

Part A Reasoning

Directions (Q.Nos. 1-9) *In each of the following questions, select the related letters/words/numbers from the given alternatives.*

1. Fish : Scales :: Bear : ?

(a) Feathers

(b) Leaves

(c) Fur

(d) Skin

2. Writer : Pen :: ?

(a) Needle : Tailor

(b) Artist : Brush

(c) Painter : Canvas

(d) Teacher : Class

3. Numerical : Mathematics :: ? : English

(a) Synonyms

(b) Comprehension

(c) Letters

(d) Alphabets

4. NUMERAL : UEALRMN :: ALGEBRA : ?

(a) LRBAGEA

(b) BARLAGE

(c) LERAGBA

(d) LERABGA

5. BDAC : FHEG :: NPMO : ?

- (a) RQTS (b) QTRC
(c) TRQS (d) RTQS

6. PNJL : IGEC :: VTRP : ?

- (a) OMKI (b) RSTU
(c) QSRC (d) RPOM

7. 17 : 60 :: 20 : ?

- (a) 57 (b) 69
(c) 81 (d) 93

8. 6 : 64 :: 11 : ?

- (a) 144 (b) 169
(c) 121 (d) 124

9. 123 : 4 :: 726 : ?

- (a) 23 (b) 26
(c) 14 (d) 12

Directions (Q.Nos. 10-18) *Select the one which is different from the other three responses.*

10. (a) Flute (b) Violin
(c) Guitar (d) Sitar

11. (a) Ladder (b) Staircase
(c) Bridge (d) Escalator

12. (a) A (b) N
(c) F (d) M

13. (a) JKOP (b) MNST
(c) CABD (d) OPWX

14. (a) CAFD (b) TSWV
(c) IGLJ (d) OMRP

15. (a) Talking (b) Walking
(c) Sleeping (d) Running

16. (a) 162 (b) 405
(c) 567 (d) 644

17. (a) 156 (b) 201
(c) 273 (d) 345

18. (a) 16 - 25 (b) 64 - 81
(c) 36 - 49 (d) 100 - 110

19. Arrange the following words according to English Dictionary.

1. Epitaxy 2. Episode
3. Epigene 4. Epitome
5. Epilogue

- (a) 1, 2, 3, 4, 5 (b) 3, 2, 5, 4, 1
(c) 3, 5, 2, 1, 4 (d) 5, 4, 2, 1, 3

Directions (Q.Nos. 20-22) *Which one of the given responses would be a meaningful order of the following words in ascending order?*

20. 1. Neonate 2. Child
3. Infant 4. Embryo
(a) 1, 3, 2, 4 (b) 4, 1, 3, 2
(c) 4, 3, 1, 2 (d) 3, 1, 4, 2

21. 1. Plastering 2. Painting
3. Foundation, 4. Walls
(a) 3, 4, 2, 1 (b) 1, 2, 3, 4
(c) 4, 3, 2, 1 (d) 3, 4, 1, 2

22. 1. Phrase 2. Letter
3. Word 4. Sentence
(a) 1, 2, 3, 4 (b) 1, 3, 2, 4
(c) 2, 3, 1, 4 (d) 2, 3, 4, 1

23. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?
mnonopqopqrs _ _ _ _ _
(a) mnopq (b) oqrst
(c) pqrst (d) qrstu

Directions (Q.Nos. 24-27) *Choose the correct alternative from the given ones that will complete the series.*

24. AYD, BVF, DRH, ?, GKL
(a) FMI (b) GMJ
(c) GLJ (d) HLK

25. A, CD, GHI, ?, UVWXY
(a) LMNO (b) MNO
(c) MNOP (d) NOPQ

26. 13, 35, 57, 79, 911, ?
(a) 1110 (b) 1112
(c) 1113 (d) 1315

27. 2, 12, 36, 80, 150, ?
(a) 194 (b) 210
(c) 252 (d) 258

28. Find the wrong number in the given series
16, 22, 30, 45, 52, 66
(a) 30 (b) 45
(c) 52 (d) 66

29. In a row of boys, if A who is tenth from the left and B who is ninth from the right interchange their positions. Now, A becomes fifteenth from the left. How many boys are there in the row?
(a) 23 (b) 27
(c) 28 (d) 31

30. From the given alternatives, select the word which cannot be formed using the letters of the given word.

DETERMINATION

- (a) MINT (b) TEAM
(c) TAMED (d) NORTH

31. A group of alphabets are given with each being assigned a number. These have to be unscrambled into a meaningful word and correct order of letters may be indicated from the given responses.

