



## FCI EXAM-13 (Evening)

### General Intelligence

**Directions :** In questions no. 1 to 7, select the related word / number from the given alternatives.

1. French : France :: Dutch : ?  
(a) Holland      (b) Norway  
(c) Fiji            (d) Sweden
2. Problem : Solution : Task : ?  
(a) Job            (b) Duty  
(c) Work          (d) Accomplish
3. Cuba : Havana :: Cyprus : ?  
(a) Zagreb        (b) Prague  
(c) Cairo           (d) Nicosia
4. Wall : Brick :: Roof : ?  
(a) Tile            (b) Water  
(c) Shelter        (d) Room
5. Ink : Pen :: Paint : ?  
(a) Colour        (b) Brush  
(c) Canvas        (d) Artist
6. Australia : Kangaroo :: Siberia : ?  
(a) Yak            (b) Reindeer  
(c) Bear           (d) Yeti
7. 1 : 1 :: 25 : ?  
(a) 25            (b) 125  
(c) 240           (d) 625

**Directions :** In questions no. 8 to 14, find the odd number/ word/ number pair from the given alternatives.

8. (a) Frog        (b) Fish  
(c) Tortoise      (d) Crab
9. (13, 17, 23, 63, 71)  
(a) 13            (b) 23  
(c) 63            (d) 17
10. (a) 16, 25     (b) 36, 49  
(c) 64, 83       (d) 100, 121
11. (a) 8 - 56     (b) 11 - 115  
(c) 9 - 72        (d) 10 - 90
12. (a) Padma Bhushan  
(b) Bharat Ratna  
(c) Jeevan Raksha Padak  
(d) Param Vir Chakra
13. (a) Paneer      (b) Butter  
(c) Milk           (d) Ghee

14. (a) Computer    (b) Gas Stove  
(c) Iron Box      (d) Mixie
15. When  $8 - 5 = 643$ ,  $9 - 2 = 817$ , then  
 $7 - 3 = ?$   
(a) 463            (b) 494  
(c) 213            (d) 621

16. If  $15 \times 26 = 6512$ ,  $29 \times 36 = 6923$ ,  
then  $38 \times 59 = ?$   
(a) 9853          (b) 3859  
(c) 9835          (d) 9583

17. How many times does the number  
432 appear in the following rows?  
87653 75432 54322 24312 64321  
67643 41252 42132 54212 81912  
91432 43215 52432 54312 54302  
(a) 4            (b) 5  
(c) 6            (d) 7

18. Which number is wrong in the series?  
7, 8, 12, 20, 37, 62  
(a) 12            (b) 20  
(c) 37            (d) 62

19. Which word will appear fourth in the  
dictionary?  
(a) Solitary      (b) Solitude  
(c) Solitaire     (d) Soliloquy

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

- |            |                |
|------------|----------------|
| 1. Verndah | 2. Kitchen     |
| 3. Porico  | 4. Bathroom    |
| 5. Hall    | 6. Dining room |
- (a) 3, 4, 6, 2, 1, 5  
(b) 3, 1, 5, 6, 2, 4  
(c) 3, 5, 6, 1, 2, 4  
(d) 3, 1, 5, 6, 4, 2

**Directions :** In question no. 21 to 23, which  
one set of letters when sequentially placed at  
the gaps in the given letter series shall  
complete it?

21. \_bas \_asb \_s \_a \_ba  
(a) shabs        (b) beans  
(c) shaba        (d) sabbs
22. bms \_tvb \_ut \_bm \_u \_vbmmt  
(a) unvest      (b) mvuts  
(c) vusmt       (d) uvstn

23. a\_cdsab\_oc\_dau\_nbb\_ceddd  
(a) bdbda  
(b) bddca  
(c) dbbca  
(d) bbdac

**Directions :** In questions no. 24 to 28, a series is given with one number/letter missing. Choose the correct alternative from the given ones that will complete the series.

24. 138, 142, 146, 150, ?, 142, 128  
(a) 146            (b) 144  
(c) 148            (d) 140

25. 5, 15, 45, ?, 135  
(a) 24            (b) 364  
(c) 72            (d) 96

26. 0, 7, 26, 63, ?  
(a) 125            (b) 126  
(c) 124            (d) 98

27. Y, U, Q, M, I, ?  
(a) G            (b) E  
(c) C            (d) D

28. 18, 20, 21, 22, 24, 25, 26, 27, 28, 30,  
?  
(a) 31            (b) 32  
(c) 34            (d) 36

29. When a tree was planted in the  
garden, its height was 12 cm. At the  
end of one year, it became 18 cm  
high. At the end of two years, its  
height increased to 27 cm. What will  
be its height (in cm) at the end of  
three years?  
(a) 45            (b)  $40\frac{1}{2}$   
(c) 40            (d) 39

30. Yash is at 21<sup>st</sup> position in a class of 51  
boys. What is his position from the  
end?  
(a) 29            (b) 28  
(c) 27            (d) 31

31. From the given alternative words, select the word which **cannot** be formed using the letters of the given word :

CIRCUMSTANTIAL  
 (a) CIRCUS  
 (b) MANIAC  
 (c) STAND  
 (d) RATIONAL

32. If in a certain code, MICROWAVE is written as LJSNOGZWD, how is POPULAR written in that code?

(a) OPOVKBO  
 (b) KHQVOPA  
 (c) QBVPAV  
 (d) OPRVPAV

33. If PUNCTUAL can be written as 47819765, how can LUNA be written in that code?

(a) 5786      (b) 5867  
 (c) 7586      (d) 5678

34. If  $1 \times 2 \times 4 = 248$  and  $1 \times 2 \times 3 = 246$ , then  $3 \times 2 \times 4 = ?$

(a) 324      (b) 423  
 (c) 648      (d) 243

35. If 'MONEY PLUS' is used as a code word by a shopkeeper for marking the price of articles, where M stands for ₹ 1, O for ₹ 2, N for ₹ 3, E for ₹ 4, Y for ₹ 5 and so on, what is the price of an article marked as PLUM?

