

14. The total number of 9 digit numbers which have all different digits is

- (a) $10!$ (b) $9!$ (c) $9 \cdot 9!$ (d) $10 \cdot 10!$

15. From 4 officers and 8 Jawans, a committee of 6 is to be chosen to include exactly one officer. The number of such committees is

- (a) 160 (b) 200 (c) 224 (d) 300

16. If n is an integer between 0 and 21, then the minimum value of $n!(21-n)!$ is:

- (a) $9! \cdot 21!$ (b) $10! \cdot 11!$ (c) $20!$ (d) $21!$

17. If n is a positive integer, then $n^3 + 2n$ is divisible by

- (a) 3 (b) 2 (c) 6 (d) 5

$$\left(2x + \frac{1}{3x}\right)^6 \text{ is}$$

- (a) $\frac{160}{9}$ (b) $\frac{80}{9}$
(c) $\frac{160}{27}$ (d) $\frac{80}{3}$

19. $0.2 + 0.22 + 0.222 + \dots$ to n terms is equal to

- (a) $\frac{2}{9} \left[n - \frac{1}{9}(1 - 10^{-n}) \right]$ (b) $n - \frac{1}{9}(1 - 10^{-n})$
(c) $\frac{2}{9} \left[n - \frac{1}{9}(1 - 10^{-n}) \right]$ (d) $\frac{2}{9} - \frac{2}{81}(1 - 10^{-n})$

20. If $\frac{1}{p+q}, \frac{1}{q+r}, \frac{1}{r+p}$ are in A.P., then

- (a) p, q, r are in A.P. (b) q^2, p^2, r^2 are in A.P.
(c) p^2, q^2, r^2 are in A.P. (d) p, q, r are in G.P.

21. The sum of the series $\log_4 2 - \log_8 2 + \log_{16} 2 - \dots$ to ∞ is

- (a) e^2 (b) $\log_e 2 + 1$
(c) $\log_e 3 - 2$ (d) $1 - \log_e 2$

22. The domain of the function $f(x) = \frac{1}{\sqrt{x^2 - 3x + 2}}$ is

- (a) $(-\infty, 1) \cup (2, \infty)$ (b) $(-\infty, 1] \cup [2, \infty)$
(c) $[-\infty, 1) \cup (2, \infty]$ (d) $(1, 2)$

23. Period of $\cos(x^2)$ is

- (a) 2π (b) $4\pi^2$
(c) $\frac{\pi^2}{4}$ (d) π

24. If $\lim_{x \rightarrow 0} \frac{x(1 + a \cos x) - b \sin x}{x^3} = 1$, then a, b are

- (a) $\frac{1}{2}, \frac{-3}{2}$ (b) $\frac{5}{2}, \frac{3}{2}$
(c) $\frac{-5}{2}, \frac{-3}{2}$ (d) $\frac{1}{2}, \frac{3}{2}$

25. $\lim_{x \rightarrow 1} \left[\sec\left(\frac{\pi x}{2}\right) \log x \right]$ is

- (a) $-\frac{2}{\pi}$ (b) $-\frac{\pi}{2}$

18. The term independent of x in the expansion of

(c) $\frac{2}{\pi}$

(d) $\frac{\pi}{2}$

(c) $\frac{3}{16}$

(d) $\frac{9}{16}$

26. The derivative of $\cos^{-1}(2x^2 - 1)$ w.r.t. $\cos^{-1}x$ is

(a) 2

(b) $\frac{2}{x}$

(c) $\frac{1}{2\sqrt{1-x^2}}$

(d) $1 - x^2$

27. If $x = a(t + \sin t)$, $y = a(1 - \cos t)$, then $\frac{dy}{dx}$ is

(a) $\tan \frac{t}{2}$

(b) $\cot \frac{t}{2}$

(c) $\sec \frac{t}{2}$

(d) $\cos ec \frac{t}{2}$

28. Greatest value of $\left(\frac{1}{x}\right)^x$ is

(a) e

(b) $e^{1/e}$

(c) $\left(\frac{1}{e}\right)^e$

(d) $\frac{1}{e}$

29. The curve $y - e^{xy} + x = 0$ has a vertical tangent at the point

(a) (1, 1)