N R O C T A

1 2 3 4 5 6

- (a) 1, 6, 2, 4, 3, 5 (b) 2, 3, 5, 4, 6, 1
(c) 4, 6, 2, 5, 3, 1 (d) 6, 5, 2, 3, 1, 4

32. If SYSTEM is written as SYSMET and NEARER is written as AENRER, then FRACTION will be written as

- (a) CARFNOIT (b) NOITFRAC
(c) FRACNOIT (d) CARFTION

33. If DICTIONARY is written as 1234256789, then ORDINARY is written as

- (a) 59126789 (b) 58126789
(c) 57326789 (d) 56126789

34. Some equations are solved on the basis of a certain system. On the same basis, find out the correct answer from amongst the four alternatives for the unsolved equation.

$$72 \times 96 = 6927, 58 \times 87 = 7885, 79 \times 86 = ?$$

- (a) 7689 (b) 8976
(c) 6897 (d) 6978

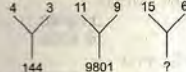
35. Insert the correct mathematical signs in the following equation $13 \ 3 \ 2 \ 1 = 15$

- (a) $\times, +, +$ (b) $+, -, \times$
(c) $+, -, +$ (d) $\div, \times, -$

36. Which of the following interchanges of signs and numbers would make the given equation correct? $3 + 5 - 2 = 4$

- (a) + and -, 2 and 3
(b) + and -, 2 and 5
(c) + and -, 3 and 5
(d) None of the above

Directions (Q.Nos. 37-38) Select the missing number from the given responses.

37. 
(a) 1216 (b) 2250
(c) 8100 (d) 11036

38.

13	54	?
7	45	32
27	198	68

- (a) 42 (b) 36
(c) 6 (d) 4

39. Shivam is facing towards West and turns through 45° clockwise, again 180° clockwise and then turns through 270° anti-clockwise. In which direction is he facing now?

- (a) West
(b) North-West
(c) South
(d) South-West

40. Laxman went 15 km to the West from my house, then turned left and walked 20 km. He then turned East and 25 km and finally turning left covered 20 km. How far was he from his house?

- (a) 5 km
(b) 10 km
(c) 40 km
(d) 80 km

41. A statement is given followed by two conclusions I and II. You have to consider the statement to be true even if they seem to be at variance from commonly known facts. You are to decide which of the given conclusions, if any, follow from the given statements. Indicate your answer.

Statement Morning walks are good for health.

Conclusions

- I. All healthy people go for morning walks.
II. Evening walks are harmful.

- (a) Only I follows
(b) Only II follows
(c) Either I or II follows
(d) Neither I nor II follows

42. A statement is given followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You are to decide which of the given conclusions, if any, follow from the given statements. Indicate your answer.

Statement Few shops on this road have neon lights, but they all have signboards.

Conclusions

- I. Some shops have either signboards or neon lights.
 II. Some shops have both signboards and neon light.

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

43. All surfaces of a cube are coloured. If a number of smaller cubes are taken out from it, each side $\frac{1}{4}$ the size of the original cube's side, indicate the number of cubes with only one side painted.

- (a) 60 (b) 32 (c) 24 (d) 16

44. A man walks 30 m towards South. Then, turning to his right, he walks 30 m. Then, turning to his left, he walks 20 m. Again, he turns to his left and walks 30 m. How far is he from his initial position?