(a) ₹ 6,781      (b) ₹ 1,678  
 (c) ₹ 7,816      (d) ₹ 1,671

36. If "FEED" is coded as 20, then "BREAD" will be coded as

(a) 15      (b) 60  
 (c) 35      (d) 80

37. On a dice a, b, c and d are written on the adjacent faces in a clockwise order and e and f are at the top and bottom of the cube. When c is at the top, what will be at the bottom?

(a) c      (b) a  
 (c) e      (d) b

38. In the alphabetical order A, B, C, D, ..., Z, which letter is  $10^{\text{th}}$  to the right of the letter which is  $4^{\text{th}}$  to the left of F and which letter is  $13^{\text{th}}$  to the right of the letter which is  $3^{\text{rd}}$  to the right of T? Which of the following letters indicates the correct answer?

(a) M      (b) K  
 (c) N      (d) L

39. A statement is given followed by four inferences marked A, B, C and D. Find

out the inference that definitely follows from the given statement.

**Statement :** Most of the doctors of this hospital are foreign returned.

#### Inferences :

- (a) There is no doctor who has not gone abroad
- (b) This hospital has a few doctors who have not gone abroad
- (c) All doctors are foreign returned
- (d) All hospitals have foreign returned doctors

40. A statement is given, followed by two conclusions I and II. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follow from the given statement.

**Statement :** A book on Yoga is intended to guide the layman to study Yoga in the absence of a teacher.

#### Conclusions :

- I. A teacher may not always be available to teach Yoga.
- II. Yoga can be studied from a book.
- (a) Only conclusion I follows
- (b) Only conclusion II follows
- (c) Both conclusions I and II follow
- (d) Neither conclusion I nor II follows

41. Based on the details, estimate the number of people affected by liver problems in the year 1986.

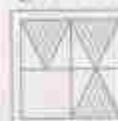
1986    1988    1990    1992    1994

?      35      21      125      197

(a) 36      (b) 11  
 (c) 17      (d) 23

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

#### Question Figures :



#### Answer Figures :

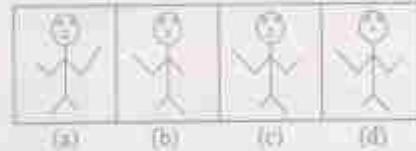


43. Pick out the picture similar to the question figure.

#### Question Figures :



#### Answer Figures :

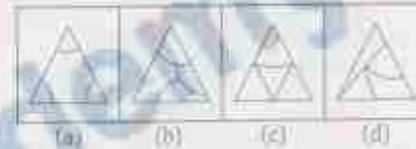


44. Identify the answer figure from which the pieces given in the question figure have been cut.

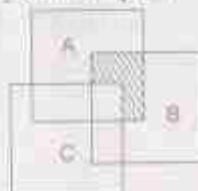
#### Question Figures :



#### Answer Figures :

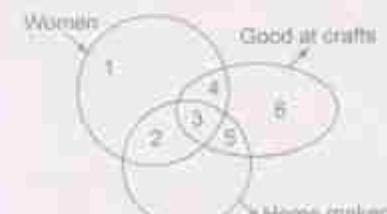


45. The following diagram represents the people who read various types of books. Here A represents magazines, B represents short stories books and C represents novels. What does the shaded portion depict?



- (a) People who read short stories books and novels
- (b) People who read novels and magazines
- (c) People who read magazines and short stories books
- (d) People who read magazines, short stories books and novels

46. Which number indicates among women, home makers who are good at crafts?



- (a) 3      (b) 2  
 (c) 4      (d) 5

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

**Question Figures :**



**Answer Figures :**



48. A square sheet of paper is folded in a particular manner and a punch is made. When unfolded the paper appears as given below.

Find out the manner in which the paper is folded and punch is made from the given responses.

**Question Figures :**



## General Awareness

51. Social ownership of means of production is a feature of

- (a) Capitalist economies
- (b) Socialist economies
- (c) Mixed economies
- (d) Barter economies

52. The value of percentage change in the quantity demanded divided by the percentage change in the own price is known as

- (a) Elasticity of demand
- (b) Market elasticity of demand
- (c) Price elasticity of demand
- (d) Income elasticity of demand

53. Which direct tax among the following gives maximum net revenue to the Government?

- (a) Corporate Tax
- (b) Income Tax
- (c) Wealth Tax
- (d) Gift Tax

54. An increase in the Autonomous Government expenditure has direct impact on

- (a) aggregate supply of consumer goods
- (b) aggregate demand in the economy

**Answer Figures :**



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

**Question Figures :**



**Answer Figures :**



50. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices, given

below. The columns and rows of Matrix I are numbered from 0 to 4 and that of Matrix II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column; e.g., E can be represented by 12, 24, etc. and M can be represented by 56, 75, etc. Similarly, you have for the word OIL.