(b) at no point

(c) (0, 1)

(d) (1, 0)

30.

$$\int e^x(1 + \tan x + \tan^2 x) dx =$$

(a) $e^x \tan x + C$

(b) $e^x \sec x + C$

(c) $e^x \sin x + C$

(d) $e^x \cos x + C$

31. If $g(x) = \int_0^x \cos^4 t dt$, then $g(x + \pi) =$

(a) $g(x) + g(\pi)$

(b) $g(x) - g(\pi)$

(c) $g(x)g(\pi)$

(d) $\frac{g(x)}{g(\pi)}$

32. Area between x-axis and the curve $y = \cos x$, when $0 \leq x \leq 2\pi$ is

(a) 0

(b) 2

(c) 3

(d) 4

33. Area of the region bounded by the curves $y = x^2 + 2$, $y = -x$, $x = 0$ and $x = 1$ is

(a) $\frac{7}{16}$

(b) $\frac{5}{16}$

34. Integrating factor of the differential equation

$$\cos x \frac{dy}{dx} + y \sin x = 1$$
 is

(a) $\cos x$

(b) $\tan x$

(c) $\sec x$

(d) $\sin x$

35. For solving $\frac{dy}{dx} = 4x + y + 1$, suitable substitution is

(a) $y = vx$

(b) $y = 4x + v$

(c) $y = 4x$

(d) $y + 4x + 1 = v$

36. The second order differential equation is

(a) $y'^2 + x = y^2$

(b) $y'y'' + y = \sin x$

(c) $y''' + y'' + y = 0$

(d) $y' = y$

37. The straight lines $x + y - 4 = 0$, $3x + y - 4 = 0$, $x + 3y - 4 = 0$ form a triangle which is

(a) isosceles

(b) right angled

(c) equilateral

(d) None of these

38. The length of tangent from (5, 1) to the circle $x^2 + y^2 + 6x - 4y - 3 = 0$ is

(a) 81

(b) 29

(c) 7

(d) 21

39. The foci of the ellipse $25(x + 1)^2 + 9(y + 2)^2 = 225$, are

(a) (-1, 2) and (-1, -6)

(b) (-2, 1) and (-2, 6)

(c) (-1, -2) and (-2, -1)

(d) (-1, -2) and (-1, -6)

40. The equations of the asymptotes of the hyperbola

$$2x^2 + 5xy + 2y^2 - 11x - 7y - 4 = 0$$
 are

(a) $2x^2 + 5xy + 2y^2 - 11x - 7y - 5 = 0$

(b) $2x^2 + 4xy + 2y^2 - 7x - 11y + 5 = 0$

(c) $2x^2 + 5xy + 2y^2 - 11x - 7y + 5 = 0$

(d) None of these

SECTION – II: English Language And Comprehension

Directions (Q. 41 – 44): Read the following passage carefully answer the questions given below it.

What is the cause of *chronic fatigue*? Past research has suggested a link to the *Epstein-Barr* virus, but now many scientists are questioning that connection. New findings suggest the *Epstein-Barr* virus is not a primary cause, but it may still trigger the illness. The symptoms may be due to variety of things, rather than just one; still, some researchers are sticking with the idea of *Epstein-Barr* virus causing the illness. They say it is premature to make such a judgement.

Chronic fatigue syndrome has been dubbed the "yuppie disease" by some since it is often diagnosed in professional

women in their twenties and thirties. It may be the result of never recovering completely from illness such as the *flu*. Though the cause is not clear, the symptoms are: one must have the debilitating illness for more than six months and must *exhibit* at least eight of the eleven symptoms, including *sore throat*, *mild fever* and *muscular aches*.

41. With which of the following topics is the passage mainly concerned?

- (a) Causes and symptoms of an illness
- (b) The relationship between virus and an illness
- (c) Diseases affecting yuppies
- (d) A disagreement between scientists

42. Why is this illness called the *yuppie disease*?

- (a) It affects so many young professional women
- (b) It is difficult to treat
- (c) No one knows for sure what causes it
- (d) It has many symptoms

43. According to the passage, a sufferer of *chronic fatigue syndrome*

- (a) will have seven symptoms
- (b) will be sick for about six months
- (c) will have sore throat, aches and fever
- (d) will have eleven symptoms

44. Which of the following words can best replace the word "*exhibit*" in the passage?

- (a) perform
- (b) manifest
- (c) present
- (d) augment

Directions (Q. 45 – 48): In each of the following questions, select from amongst the four alternatives, the word *nearest* in meaning to the word given in capitals.