- (a) 20 m (b) 50 m
 (c) 60 m (d) 80 m

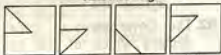
45. Which answer figure will complete the pattern of given question figure?

Question Figure



(X)

Answer Figures



(a)

(b)

(c)

(d)

46. Select the answer figure in which the question figure is hidden/embedded.

Question Figure



(X)

Answer Figures



(a)

(b)

(c)

(d)

47. A piece of paper is folded and cut as shown below in the question figure. From the given answer figures, indicate how it will appear when opened?

Question Figures

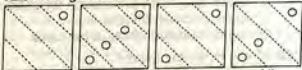


(X)

(Y)

(Z)

Answer Figures



(a)

(b)

(c)

(d)

48. Which of the figure is exactly the mirror image of the given figure, when the mirror is held on the line AB?

Question Figure



(X)

Answer Figures



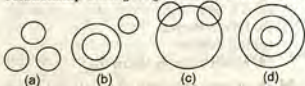
(a)

(b)

(c)

(d)

49. Which of the following diagram best depicts the relationship among English, Latin and Greek?



(a)

(b)

(c)

(d)

50. In the following question, 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 the two given matrices. The column and rows of matrix I are numbered from 0 to 4 and those of Matrix II from 5 to 9. A letter from these matrices can be represented first by its row and then the column number. Similarly, you have to identify the correct set for the word given in each question.

Matrix I

	0	1	2	3	4
0	F	O	M	S	R
1	S	R	F	O	M
2	O	M	S	R	F
3	R	F	O	M	S
4	M	S	R	F	O

Matrix II

	5	6	7	8	9
5	A	T	D	I	P
6	I	P	A	T	D
7	T	D	I	P	A
8	P	A	T	D	I
9	D	I	P	A	T

Identify the set for the word 'STOP'

- (a) 10, 56, 44, 97 (b) 41, 68, 01, 77
 (c) 22, 75, 32, 86 (d) 33, 99, 42, 59

Part B General Awareness

51. Economic liberalisation in India started with
- substantial changes in Industrial licensing policy
 - the convertibility of Indian Rupee
 - doing away with procedural formalities for foreign direct investment
 - significant reduction in tax rates
52. Mixed Economy means
- where agriculture and industry are given equal importance
 - where public sector exists along with the private sector in national economy
 - where globalization is transferred with heavy dose of swadeshi in National Economy
 - where the centre and the states are equal partners in economic planning and development
53. Who coined the term 'Hindu rate of Growth' for Indian Economy?
- A K Sen
 - Kirit S Parikh
 - Raj Krishna
 - Montek Singh Ahluwalia
54. In an open economy, the National Income (Y) of the Economy is
(C = consumption, I = Investment, G = Government expenditure, X = Total exports, M = Total import)
- $Y = C + I + G + X$
 - $Y = I + G - X + M$
 - $Y = C + I - G + (X - M)$
 - $Y = C + I - G + X - M$
55. Which one among the following countries has the lowest GDP per capita?
- China
 - India
 - Indonesia
 - Sri Lanka
56. By virtue of which Act, dyarchy was introduced in India?
- Indian Council Act, 1909
 - Government of India Act, 1919
 - Government of India Act, 1955
 - Indian Independence Act, 1947
57. The Constitution of India was adopted on
- 26th January, 1950
 - 26th January, 1949
 - 26th November, 1949
 - 15th August, 1947
58. The most essential feature of the parliamentary form of Government is the
- Sovereignty of Parliament
 - Written Constitution
 - A countability of the executive to the Legislature
 - Independent Judiciary
59. Which of the following was the biggest source for the Constitution of India?
- The Government of India Act, 1919
 - The Government of India Act, 1935
 - The Indian Independence Act, 1947
 - None of the above
60. How many states and union territories are there in India?
- 25 states and 7 union territories
 - 28 states and 7 union territories (including National capital territory II)
 - 24 states and 6 union territory
 - None of the Above
61. All the following statements regarding the Indus Valley civilization are correct except
- The Indus Valley civilization was an advanced urban civilization
 - Iron was not known to the people
 - It is difficult to say which race the people belonged
 - The people know nothing about agriculture
62. The Government of India has decided to declare which of the following rivers as 'National river'?
- Ganga
 - Yamuna
 - Kaveri
 - Brahmaputra
63. Who among the following was not a contemporary of other?
- Bimbisara
 - Gautama Buddha
 - Milinda
 - Prasenjit
64. The principle that distinguishes Jainism from Buddhism is the
- practice of the eight-fold path
 - rejection of the infallibility of the Vedas
 - attribution of a soul to all beings and things
 - belief in rebirth