**Matrix I**

1	0	1	2	3	4
O	E	F	G	H	I
I	H	I	E	F	G
E	F	G	H	I	E
F	I	E	G	H	F
G	H	I	E	F	G

**Matrix II**

3	6	7	8	9
S	I	M	N	O
G	O	P	L	M
I	M	N	O	P
N	P	L	M	I

- (a) 67, 41, 86
- (b) 67, 42, 86
- (c) 65, 42, 86
- (d) 65, 41, 85

58. One-third of the members of the Rajya Sabha retire after every

- (a) one year
- (b) second year
- (c) third year
- (d) fifth year

59. Who administers the oath of office to the President?

- (a) Chief Justice of India
- (b) Speaker of Lok Sabha
- (c) Prime Minister
- (d) Vice-President

60. Which of the following States has the largest representation in the Lok Sabha?

- (a) Bihar
- (b) Maharashtra
- (c) Madhya Pradesh
- (d) Uttar Pradesh

61. The following period is referred to in Indian History as the 'Gandhian Era':

- (a) 1885 – 1905
- (b) 1905 – 1919
- (c) 1845 – 1885
- (d) 1920 – 1947

62. The first Anglo-Sikh war was fought (between the English and the Sikhs) during the Governor-Generalship of  
 (a) Lord Cornwallis  
 (b) Lord Ellenborough  
 (c) Lord Charles Metcalfe  
 (d) Lord Hardinge
63. Who created a territorial base for the Portuguese in India?  
 (a) Vasco-da-Gama  
 (b) Albuquerque  
 (c) Almeida  
 (d) Cabral
64. Which of the following languages was used by Asoka for administrative and social purposes?  
 (a) Prakrit      (b) Kharosthi  
 (c) Sanskrit      (d) Pali
65. The last Governor-General of India was  
 (a) Lord Wavell  
 (b) Dr. Rajendra Prasad  
 (c) Lord Mountbatten  
 (d) C. Rajagopalachari
66. The rate of Earth's rotation on its axis is highest on  
 (a) January 3  
 (b) December 22  
 (c) July 4  
 (d) None of the above as it never changes
67. Which river used to be known as 'Son of China'?  
 (a) Mekong      (b) Hwang Ho  
 (c) Yangtze      (d) Sikkang
68. Geysers erupt due to  
 (a) Hydrostatic pressure  
 (b) Geothermal energy  
 (c) The breaking of rocks  
 (d) Seawage or rain water
69. Which of the following fibre crops is grown on black soil?  
 (a) Cotton      (b) Jute  
 (c) Flax      (d) Hemp
70. Which one of the following is not a natural ecosystem?  
 (a) Forest  
 (b) Grassland  
 (c) Marshy land  
 (d) Aquarium
71. Leafy vegetables provide adequate  
 (a) Fats  
 (b) Iron  
 (c) Proteins  
 (d) Carbohydrates
72. The process of liberation of energy in human body by oxidation of food is called  
 (a) Respiration  
 (b) Digestion  
 (c) Fertilization  
 (d) Absorption
73. Pecten is found in  
 (a) Reptiles      (b) Birds  
 (c) Amphibia      (d) Mammalia
74. After their action hormones in the body are  
 (a) recycled  
 (b) destroyed  
 (c) absorbed  
 (d) used as catalysts
75. Which is an insectivorous plant?  
 (a) *Helianthus*      (b) *Strobilanthus*  
 (c) *Nepenthes*      (d) *Hibiscus*
76. The blood vessel having smallest diameter in the body is  
 (a) Vein      (b) Artery  
 (c) Capillary      (d) Arteriole
77. Which of the following cannot be polarized?  
 (a) Sound waves in air  
 (b) Radio waves  
 (c) Visible rays  
 (d) Infra-red rays
78. Optical fibre is used to transmit  
 (a) X-rays      (b) laser beam  
 (c) gamma rays      (d) cosmic rays
79. In which of the following media does light have the lowest velocity?  
 (a) Air      (b) Water  
 (c) Kerosene      (d) Glass
80. Archimedes Principle holds true for  
 (a) solids only      (b) liquids only  
 (c) gases only      (d) fluids only
81. Which one of the following is not an operating system?  
 (a) MS-DOS      (b) UNIX  
 (c) Mac OS      (d) Windows 3-x
82. Before one can access information through Internet, the computer must be equipped with a hardware device called  
 (a) Mouse      (b) Modem  
 (c) Multiplexer      (d) Printer
83. The chemical name for Vitamin C is  
 (a) Formic acid  
 (b) Ethyl alcohol  
 (c) Ascorbic acid  
 (d) Tartaric acid
84. Dry ice is  
 (a) Solid sulphur dioxide  
 (b) Solid nitrogen dioxide  
 (c) Solid ammonium chloride  
 (d) Solid carbon dioxide
85. The gas that smells like rotten eggs is  
 (a) Sulphur dioxide  
 (b) Nitrogen oxide  
 (c) Hydrogen sulphide  
 (d) Ammonia
86. The popular name of Cubic Zirconia is  
 (a) Corborundum  
 (b) American diamond  
 (c) Ceramic  
 (d) Plaster of Paris
87. Which of the following eco-systems is not naturally occurring?  
 (a) Mangrove forest  
 (b) National parks  
 (c) Marine Park  
 (d) Plantations
88. The natural environment refers to  
 (a) the atmosphere in a forest  
 (b) the plants and animals in a forest  
 (c) the atmosphere of an area - a forest, a lake or an ocean  
 (d) the living organism and non-living objects or factors in a area undisturbed by human activity
89. The LPG is produced during refining of crude oil. Its major components are  
 (a) methane and butane  
 (b) methane and ethane  
 (c) propane and butane  
 (d) propane and methane
90. Albedo of a surface is defined as  
 (a) refracted radiation/incident radiation  
 (b) reflected radiation/incident radiation  
 (c) incident radiation/reflected radiation  
 (d) incident radiation/refracted radiation
91. Who has taken the maximum number of wickets in Test cricket?  
 (a) Muttiah Muralitharan      (b) Kapil Dev  
 (c) Shane Warne      (d) Anil Kumble
92. 'AGMARK' is  
 (a) a cooperative for production of eggs  
 (b) a regulated agricultural market  
 (c) an agrarian development market  
 (d) a quality stamp for some commodities