45. ALIENS

- (a) civilians
- (b) foreigners
- (c) tribes
- (d) anti-nationals

46. CONSENTIENT

- (a) surrounding
- (b) control
- (c) agreeing
- (d) attack

47. CONFINING

- (a) restraining
- (b) replacing
- (c) converging
- (d) embarking

48. LEGITIMATE

- (a) necessary
- (b) reasonable
- (c) practical
- (d) permanent

Directions (Q. 49 – 52): In each of the following questions select from amongst the four alternatives, the word most *opposite* in meaning to the word given in capitals.

49. OBLIGATION

- (a) suspicion
- (c) freedom

- (b) suspension
- (d) pressure

50. INDIGENOUS

- (a) single
- (b) easy
- (c) alien
- (d) distant

51. OPPRESSIVE

- (a) fair
- (b) compensated
- (c) adjustable
- (d) discriminating

52. INTEGRAL

- (a) basic
- (b) vague
- (c) contradictory
- (d) separate

Directions (Q. 53 - 56): Read each sentence to find out whether there is any *error* in it. The *error*, if any is in one part of the sentence. The number of that part (a), (b) or (c) in the answer. If there is no error, the answer is (d)

53. Sentences are

- (a) If the fight against terrorist is to succeed
- (b) the government must be able to
- (c) take the people with it.
- (d) No Error

54. Sentences are

- (a) Every mainstream party today
- (b) issues the ticket to
- (c) the kin of political heavyweights.
- (d) No Error

55. Sentences are

- (a) As a nation much has been
- (b) accomplished and therefore
- (c) much more remains to be done.
- (d) No Error

56. Sentences are

- (a) The career of many statesmen
- (b) in history ended in failure
- (c) for one reason or few.
- (d) No Error

Directions (Q. 57 - 61): Pick out the most appropriate *preposition* from amongst the *preposition* given below each sentence to complete it meaningfully

57. Fate smiled him in all his ventures.

- (a) At
- (b) With
- (c) For
- (d) On

58. How can I give..... when I am not at fault?

- (a) Up
- (b) Off
- (c) In
- (d) At

59. So many servants attended him during his ailment.

- (a) Upon (b) At (c) On (d) For

60. My friend has run short money.

- (a) To (b) In (c) Of (d) At

61. Do you know how to look a word in the dictionary?

- (a) For (b) To (c) Up (d) In

Directions (Q. 62 - 65): 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. On the eve of election, none should indulge in action that can influence the electorate.

B. It is also provided that ministers and other authorities shall not sanction grant out of discretionary funds from the time the elections are announced.

C. According to the model code, certain norms are to be followed by the parties and the party in power.

D. The party in power is not to make use of the government machinery to improve its prospects in the elections.

62. The correct order of sentences to form a meaningful paragraph?

- (a) CADB (b) CBDA (c) ADBC (d) BDCA

63. Which sentence is coming at the second place from the last in the paragraph?

- (a) B (b) D (c) C (d) A

64. Which sentence is coming at the first place in the paragraph?

- (a) A (b) B (c) C (d) D

65. Which is the last sentence in the paragraph?

- (a) D (b) C (c) B (d) A

Directions (66 to 67): Pick out the most *effective word* from the given words to fill in the blanks to make the sentences meaningfully correct.

66. The dean tried to retain control of the situation on campus, but his attempt was _____ by the board of trustees.

- (a) endorsed (b) frustrated
(c) disclosed (d) witnessed

67. We lost confidence in him because he never _____ on the promises he had made.

- (a) forgot (b) delivered
(c) tried (d) retreated

Directions (Q. 68 – 70): In each of the following questions, a related pair of words is followed by four lettered pairs of words or phrases. Select the lettered pair that best expresses a *relationship* similar to that expressed in the original pair.