65. Which one of the following pairs is not correctly matched?
 (a) Kautilya — Arthashastra
 (b) Hala — Gathasaptasati
 (c) Banbhata — Buddhacharita
 (d) Kalidasa — Abhijnanasakuntalam
66. Tides are combined and they vary from place to place because of
 (a) the movement of moon in relation to earth
 (b) uneven distribution of water over the globe
 (c) irregularities in the configuration of oceans
 (d) All of the Above
67. Consider the following statements
 1. The Earth receives the sun's energy at the infrared end of the spectrum.
 2. The Earth re-radiates the sun's heat as ultraviolet energy.
 Which of the statements given above is/are correct?
 (a) Only (1) (b) Only (2)
 (c) Both (1) and (2) (d) Neither (1) nor (2)
68. Assume that the moon takes exactly 30 days to complete the cycle and also assume that it rises in the east exactly at 6 : 48 pm on the first day. On the fourth day, at what time will it rise?
 (a) 8 : 24 pm (b) 9 : 12 pm
 (c) 10 : 00 pm (d) 11 : 48 pm
69. Tectonic activity
 (a) Breaks and bends the crustal rocks
 (b) Forms and bends the crystal rocks
 (c) Reshapes by bending the crustal
 (d) None of the above
70. Which of the following statements is true about igneous rock?
 (a) They have little amount of fossils
 (b) They are porous of water
 (c) They are crystalline as well as non-crystalline
 (d) These rocks do not contain silica
71. Who is known as father of Biology?
 (a) Aristotle
 (b) Darwin
 (c) Lamarck
 (d) Lamarck and Treviranus
72. Study of fruit is called
 (a) Spermology (b) Anthology
 (c) Pedology (d) Pomology
73. In exo-biology we study about
 (a) external structure of living beings
 (b) life present on the earth
 (c) life present in the other layer of earth atmosphere
 (d) life found in space and on other satellite
74. Binomial nomenclature means
 (a) one name given by two scientists
 (b) one name comprising a generic and a specific epithet
 (c) two names, one latinised, other of a person
 (d) two name one scientist other local
75. Genetic Material of a virus is
 (a) DNA
 (b) RNA
 (c) Either DNA or RNA
 (d) Both DNA and RNA
76. Bacteria cannot survive in a highly salted pickle because
 (a) bacteria get plasmolysed and are consequently killed
 (b) salt inhibits reproduction
 (c) the pickle does not contain nutrient necessary for bacteria to survive
 (d) bacteria do not get enough light for photosynthesis
77. Light year is unit of
 (a) time (b) speed of light
 (c) distance (d) mass
78. Pick out the only Vector quantity
 (a) pressure
 (b) impulse
 (c) gravitational
 (d) coefficient of friction potential
79. If a graph is plotted taking the temperature in fahrenheit along the Y-axis and the corresponding temperature in Celsius along X-axis it will be straight line
 (a) having a positive intercept on the Y-axis
 (b) having a positive intercept on the X-axis
 (c) passing through origin
 (d) having negative intercepts on both the axis
80. The energy that can harness heat stored below the earth's surface is known as
 (a) thermal energy
 (b) nuclear energy
 (c) tidal energy
 (d) geo-thermal energy