93. First Indian train having ISO 9001 Certificate runs between  
 (a) Hazrat Nizamuddin – Agra Canit  
 (b) Hazrat Nizamuddin – Hubseebganj  
 (c) Delhi – Kolkata  
 (d) Delhi – Kota
94. 'A Secular Agenda' is a book written by  
 (a) M.J. Akbar  
 (b) Prem Shankar Jha  
 (c) Arun Shourie  
 (d) Mani Shankar Aiyar
95. Bandipur National Park is situated in the State of  
 (a) Bihar  
 (b) Jharkhand  
 (c) Odisha  
 (d) Karnataka
96. Kalpakkam in Tamil Nadu these days is in the news for its  
 (a) Thermal Power Plant  
 (b) Hydel Power Plant  
 (c) Atomic Power Plant  
 (d) None of the above
97. Gir forest is known for  
 (a) Lions      (b) Deer  
 (c) Tigers      (d) Elephants
98. What is known as rock cotton?  
 (a) Asphalt    (b) Asbestos  
 (c) Gypsum    (d) Limestone
99. Which of the following combinations of the States and the festivals mainly celebrated there is *not* correct?  
 (a) Rajasthan – Gangaur Teej  
 (b) Maharashtra – Ganesh Chaturthi  
 (c) Uttar Pradesh – Krishna Janmashtami  
 (d) Gujarat – Durga Pooja
100. Who is the first non-Indian to receive the Bharat Ratna?  
 (a) Martin Luther King  
 (b) Mother Teresa  
 (c) Khan Abdul Ghaffar Khan  
 (d) Zubin Mehta

## Quantitative Aptitude

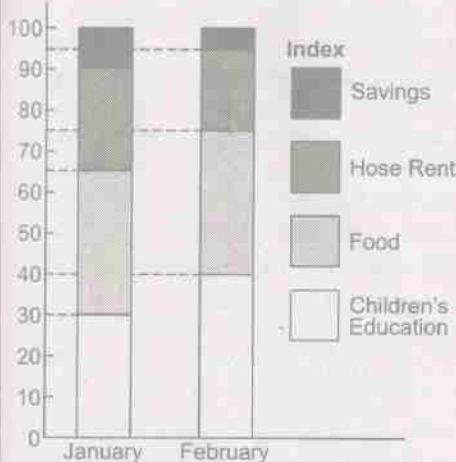
101. The value of  $\frac{(0.6)^4 - (0.5)^4}{(0.6)^2 + (0.5)^2}$  is  
 (a) 1.1      (b) 0.1  
 (c) 11        (d) 0.11
102. If  $\sqrt{2^{n+2}} = 8$ , then n must be  
 (a) 6          (b) 4  
 (c) 8          (d) 2
103. The number of ways of expressing 175 as the product of two whole numbers is  
 (a) 2          (b) 3  
 (c) 4          (d) 5
104. If  $\frac{1}{y-x}, \frac{1}{2y}$  and  $\frac{1}{y-z}$  are in Arithmetic Progression, then the relation between x, y and z is given by  
 (a)  $y^2 = xz$     (b)  $x+y=2y$   
 (c)  $2y = x+z$    (d)  $2x = x+y$
105. Find the simplest value of the expression  

$$\frac{1}{10} + \frac{2}{100} + \frac{3}{1000} + \frac{4}{10000}$$
  
 (a) 0.3421    (b) 0.2341  
 (c) 0.4321    (d) 0.1234
106. A and B can together do a piece of work in 28 days. If A, B and C can together finish the work in 21 days, how long will C take to do the work by himself?  
 (a) 7 days    (b) 42 days  
 (c) 84 days   (d) 35 days
107. Twelve men can complete a work in 8 days. Three days after they started the work, 3 more men joined. In how many days will all of them together complete the remaining work?  
 (a) 15 days   (b) 8 years  
 (c) 4 years    (d) 2 years
108. A shopkeeper gives 12% additional discount on the discounted price, after giving an initial discount of 20% on the labelled price of the radio. If the final sale price is ₹ 704, then what is its labelled price?  
 (a) ₹ 944.80   (b) ₹ 929.28  
 (c) ₹ 1000      (d) ₹ 1,044.80
109. The marked price of a watch is ₹ 400. After allowing a discount of 25% on the marked price, there was still a loss of ₹ 20. The loss percent is  
 (a) 6           (b)  $6\frac{1}{4}$   
 (c)  $9\frac{2}{3}$         (d) 12
110. An amount of ₹ 1,200 is distributed among A, B and C in the ratio of 5 : 7 : 13. What is the difference between the shares of C and B?  
 (a) ₹ 288      (b) ₹ 328  
 (c) ₹ 296      (d) ₹ 286
111. A dog takes 6 leaps for every 4 leaps of a hare and 2 leaps of the dog are equal to 5 leaps of the hare. What is the ratio of their speed?  
 (a) 8 : 13      (b) 24 : 15  
 (c) 12 : 7      (d) 15 : 4
112. After replacing an old member by a new member, it was found that the average age of 5 members of a club is the same as it was 3 years ago. The difference between the ages of the replaced and the new member is  
 (a) 15 years   (b) 8 years  
 (c) 4 years    (d) 2 years
113. A shopkeeper proposes to sell his goods on cost price but uses 800 gm instead of 1 kg. What is his gain percent?  
 (a) 25           (b) 35  
 (c) 15           (d) 30
114. A fruit seller purchased 50 kg of mangoes at the rate of ₹ 22 per kilo. He sold some of the mangoes at the rate of ₹ 30 per kilo and the rest at the rate of ₹ 20 per kilo. If he incurred 25% profit overall, the amount of mangoes that can be sold at the rate of ₹ 20 per kilo is  
 (a) 12.5 kg    (b) 37.5 kg  
 (c) 25 kg       (d) 20.5 kg
115. If a number is decreased by 10%, it becomes 54. By what percent should it be increased to make it 72?  
 (a) 12           (b) 21  
 (c) 10           (d) 20
116. Due to increase in cost of cooking oil by 40%, the consumption of oil by a consumer is decreased by 20%. Then the expenditure for oil of that consumer will be changed by  
 (a) 20% increase  
 (b) 20% decrease  
 (c) 12% increase  
 (d) 12% decrease
117. A man crosses a street 600 metres long in 5 minutes. His speed in km/hr is  
 (a) 8.4          (b) 3.6  
 (c) 7.2          (d) 10