68. PISTON: CYLINDER:

- (a) elevator : shaft (b) vertex : triangle
(c) bullet : revolver (d) kitchen : colander

69. ERUDITE : SCHOLAR ::

- (a) remote : hermit (b) pliant : beggar
(c) meandering : traveller (d) mendacious : liar

70. STAR : CLUSTER ::

- (a) orange : rind (b) comet : orbit
(c) tree : clump (d) mirror : reflection

Directions (Q. 71 - 72): Read each sentence carefully. Four choices are given for each sentence. You have to *choose* the one that is *closest in meaning* to the original sentence.

71. Media is known as the watchdog of society. It makes the people aware of whatever is going in the society.

(a) Media makes people closer to the society by focusing on its positive aspects.

(b) Media plays the role of informer who makes the people aware of whatever good or bad takes place in society.

(c) Without media people can not be aware of what sort of unethical deeds take place around them.

(d) Media informs people about the rampant malpractices in the society.

72. The prospect for resumption of the dialogue with Pakistan remains dim, but there can be no escape from it in the ultimate analysis. At some stage, the two neighbours will have to talk-- to engage each other to find peace.

(a) Although the chance of revival of talks with Pakistan is very low, it is essential for peace-building between the two countries.

(b) Only dialogues between India and Pakistan can make peace in the region but that is impossible in the present context.

(c) Only a new series of debate can solve the problems of India and Pakistan amidst tension.

(d) India and Pakistan cannot escape from the present situation for indulging in talks.

Directions (Q. 73 - 75): Which of the following phrases (a), (b), (c) or (d) should replace the *phrase* printed in italics to make the sentence grammatically correct?

73. If Buddhism and Jainism *survives*, it is because of their profound faith in non-violence, non-hatred and love for peace.

- (a) had survived (b) has survived
(c) did survived (d) have survived

74. The other argument in favour of the so-called conversion is that *if you has* something good, you must offer it to someone else

- (a) if you have (b) if you had
(c) if you do has (d) if you did have

75. Indians *does not need* a lesson from anyone else in religious tolerance.

- (a) do not need (b) did not needed
(c) did not needed (d) do not needs

SECTION – III: Computer Awareness

76. The main advantage of *interrupt* is elimination of

- (a) spooling
(b) polling
(c) job scheduling
(d) blocking the currently running process

77. Multiprocessing

- (a) makes the operating system simpler
(b) allows multiple processes to run simultaneously
(c) is completely understood by all major computer vendors
(d) allows the same computer to have multiple processors

78. Match the following

- (x) Batch processing (1) Round robin
(y) Time sharing (2) LIFO
(z) Interrupt Processing (3) FIFO
(a) x-2 y-1 z-3
(b) x-1 y-2 z-3
(c) x-3 y-1 z-2
(d) x-2 y-3 z-1

79. *Round robin* is a

- (a) kind of magnetic drum
(b) process scheduling policy
(c) process updation policy
(d) memory allocation policy

80. The FIFO algorithm

- (a) executes first the job that last entered the queue
(b) executes first the job that first entered the queue
(c) executes first the job with the least processor needs
(d) executes first the job that has been in the queue the longest

81. Sapping

- (a) works best with many small partitions
(b) allows many programs to use memory simultaneously
(c) does not work with multiprogramming
(d) none of the above

82. Files can have

- (a) Read access (b) Execute access

(c) Write access

(d) all of the above

83. With *electronic-mail* you can do which of the following?

- (a) Send and read mail
(b) Delete, reply to, or forward
(c) both (a) and (b) above
(d) Send and reply only

84. A program written in machine language

- (a) is easy to understand and modify
(b) runs more slowly than a program written in a high-level language
(c) both (a) and (b) above
(d) machine dependent

85. Find odd man out

- (a) Batch processing (b) Multiprogramming
(c) Time sharing (d) Inter operating

86. Match the following

- (A) Terabyte (i) 2^{30} bytes
(B) Gigabyte (ii) 2^{10} or 1024 bytes
(C) Kilobyte (iii) 2^{20} bytes
(D) Megabyte (iv) 2^{40} bytes
(a) A-(i) B-(iv) C-(ii) D-(iii)
(b) A-(iv) B-(i) C-(ii) D-(iii)
(c) A-(i) B-(iii) C-(ii) D-(iv)
(d) A-(iii) B-(iv) C-(ii) D-(i)