81. The computer's processor consists of the following parts
 (a) CPU and Main Memory
 (b) Hard Disk and Floppy Drive
 (c) Main Memory and Storage
 (d) Operating System and Applications
82. Soft copy is an intangible output, so then what is a hard copy?
 (a) The physical parts of the computer
 (b) The printed parts of the computer
 (c) The printed output
 (d) The physical output device
83. A pure substance can only be
 (a) compound
 (b) an element
 (c) an element or compound
 (d) a heterogeneous mixture
84. The nitrogen atom has 7 protons and 7 electrons. The nitride ion will have
 (a) 10 protons and 7 electrons
 (b) 7 protons and 10 electrons
 (c) 4 protons and 7 electrons
 (d) 4 protons and 10 electrons
85. Wavelength of which of the following colours of the visible spectrum of light are maximally absorbed by green plants
 (a) green and yellow (b) red and blue
 (c) green and red (d) blue and yellow
86. In $^{35}\text{Cl}_{17}$ and $^{37}\text{Cl}_{17}$, which of the following is false?
 (a) Both have 17 protons
 (b) Both have 17 electrons
 (c) Both have 18 neutrons
 (d) Both show same chemical properties
87. The rate of growth of a natural population
 (a) always reaches the carrying capacity of the ecosystem
 (b) is limited by the carrying capacity of the ecosystem
 (c) when graphed, always has a positive slope
 (d) is calculated by subtracting death rate from birth rate
88. In a terrestrial ecosystem, the tropic level that would contain the largest biomass would be the
 (a) producers
 (b) primary consumers
 (c) secondary consumers
 (d) highest order consumers
89. Which of the following is considered a hot-spot of biodiversity in India?
 (a) Aravali hills (b) Western Ghats
 (c) Indo-gangetic plain (d) Eastern Ghats
90. First National park developed in India is
 (a) Gir (b) Kaziranga
 (c) Jim Corbett (d) None of these
91. Which of the following is correctly matched?
 (a) Dr. Malcolm Adiseshiah : Cooperative Movement
 (b) Dr. Pramod Kumar Sethi : Jaipur Foot
 (c) Dr. Kurien : Space Science
 (d) Dr. Abdul Kalam : Development-Economics
92. Who has been designated as the 'Man of the Decade' by the Time Magazine?
 (a) Nelson Mandela (b) Ronold Reagan
 (c) Dalai Lama (d) None of these
93. MODVAT refers to
 (a) education policy (b) house tax
 (c) excise duty (d) property tax
94. The First-Earth Sumti was held at
 (a) Buenos Aires (b) Rio de Janeiro
 (c) Dar-es-salam (d) None of these
95. Consider the following statements
 1. Brazil
 2. Mexico
 3. South Africa
 According to UNCTAD, which of the above is/are categorized as 'Emerging Economics'?
 (a) Only 1 (b) 1 and 3
 (c) 2 and 3 (d) 1, 2 and 3
96. Who is the author of the book 'Naked Triangle'?
 (a) RK Narayan (b) Khushwant Singh
 (c) Balwant Gargi (d) Amrita Pritam
97. What is the name of Kalhana's book?
 (a) Arthashastra (b) Indica
 (c) Purana (d) Rajtarangini
98. Loreto Girl's Day School, Sealdah (Paschim Banga) was honoured with noma prize, an UNESCO educational award for which of the following?
 (a) Community service in rural areas
 (b) Innovative child to child teaching in rural areas
 (c) Producing best talents in the country
 (d) Propogating National Integration among the people

99. 1st Tuesday of may is observed as
 (a) Global Family Day
 (b) World Asthma Day
 (c) World Mother's Day
 (d) International Human Solidarity Day
100. With which game does Davis cup is associated?
 (a) Hockey
 (b) Table Tennis
 (c) Lawn Tennis
 (d) Polo