118. The simple interest in 3 years and compound interest in 2 years on a certain sum of money at the same rate are ₹ 1,200 and ₹ 832 respectively. The principal is  
 (a) ₹ 7,500      (b) ₹ 4,000  
 (c) ₹ 3,000      (d) ₹ 5,000
119. The area of a trapezium is  $384 \text{ cm}^2$ . Its parallel sides are in the ratio  $3 : 5$  and the perpendicular distance between them is 12 cm. If each of the parallel sides are increased by 2 cm, then the area of the trapezium increases by  
 (a)  $22 \text{ cm}^2$       (b)  $24 \text{ cm}^2$   
 (c)  $28 \text{ cm}^2$       (d)  $18 \text{ cm}^2$
120. The perimeter of an equilateral triangle is 36 cm. The area of the inscribed circle of the triangle is (in sq. cm)  
 (a)  $12\pi$       (b)  $24\pi$   
 (c)  $36\pi$       (d) None of these
121. A sphere is formed by melting three spheres of radii 1 cm, 6 cm and 8 cm. The radius of the new sphere will be  
 (a) 9 cm      (b) 10 cm  
 (c) 11 cm      (d) 12 cm
122. The radius of the base of a conical vessel is 10 cm and its height is 48 cm. The vessel is full of water. This water is poured into a cylindrical vessel having base radius 20 cm. The depth of water in the vessel is  
 (a) 4.5 cm      (b) 3 cm  
 (c) 4 cm      (d) 3.5 cm
123. The diagonal of a cube measures  $5\sqrt{3}$  cm. The surface area of the cube is (in  $\text{cm}^2$ )  
 (a) 216      (b) 252  
 (c) 150      (d) 240
124. Four equal circles of radius 4 cm touch each other externally. The area of the region bounded by the four circles (in  $\text{cm}^2$ ) is  
 (a)  $16\pi$       (b)  $4(4 - \pi)$   
 (c)  $16(4 - \pi)$       (d)  $64(4 - \pi)$
125. The radii of two solid right circular cylinders are 4 cm and 3 cm respectively and their heights are  $(h+1)$  cm and  $(2h+1)$  cm respectively. If the areas of the whole surface of the two cylinders are equal, then the ratio of their volumes is  
 (a) 5 : 16      (b) 20 : 27  
 (c) 16 : 37      (d) 80 : 81
126. If  $a^2 + a + 1 = 0$ , then one value of  $a^3 + 1$  is equal to  
 (a) 0      (b) 1  
 (c) 2      (d) 4
127. The distance of the point (-12, 9) from the origin is  
 (a) 12 units  
 (b) 9 units  
 (c) 15 units  
 (d) 21 units
128. If  $m = -5$ ,  $n = -3$ , then the value of  $m^3 - 3m^2 + 3m + 3n + 3n^2 + n^3$  is  
 (a) -224      (b) -201  
 (c) -187      (d) -152
129. If  $x = \frac{\sqrt{3} + 1}{\sqrt{3} - 1}$ ,  $xy = 1$ , the value of  