87. Match the following

- A. Booting (i) dot that appears on screen
B. Pixel (ii) a pointing input device
C. Light pen (iii) temporary memory location in CPU
D. Register (iv) process of loading the operating system into memory
(a) A-(iv) B-(i) C-(ii) D-(iii)
(b) A-(ii) B-(i) C-(iii) D-(iv)
(c) A-(iii) B-(i) C-(iv) D-(ii)
(d) A-(iv) B-(ii) C-(i) D-(iii)

88. *Structured programming* involves control structure?

- (a) sequence (b) branch
(c) loop (d) all of the above

89. *Error* in a program can be?

- (a) syntax error (b) logical error
(c) execution error (d) all of the above

90. Find odd man out?

- (a) Machine language (b) Assembly language
(c) High level language (d) Computer language

91. Which of the following is not a *backup device*?

- (a) Floppy disk
(c) Optical disk

- (b) Hard disk
(d) RAM disk

92. Type of *Optical disks*?

- (a) CD
(c) WORM

- (b) DVD
(d) all of these

93. A group of *computers linked* together?

- (a) Network
(c) Evolution

- (b) Generation
(d) Hardware

94. Combination of Analog & Digital computers is known as?

- (a) Mixed Computer
(b) Hybrid Computer
(c) Semi-Analog-Digital Computer
(d) Semi-Digital-Analog Computer

95. Modes of transmission of data over *network*?

- (a) simplex
(c) full duplex

- (b) half duplex
(d) all of the above

96. WWW stands for

- (a) World Wide Web
(c) Wide Web World

- (b) Web World Wide
(d) World Web Wide

97. The physical components of a computer system?

- (a) Software
(c) Programmer

- (b) Hardware
(d) Data

98. Which of the following doesn't serve as coding system of computers?

- (a) EBCDIC
(c) PDP

- (b) ASCII
(d) BCD

99. *RAM* is a

- (a) read only memory
(b) read-write memory
(c) write only memory
(d) none of these

100. *GUI* stands for

- (a) Graphical Unable Interface
(b) Graphical User Interface
(c) Geographical User Interface
(d) Geographical Unable Interface

101.is a *finished result* of processing by a computer?

- (a) Input
(c) Output

- (b) Processing
(d) Memory

102. *Internet Explorer* is an example of

- (a) Web Site

- (b) Web Page

- (c) Web Browser

- (d) Web Link

103. A *large network* made up of several smaller networks?

- (a) Internet
(c) Ethernet

- (b) Local Area Network
(d) IEEE

104. The process of *finding and correcting errors* in a program

- (a) Bugging
(c) Checking

- (b) Debugging
(d) Controlling

105. All *programming languages*

- (a) are compatible with each other
(b) can be supported by any operating system
(c) have the same syntax
(d) none of the above

106. *Indexed-Sequential* organization

- (a) storing records in contiguous blocks
(b) stores records sequentially but uses an index to locate records
(c) has records placed randomly throughout the file
(d) none of the above

107. Another name of Primary storage

- (a) Auxiliary storage
(c) Main storage

- (b) Secondary storage
(d) Permanent storage

108. *Dot matrix* printer when compared to *laser* printer is

- (a) quieter
(c) less expensive

- (b) faster
(d) both (a) & (b)

109. *Download* stands for

- (a) transferring a file from another computer to user's computer
(b) transferring a file from user computer to another computer
(c) verify a file on user's computer
(d) searching a file on user's computer.

110. *Database* is an organized collection of

- (a) data
(c) software

- (b) programs
(d) hardware

SECTION – IV: Logical and Analytical Ability

Directions (Q. 111 - 113): A *statement* is given followed by several *assumptions*. An *assumption* is something assumed or taken for granted. Read the *statement* carefully and decide which of the assumptions are implicit in the statement.