Part C Quantitative Aptitude

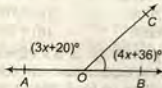
101. The sum of both digits of a two digit number is 7. If the digits of the number are interchanged, the number so formed is greater than the original number by 27. Find the original number.
 (a) 25
 (b) 26
 (c) 27
 (d) 28
102. Which is the greatest out of the following numbers?
 (a) $(2+2+2)^2$
 (b) $[(2+2)^2]^2$
 (c) $(2 \times 2 \times 2)^2$
 (d) 4^3
103. If after the payment of $\frac{3}{4}$ of a loan, ₹ 500 still remain to pay, what is whole amount of the loan?
 (a) ₹ 2000
 (b) ₹ 2100
 (c) ₹ 1700
 (d) ₹ 1500
104. It is given that $2^{32} + 1$ is exactly divisible by a certain number. Which one of the following is also divisible by the same number?
 (a) $2^{96} + 1$
 (b) $2^{16} - 1$
 (c) $2^{16} + 1$
 (d) $7 \cdot 2^{33}$
105. What is the least number which is a multiple of 17 and when divided by 2, 3, 4, 5, 6 and 8 leaves 1 as remainder in each case?
 (a) 121
 (b) 1921
 (c) 361
 (d) 1020
106. The area of a square field is 24200 sq m. How long will a lady take to cross the field diagonally at the rate of 6.6 km/h?
 (a) 3 min
 (b) 2 min
 (c) 2.4 min
 (d) 2 min 40 s
107. A train travelling at 100 km/h overtakes a motorbike travelling at 64 km/h in 40 s. What is the length of the train in metres?
 (a) 1777 m
 (b) 1822 m
 (c) 400 m
 (d) 1400 m
108. Four horses are tethered at 4 corners of a square field of side 70 m so that they just cannot reach one another. The area left ungrazed by the horses is
 (a) 1050 sq m
 (b) 3850 sq m
 (c) 950 sq m
 (d) 1075 sq m
109. Two isosceles triangles have equal vertical angles and their corresponding sides are in the ratio 3 : 5. What is the ratio of their areas?
 (a) 3 : 5
 (b) 9 : 25
 (c) 6 : 10
 (d) None of these
110. The area of a square is equal to the area of a circle. What is the ratio between the side of the square and the radius of the circle?
 (a) $\sqrt{\pi} : 1$
 (b) $1 : \sqrt{\pi}$
 (c) $1 : \pi$
 (d) $\pi : 1$
111. A vertical pole is 75 m high. Find the angle subtended by the pole a point 75 m away from its base
 (a) 30°
 (b) 45°
 (c) 60°
 (d) 90°
112. From a point P on a level ground, the angle of elevation of the top of a tower is 30° . If the tower is 100 m high. Find the distance of point P from the foot of the tower
 (a) 100 m
 (b) 173 m
 (c) 200 m
 (d) 273 m
113. A can do a piece of work in 25 days which B alone can finish in 20 days. Both together work for 5 days and then A leaves off. How many days will B take to finish the remaining work?
 (a) 11 days
 (b) 12 days
 (c) 13 days
 (d) 14 days
114. 9 children can complete a piece of work in 360 days; 18 men can complete the same piece of work in 72 days and 12 women can complete it in 162 days. In how many days, can 4 men, 12 women and 10 children together complete the piece of work?
 (a) 71
 (b) 81
 (c) 61
 (d) 85