$$\left(\frac{x-y}{x+y}\right)^2$$
 is  
 (a)  $\frac{4}{3}$       (b)  $\frac{2}{\sqrt{3}}$   
 (c)  $\frac{\sqrt{3}}{2}$       (d)  $\frac{3}{4}$
130. If  $x + y - z = 6$ ,  $x^2 + y^2 + z^2 = 48$ , then the value of  $xy - yz - zx$  is  
 (a) + 8  
 (b) -8  
 (c) + 10  
 (d) -10
131. If each interior angle of a regular polygon is  $120^\circ$ , then the number of its sides are  
 (a) 3      (b) 6  
 (c) 4      (d) 5
132. G is the centroid of an equilateral  $\triangle ABC$ , each of whose sides is 12 cm. Then the length of AG is  
 (a)  $3\sqrt{3}$  cm  
 (b)  $4\sqrt{3}$  cm  
 (c)  $6\sqrt{3}$  cm  
 (d)  $8\sqrt{3}$  cm
133. Two tangents drawn at points A and B of a circle with centre O intersect each other at a point P. If  $\angle AOB = 120^\circ$ , then measure of  $\angle APB$  is  
 (a)  $80^\circ$       (b)  $70^\circ$   
 (c)  $62^\circ$       (d)  $60^\circ$
134. The side AC of the  $\triangle ABC$  is produced to D, such that  $CD = CB$ . If  $\angle ACB = 70^\circ$ , then the value of  $\angle ADB$  is  
 (a)  $35^\circ$       (b)  $40^\circ$   
 (c)  $45^\circ$       (d)  $55^\circ$
135. In a circle of radius 5 cm,  $\overline{AB}$  and  $\overline{AC}$  are two equal chords such that  $AB = AC = 6 \text{ cm}$ . The length of  $BC$  (in cm) is  
 (a) 1.2  
 (b) 2.4  
 (c) 4.8  
 (d) 9.6
136. If  $\tan \theta = \frac{3}{4}$  ( $\theta$  being positive acute angle), then the value of  $\sin \theta + \cos \theta$  is  
 (a)  $\frac{7}{3}$       (b)  $\frac{7}{4}$   
 (c)  $\frac{7}{5}$       (d)  $\frac{7}{10}$
137. The heights of two towers are 180 m and 60 m respectively. If the angle of elevation of the top of the first tower from the foot of the second is  $60^\circ$ , what is the angle of elevation of the top of the second from the foot of the first?  
 (a)  $30^\circ$       (b)  $60^\circ$   
 (c)  $45^\circ$       (d)  $22\frac{1}{2}^\circ$
138. If  $\sec \theta = \cosec \phi$  and the angles  $\theta$  and  $\phi$  be +ve acute angles, then the value of  $\sin(\theta + \phi)$  is  
 (a) 1      (b) 0  
 (c)  $\frac{1}{2}$       (d)  $\frac{1}{\sqrt{2}}$
139. If  $\frac{\sin \theta + \cos \theta}{\sin \theta - \cos \theta} = 3$ , then the value of  $\sin^2 \theta - \cos^2 \theta$  is  
 (a)  $\frac{3}{5}$       (b)  $\frac{5}{3}$   
 (c)  $\frac{2}{5}$       (d)  $\frac{5}{2}$
140. If  $\theta$  be a positive acute angle and  $\cos^4 \theta - \sin^4 \theta = \frac{2}{3}$ , then the value of  $1 - 2\sin^2 \theta$  is  
 (a)  $\frac{1}{3}$       (b)  $\frac{2}{3}$   
 (c) 1      (d)  $\frac{4}{3}$
141. Three years ago, the average age of a family of 5 members was 17 years. In the meantime a baby was born and the average age of the family is the same today. The present age of the baby is  
 (a) 2 years      (b) 2.4 years  
 (c) 3 years      (d) 1.5 years

**Directions :** Percent of division of Mr. X's income in different categories for the month of January and February is given below. Study the graph and answer questions no. 142-145.

**Total income :**

January 2010 = ₹ 35,000

**Total income :**

February 2010 = ₹ 45,000

142. The combined expenditure of Mr. X, in ₹, in February, on food and house rent was  
 (a) 2,250      (b) 19,250  
 (c) 24,750      (d) 42,750

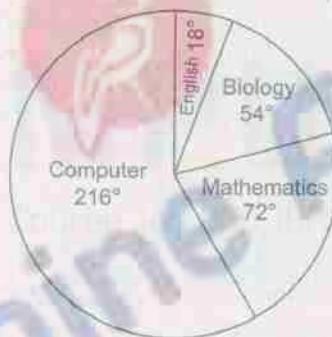
143. The difference in expenditure on food in January and February 2010, (in ₹) was

- (a) 0      (b) 1,250  
 (c) 3,500      (d) 7,500

144. If in February, 25% of the savings was spent for buying gifts, then Mr. X bought gifts worth ₹  
 (a) 2,500.00      (b) 2,250.00  
 (c) 875.00      (d) 562.50

145. The percentage change in the expenditure on house rent in the two months of January and February was  
 (a) increase of  $2\frac{6}{7}\%$   
 (b) decrease of  $2\frac{6}{7}\%$   
 (c) increase of  $2\frac{1}{7}\%$   
 (d) decrease of  $2\frac{1}{7}\%$

**Directions :** The following pie-chart shows the result of a survey among 100 students regarding their subject preference. Examine the chart and answer questions no. 146-150.



## • English Language

**Directions:** In questions no. 151 to 155, some parts of the sentences have errors and some have none. Find out which part of a sentence has an error. If a sentence is free from error choose the option (d).

151. The old man went to the barn (a)/to milk the cow (b)/with a cane. (c)/No error (d)

152. Everybody but Ram (a)/ has paid (b)/their dues. (c)/No error (d).

153. I saw (a)/a bad dream (b)/last night. (c)/No error (d)

154. Will you please (a)/tell me the reason (b)/of an earthquake? (c)/No error (d)

155. I owe (a)/ much to you (b)/ on our success. (c)/No error (d)

**Directions:** In questions no. 156 to 160, sentences are given with blanks to be filled in with an appropriate word (s). Four alternatives are suggested for each question. Choose the correct alternative out of the four.

156. They ..... park their car there! It's my garden.  
 (a) needn't      (b) doesn't  
 (c) can't      (d) don't

157. A team of three scientists ..... an artificial heart that can conduct blood circulation normally.

- (a) has developed  
 (b) have developed  
 (c) had developed  
 (d) is developed

146. How many students prefer Mathematics?  
 (a) 72      (b) 18  
 (c) 20      (d) 54

147. The number of students who prefer Computer exceeds that of the students who prefer Mathematics by  
 (a) 60      (b) 10  
 (c) 20      (d) 40

148. The percentage of students preferring Biology is less than that of Mathematics by  
 (a) 18  
 (b) 5  
 (c) 20  
 (d) 15

149. Preference in Biology exceeds that in English by  $x$  number of students. With respect to total number of students involved,  $x\%$  stands for  
 (a) 36%  
 (b) 10%  
 (c) 6%  
 (d) 12%

150. The ratio of students whose subject preference was Computer over Mathematics or English is  
 (a) 3 : 1  
 (b) 5 : 12  
 (c) 12 : 5  
 (d) 1 : 3

158. The mother was anxious ..... the safety of her son.

- (a) at      (b) upon  
 (c) on      (d) about

159. You will have to catch the morning flight, so you ..... get ready.

- (a) may      (b) must  
 (c) might      (d) would

160. She is one maid-servant ..... is hard to believe.

- (a) which      (b) whom  
 (c) what      (d) who

**Directions:** In questions no. 161 to 165, out of the four alternatives, choose the one which best expresses the meaning of the given word.