111. Statement: "Do not touch stray objects. They may be bombs." -a notice by the City Police

Assumptions:

I. Stray objects are harmless.

II. Stray objects may be touched by people.

III. People will take notice of the warning.

- (a) I and II are implicit
- (b) II and III are implicit
- (c) I and either II or III are implicit
- (d) At least one of the above is implicit

112. Statement: "You should not drink whisky. You must take care of your health." - *A* tells his friend.

Assumptions:

I. *A* knows about the ill-effects of whisky.

II. Whisky is intoxicating.

III. Whisky is not good for health.

- (a) Only III is implicit
- (b) I and II are implicit
- (c) II and III are implicit
- (d) I and III are implicit

113. Statement: "I cannot marry my daughter to him. He drinks, gambles and even visits brothels." - *A* tells *B*.

Assumptions:

I. My daughter will agree with my decision.

II. Drinking is not a desirable quality of a husband.

III. *B* is interested in marrying *A*'s daughter.

- (a) Only I is implicit
- (b) Only II is implicit
- (c) II and III are implicit
- (d) Only III is implicit

Directions (Q. 114 - 116): Each question given below is followed by *two arguments* numbered *I* and *II*. You have to decide which of the arguments a 'strong' argument is and which a 'weak' argument is.

Give answer **(a)** if *only* argument *I* is strong; **(b)** if *only* argument *II* is strong; **(c)** if *either I or II* is strong; **(d)** if *neither I nor II* is strong.

114. Statement: Should health care service be nationalised?

Arguments:

I. Yes. It has been done elsewhere also.

II. No. The quality of health care service will deteriorate.

115. Statement: Should India manufacture atom bombs?

Arguments:

I. Yes. It is imperative to protect the sovereignty and integrity of the country.

II. No. This will create imbalance in the power of nations in this region.

116. Statement: Should coal engines be replaced by electric engines in trains?

Arguments:

I. Yes. Coal engines cause a lot of pollution.

II. No. India produce enough electricity to fulfill even

the domestic needs.

Directions (Q. 117 - 119): 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.

117. Statement: Cases of bride-burning for dowry are not uncommon.

Conclusions:

I. In spite of anti-dowry laws, the ill practice continues.

II. The punishment inflicted on the party concerned is not sufficient.

118. Statement: The doctors nursed only those bleeding wounds which were caused by bullets. A patient *X* was bleeding profusely.

Conclusions: I. *X* was nursed by the doctors.

II. The doctors did not nurse *X*.

119. Statement: The oceans are a storehouse of practically every mineral, including uranium. But like most other minerals it is found in extremely low concentrations - about three grams for 1000 tonnes of water.

Conclusions: I. Sea water contains gold.

II. The oceans harbour radiation hazards.

Directions (Q. 120 - 122): A *statement* is given followed by three *courses of action*. A *course of action* is taken for improvement, follow-up etc. Read the statement carefully and pick the correct answer choice.

120. Statement: Passengers travelling by the Indian Railways face a lot of hardships and inconveniences.

Courses of action:

I. Efforts should be made to stop overcrowding in trains.

II. Facilities for safe and pure drinking water should be provided.

III. The railway stations and platforms should be made more clean and hygienic.

(a) I and II follow (b) II and III follow

(c) I and III follow (d) All follow

121. Statement: Despite several efforts, AIDS appears to be spreading rapidly in India.

Courses of action:

I. The government should confine people suffering from AIDS in a separate cell.

II. An awareness drive should be launched to increase awareness about AIDS.

III. Sexual promiscuity should be discouraged.

(a) I and II follow (b) II and III follow

(c) I and III follow (d) Only II follow

122. Statement: According to one report, the cases of kidnapping have risen exponentially over the last couple of years.

Courses of action:

- I. Stricter laws should be enacted against kidnapping.
- II. A separate monitoring cell should be created within the police department to monitor cases of kidnapping.
- III. Children should be taught self-defense skills such as judo to keep kidnappers away.

- (a) Only I follows
- (b) I and II follow
- (c) I and III follow
- (d) All follow

Directions (Q. 123 – 127): The questions below consist of a question followed by two *statements* labeled *I* and *II*. You have to decide if these statements are *sufficient* to answer the question. Give answer

- (a) if statement *I alone* is *sufficient* to answer the question but statement *II alone* is not sufficient to answer the question;
- (b) if statement *II alone* is *sufficient* to answer the question but statement *I alone* is not sufficient to answer the question;
- (c) if you cannot get the answer from statements *I and II* together but still *more data* are needed.
- (d) if you can get the answer from *I and II together* although neither statements suffices by itself.

123. Is *X* the brother of *Y*?

Statements: I. *Y* is the brother of *X*.

II. *A* is the mother of both *X* and *Y*.

124. Are mangoes sweet?

Statements: I. All vegetables are sweet.

II. Mango is a vegetable.

125. What is the number of sides of a regular polygon?

Statements:

- I. The product of all its internal angles is 540° .
- II. The angles subtended by all the side at its centre are equal to 72° .

126. Is it going to rain tomorrow?

Statements: I. tomorrow is Tuesday.

II. Sometimes, it rains on Tuesdays.

127. Is Mohan taller than Sudha?

Statements: I. Sudha is not the tallest.

II. Vandana is not the tallest.

Directions (Q. 128 – 130): We come across many *funny incidents* related to different walks of life. One of the funny incidents is the *punch line* or a *climax* - which gives the incident a sudden transformation or twist.

In each of the following questions *consider the incident* and decide which of the two statements fits as a *punch line*.

Give answer '*Only I*' if you think only statement I fits; '*Only II*' if you think only statement II fits; '*Both*' if you think both I and II fit; and '*Neither*' if you think neither of the statements fits.

128. Passenger: "Which end of the bus do I get off?"

Conductor: "....."

I. Either. It stops at both ends.

II. Either. You are a free man, aren't you?

- (a) Only I
- (b) Only II
- (c) Neither
- (d) Both

129. They say that the way to a man's heart goes through his stomach. If I knew that, I would.....

I. have never married any man.

II. have never tried to be a good cook.

- (a) Only I
- (b) Only II
- (c) Neither
- (d) Both

130. The commander was shouting at the cadet: "The cook told me that you were so much drunk last night you kept on rolling an empty barrel in the basement for three hours."

The Cadet replied:.....

I. "But it wasn't empty, sir. You were inside the barrel."

II. "No, sir, I rolled it for only ten minutes."

- (a) Only I
- (b) Only II
- (c) Neither
- (d) Both

Directions (Q. 131 – 132): Do as directed in each of the following questions.

131. There are far fewer children available for adoption than there are people who want to adopt. Two million couples are currently waiting to adopt, but in 1982, the last year for which figures exist, there were only some 50,000 adoptions.

Which of the following statements, if true, most strengthens the author's claim that there are far fewer children available for adoption than there are people who want to adopt?

- (a) The number of couples waiting to adopt has increased significantly in the last decade.
- (b) The number of adoptions in the current year is greater than the number of adoptions in any preceding year.
- (c) The number of adoptions in a year is approximately equal to the number of children available for adoption in that period.
- (d) People who seek to adopt children often go through a long process of interviews and investigation by adoption agencies.

132. The burning of coal, oil and other combustible energy sources produces carbon dioxide, a natural constituent of

the atmosphere. Elevated levels of carbon dioxide are thought to be responsible for half the greenhouse effect. Enough carbon dioxide has been sent into the atmosphere already to cause a significant temperature increase. Growth in industrial production must be slowed, or production processes must be changed.

Which of the following, if true, would tend to weaken the strength of the above conclusion?

- (a) Many areas of the world are cold anyway, so a small rise in temperature would be welcome.
- (b) Most carbon dioxide is emitted by automobiles.
- (c) Carbon dioxide is bad for health.
- (d) Industry is switching over to synthetic liquid fuel extracted from coal.

Directions (Q. 133 – 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 the 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:** All pilots are brave men.
All astronauts are pilots.

Conclusions:

- I. All astronauts are brave men.
- II. Some pilots are astronauts.

- 134. Statements:** All students in my class are intelligent.
Rohit is not intelligent.

Conclusions:

- I. Rohit is not a student of my class.
- II. Rohit must work hard.

- 135. Statements:** All locks are keys.
No key is a spoon.

Conclusions:

- I. No lock is a spoon.
- II. No spoon is a lock.