161. Cherish  
 (a) value      (b) appreciate  
 (c) admire      (d) flatter

162. Vigilant  
 (a) vigorous  
 (c) awake

163. Timid  
 (a) brave  
 (c) cowardly

164. Slander  
 (a) defend  
 (c) praise

165. Inflammable  
 (a) incombustible  
 (b) flammable  
 (c) non-flammable  
 (d) non-inflammable

**Directions:** In question no. 166 to 170, choose the word opposite in meaning to the given word.

166. Fictitious  
 (a) imaginative  
 (c) real

167. Morbid  
 (a) healthy  
 (c) sickly

168. Poverty  
 (a) deficiency  
 (b) sovereignty  
 (c) ardency  
 (d) affluence

169. Immoral  
 (a) chaste  
 (b) desirous  
 (c) trivial  
 (d) romantic

170. Audible  
 (a) faint  
 (c) auspicious

**Direction:** In questions no. 171 to 175, four alternatives are given for the Idiom/Phrase underlined in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase.

171. It all happened in the twinkling of an eye.  
 (a) before one's own eyes  
 (b) when everyone had their eyes turned away  
 (c) very quickly  
 (d) magically

172. The fire gave off a dense smoke.  
 (a) burnt  
 (b) showed  
 (c) emitted  
 (d) had fully

173. Never turn down the humble request of a poor man.  
 (a) criticise  
 (b) reject  
 (c) laugh at  
 (d) discourage

174. The threat to resign was his trump card.  
 (a) instrument  
 (b) hobby  
 (c) best weapon  
 (d) habit

175. How can I believe what you say about him? It was he who put a spoke in my wheel.  
 (a) helped me to repair my wheel  
 (b) helped me with additional equipment  
 (c) prevented me in the execution of my plan  
 (d) obstructed me from making progress

**Directions:** In questions no. 176 to 180, a part of the sentence is underlined. Below are given alternatives to the underlined part at (a), (b) and (c) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (d).

176. She failed to reach the target regardless of her best effort.  
 (a) despite  
 (b) irrespective of  
 (c) whatever  
 (d) No improvement

177. The less I see him the much I like him.  
 (a) the further  
 (b) the more  
 (c) the greater  
 (d) No improvement

178. I haven't given an examination for two years.  
 (a) set  
 (b) made  
 (c) taken  
 (d) No improvement

179. They are at a meeting upstairs.  
 (a) in the upstairs  
 (b) on the upstairs  
 (c) upstairs  
 (d) No improvement

180. Let us walk in the garden for dinner time.  
 (a) till  
 (b) by  
 (c) from  
 (d) No improvement

**Directions:** In questions no. 181 to 185, out of the alternatives choose the one which can be substituted for the given words/sentence.

181. Easily tricked or fooled  
 (a) Innocent  
 (b) Impulsive  
 (c) Guileless  
 (d) Naive

182. One who specialises in the study of birds  
 (a) Naturalist  
 (b) Biologist  
 (c) Zoologist  
 (d) Ornithologist

183. A person who readily changes his party or principles  
 (a) Scapegoat  
 (b) Turncoat  
 (c) Mercenary  
 (d) Immigrant

184. That which cannot be perceived  
 (a) Imperceptible  
 (b) Anonymous  
 (c) Intelligible  
 (d) Illegible

185. Property inherited from father (or ancestors)  
 (a) Pension  
 (b) Alimony  
 (c) Patrimony  
 (d) Legacy

**Directions:** In questions no. 186 to 190, there are four different words out of which one is correctly spelt. Find the correctly spelt word.

186. (a) interrogate  
 (b) interrogate  
 (c) interrogete  
 (d) interrogatate

187. (a) embarrassment  
 (b) embarrasment  
 (c) embrarassment  
 (d) embarrasment

188. (a) contemporary  
 (b) contemporay  
 (c) contemporay  
 (d) contamporary

189. (a) fascination  
 (b) fasination  
 (c) fascinution  
 (d) fascivation

190. (a) ambassador  
 (b) ambassyader  
 (c) ambassader  
 (d) ambassadot

**Directions:** In questions no. 191 to 200 you have a passage with 10 questions. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Dick Mathieu is a book publisher. His office on the fortieth floor of a skyscraper in the center of New York City is the world he works in. The world he lives in is a white house on a quiet street in a suburb 30 miles from the big city. Whether he is at work in the heart of the big city or at home in the quiet suburb, Dick's life is ruled by machines. In many ways he represents modern man in the big city—modern man in the machine age.

In a typical working day, Dick is awoken by the buzzing of an electric alarm-clock. As he pushes a button to silence the alarm, he turns on the radio beside his bed to hear the morning news. Then he goes to the bathroom for a quick shave with his electric shaver.

After dressing, Dick goes to the kitchen, where his wife has begun to prepare breakfast. Eggs are cooking on the electric stove, bread is being toasted in an electric toaster, and coffee is being made in an electric coffee maker. From the electric refrigerator Dick takes a carton of cream, another of fresh milk, and a carton of orange juice. He opens the cans with an electric can opener, mixes the contents with several cans of cold water, and the orange juice is ready.