Directions (Q. 136 – 140): Read the following information carefully and answer the questions given below it.

A student can be awarded free studentship by an institute if the following conditions are fulfilled:

- (i) Totally family income of the student should not be more than Rs. 24,000 per annum.
- (ii) A student should have secured not less than 60% marks in Higher Secondary and Graduation.
- (iii) A student should not be more than 22 years old as on 30-6-92.
- (iv) A student must not be availing any other scholarship.

(v) If a student satisfies all these criteria except (i) above and has excelled in games or sports at the district level, he will be entitled for free studentship.

(vi) If a student has secured 90% marks in graduation but has secured less than 60% marks in higher secondary, the student may be offered free studentship.

(vii) If the total family income of the student is less than Rs. 12,000 per annum, this is to be referred to the principal for waiving condition (iv) above.

(viii) If a student has secured at least 80% marks in both Higher Secondary and Graduation, the case may be referred to the Registrar to waive condition (iii) above.

On the basis of the above conditions, decide about the course of action that should be taken in the case of each of the student given below. You are not to assume anything in the case of any student.

Mark answer:

- (a) if the student can be given free studentship;
- (b) if the student cannot be given free studentship;
- (c) if the case is to be referred to the principal;
- (d) if the case is to be referred to the Registrar.

136. Vikram Dubey, who was born on 20th December 1973, has secured 90% marks in Higher Secondary and 50% marks in Graduation. He has not been awarded any other scholarship. The total income of the family is Rs. 1,500 per month.

137. Pratibha Kapoor was born on 10th October, 1974. She is the district badminton champion. She has secured 55% marks in both Higher Secondary and Graduation. She has not been awarded any other scholarship. The total income of her family is Rs. 20,000 per annum.

138. Nineteen years old as on 25.6.1992, Bhabani Das has secured 55% marks in Higher Secondary and 92% in Graduation. The total income of his family is Rs. 20,000 per annum. He does not have any other scholarship.

139. Subodh Kelkar has secured 85% marks in both Higher Secondary and Graduation. His date of birth is 15th March, 1960. He has not been awarded any other scholarship. The total income of his family is Rs. 21,000 per annum.

140. Samir Phadnis will be 24 years old as on 20th March, 1994. He has secured 65% marks in both Higher Secondary and Graduation. He has been awarded state level scholarship for higher studies. The total income of his family is Rs. 10,000 per annum.

Directions (Q. 141 – 145): Read the following information carefully and *answer* the questions given below it:

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.

141. Which volume is new, yellow-covered and a Gazetteer?

- (a) B (b) D
- (c) C (d) F

142. Which two volumes are old Gazetteers and have green covers?

- (a) B, C (b) B, E
- (c) B, F (d) C, E

143. Which is green-covered, old and a law report volume?

- (a) A (b) B
- (c) C (d) D

144. Which is the yellow-covered new law report volume?

- (a) E (b) D
- (c) C (d) A

145. Which of the following is the old volume of a Gazetteer?

- (a) C (b) D
- (c) E (d) B

Directions (Q. 146 – 148): Study the following information and answer the questions given below it:

A blacksmith has five iron articles *A*, *B*, *C*, *D*, and *E* each having a different weight.

- (1) A weighs twice as much as B.
- (2) B weighs four-and-a-half times as much as C.
- (3) C weighs half as much as D.
- (4) D weighs half as much as E.
- (5) E weighs less than A but more than C.

146. Which of the following is the lightest in weight?

- (a) A (b) B
- (c) C (d) D

147. Which of the above given statements is not necessary to determine the correct order of articles according to their weights?

- (a) 1 (b) 5
- (c) 3 (d) 4

148. Which of the following represents the descending order of weights of the articles?

- (a) A, B, E, D, C (b) B, D, E, A, C
- (c) E, C, D, A, B (d) C, A, D, B, E

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

149. When Amir saw Manjeet, he recalled 'He is the son of the father of the mother of my daughter.' What is Manjeet to Amir?

- (a) Brother-in-law (b) Brother
- (c) Cousin (d) Uncle

150. If B says that his mother is the only daughter of A's mother, how is A related to B?

- (a) Son (b) Father
- (c) Brother (d) Uncle