191. What does Dick do? He's a ...  
 (a) salesman  
 (b) distributor  
 (c) writer  
 (d) book publisher
192. Dick ..... New York.  
 (a) lives in  
 (b) does not work in  
 (c) lives away from  
 (d) lives close to
193. What does Dick represent?  
 (a) A city man in the age of science  
 (b) Modernity  
 (c) Modern man in the machine age  
 (d) Modernism in the age of science
194. What does Dick find common at his place of work and at home?  
 (a) Comfort. (b) Noise.  
 (c) Quietness. (d) Machines.
195. Which of the following statements is true?  
 (a) Dick thinks about the day's work while he is getting dressed.  
 (b) Dick uses an electric shaver because he gets a faster shave.  
 (c) Dick listens to the radio news while he is drinking his coffee.  
 (d) Dick lives in the suburb because he thinks it is quieter and less crowded than New York.
196. Name three electric appliances which Dick's wife uses to prepare breakfast.  
 (a) stove, toaster and can opener  
 (b) refrigerator, can opener and toaster  
 (c) can opener, stove and coffee maker  
 (d) stove, toaster and coffee maker
197. What does the word 'heart' in the expression 'hearts the big city' mean?  
 (a) Capital. (b) Center.  
 (c) Middle. (d) Interior.
198. The phrase 'turns on' in the passage means ...  
 (a) switches on. (b) begins.  
 (c) starts on. (d) presses.
199. Which of the following statements is not true in the context of the passage?  
 (a) Dick uses an electric can opener because it opens cans more easily.  
 (b) Dick wakes up when the alarm clock goes off.  
 (c) Dick goes to the bathroom to shave.  
 (d) Dick goes to the kitchen after he wakes up.
200. Which of the following is the most appropriate title for the passage?  
 (a) Blessings of Science  
 (b) The relationship between Man and Machines  
 (c) A City Man in the Machine Age  
 (d) Man at the mercy of Machines

## ANSWER KEY OF FCI EXAMINATION (EVENING SESSION)- 2013

QNO.	ANS	QNO.	ANS	QNO.	ANS	QNO.	ANS
1	[ A ]	51	[ B ]	101	[ D ]	151	[ C ]
2	[ D ]	52	[ C ]	102	[ B ]	152	[ C ]
3	[ D ]	53	[ A ]	103	[ B ]	153	[ A ]
4	[ A ]	54	[ B ]	104	[ A ]	154	[ B ]
5	[ B ]	55	[ C ]	105	[ D ]	155	[ C ]
6	[ B ]	56	[ C ]	106	[ B ]	156	[ C ]
7	[ D ]	57	[ B ]	107	[ D ]	157	[ A ]
8	[ B ]	58	[ B ]	108	[ C ]	158	[ D ]
9	[ C ]	59	[ A ]	109	[ B ]	159	[ B ]
10	[ C ]	60	[ D ]	110	[ A ]	160	[ D ]
11	[ B ]	61	[ D ]	111	[ D ]	161	[ A ]
12	[ D ]	62	[ D ]	112	[ A ]	162	[ B ]
13	[ C ]	63	[ B ]	113	[ A ]	163	[ C ]
14	[ B ]	64	[ A ]	114	[ A ]	164	[ B ]
15	[ B ]	65	[ D ]	115	[ D ]	165	[ B ]
16	[ C ]	66	[ D ]	116	[ C ]	166	[ C ]
17	[ C ]	67	[ B ]	117	[ C ]	167	[ A ]
18	[ B ]	68	[ B ]	118	[ D ]	168	[ D ]
19	[ B ]	69	[ A ]	119	[ B ]	169	[ A ]
20	[ B ]	70	[ D ]	120	[ A ]	170	[ A ]
21	[ A ]	71	[ B ]	121	[ A ]	171	[ C ]
22	[ A ]	72	[ A ]	122	[ C ]	172	[ C ]
23	[ D ]	73	[ B ]	123	[ C ]	173	[ B ]
24	[ A ]	74	[ B ]	124	[ C ]	174	[ C ]
25	[ D ]	75	[ C ]	125	[ D ]	175	[ C ]
26	[ C ]	76	[ C ]	126	[ C ]	176	[ A ]
27	[ B ]	77	[ A ]	127	[ C ]	177	[ B ]
28	[ B ]	78	[ B ]	128	[ A ]	178	[ C ]
29	[ B ]	79	[ D ]	129	[ D ]	179	[ C ]
30	[ D ]	80	[ D ]	130	[ A ]	180	[ A ]
31	[ C ]	81	[ A ]	131	[ B ]	181	[ C ]
32	[ A ]	82	[ B ]	132	[ B ]	182	[ D ]
33	[ A ]	83	[ C ]	133	[ D ]	183	[ B ]
34	[ C ]	84	[ D ]	134	[ A ]	184	[ A ]
35	[ A ]	85	[ C ]	135	[ D ]	185	[ C ]
36	[ D ]	86	[ B ]	136	[ C ]	186	[ A ]
37	[ B ]	87	[ D ]	137	[ A ]	187	[ A ]
38	[ D ]	88	[ D ]	138	[ A ]	188	[ A ]
39	[ B ]	89	[ C ]	139	[ A ]	189	[ C ]
40	[ C ]	90	[ B ]	140	[ B ]	190	[ D ]
41	[ C ]	91	[ A ]	141	[ A ]	191	[ D ]
42	[ D ]	92	[ D ]	142	[ C ]	192	[ C ]
43	[ B ]	93	[ B ]	143	[ C ]	193	[ C ]
44	[ A ]	94	[ C ]	144	[ D ]	194	[ D ]
45	[ B ]	95	[ B ]	145	[ A ]	195	[ B ]
46	[ A ]	96	[ C ]	146	[ C ]	196	[ D ]
47	[ D ]	97	[ A ]	147	[ D ]	197	[ B ]
48	[ C ]	98	[ B ]	148	[ B ]	198	[ A ]
49	[ D ]	99	[ D ]	149	[ B ]	199	[ D ]
50	[ C ]	100	[ C ]	150	[ C ]	200	[ C ]

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