115. The interest on a certain sum of money is ₹ 67.20 and the discount on the same sum of money for the same time and at the same rate is ₹ 60. What is the sum?
 (a) ₹ 560 (b) ₹ 500
 (c) ₹ 460 (d) ₹ 400
116. By selling an article for ₹ 144 a man loses $\frac{1}{7}$ of his outlay. By selling it for ₹ 168, his gain or loss per cent is
 (a) 20% Loss
 (b) 20% Gain
 (c) $4\frac{1}{6}$ % Gain
 (d) None of the above
117. A man's age was 5 times his son's age 5 yr ago and he will be three times his son's age after 2 yr. The ratio of their present ages is
 (a) 5 : 2 (b) 5 : 3
 (c) 10 : 3 (d) 11 : 5
118. The ratio of the rates of flow of water in pipes varies inversely as the square of the radius of the pipe. The ratio of the rates of flow in two pipes of diametres 2 cm and 4 is
 (a) 1 : 2 (b) 2 : 1
 (c) 1 : 8 (d) 4 : 1
119. The factors of $x^8 + x^4 + 1$ are
 (a) $(x^4 + 1 - x^2), (x^2 + 1 + x), (x^2 + 1 - x)$
 (b) $(x^4 + 1 - x^2), (x^2 - 1 + x), (x^2 + 1 + x)$
 (c) $(x^4 - 1 + x^2), (x^2 - 1 + x), (x^2 + 1 + x)$
 (d) $(x^4 - 1 + x^2), (x^2 + 1 - x), (x^2 + 1 + x)$
120. Of the three numbers, second is twice the first and is also thrice the third. If the average of three numbers is 44, the largest number is
 (a) 24 (b) 36
 (c) 72 (d) 108
121. A shopkeeper marks his sarees at 20% above the cost price and allows the purchaser a discount of 10% for cash buying. What profit per cent does he make?
 (a) 18 (b) 12
 (c) 10 (d) 8
122. By selling an article for ₹ 31 a shopkeeper loses 7%. If he sells the article for ₹ 35, then what is gain or loss per cent?
 (a) Loss 3% (b) Gain 5%
 (c) Loss 5% (d) Gain 3%
123. Lavkush's salary is 30% more than Sanju's salary. If Sanju's salary is ₹ 600, then what is Lavkush's salary?
 (a) ₹ 780 (b) ₹ 670
 (c) ₹ 860 (d) ₹ 920
124. Two vessels A and B contain milk and water in the ratio 7 : 5 and 17 : 7, respectively. In what ratio mixtures from two vessels should be mixed to get a new mixture containing milk and water in the ratio 5 : 3?
 (a) 1 : 2 (b) 2 : 1
 (c) 2 : 3 (d) 3 : 2
125. In a stream running at 2 km/h, a motorboat goes 10 km upstream and back again to the starting point in 55 min. Find the speed of the motorboat in still water
 (a) 22 km/h (b) 32 km/h
 (c) 42 km/h (d) 52 km/h
126. The difference between compound interest and simple interest on a sum for 2 yr at 8% per annum is ₹ 768. The sum is
 (a) ₹ 100000 (b) ₹ 110000
 (c) ₹ 120000 (d) ₹ 170000
127. If $x^2 + \frac{1}{x^2} = 7$, then the values of $x + \frac{1}{x}$ is
 (a) 2 (b) 3 (c) 5 (d) 6
128. If $x^2 + 5x - 2k$ is exactly divisible by $(x - 2)$ then the value of k is
 (a) 1 (b) 2 (c) 3 (d) 4
129. If $x - 2$ and $x - 1$ are the factors of $x^3 + 10x^2 + mx + n$, then the values of m and n are respectively
 (a) 5 and -3 (b) 17 and -8
 (c) 7 and -18 (d) 23 and -19
130. If $(x - 2)$ is a factor of $x^2 + 4x - 2k$, then the value of k is
 (a) 1 (b) 3 (c) 4 (d) 6
131. If $a + b = 8, a - b = 4$, then $a^2 + b^2$ is equal to
 (a) 20 (b) 40
 (c) 10 (d) 30
132. A club consists of members whose ages are in AP, the common difference being 3 months. If the youngest member of the club is just 7 yr old and the sum of the ages of all the members is 250 yr, then the number of members in the club is
 (a) 15 (b) 20 (c) 25 (d) 30

133. Two poles of heights 6 m and 11 m stand vertically on a plane ground. If the distance between their feet is 12 m, what is the distance between their tops?
 (a) 13 m (b) 14 m
 (c) 15 m (d) 12.8 m

134. If two vertices of an equilateral triangle have integral coordinates then the third vertex will have
 (a) integral coordinates
 (b) coordinates which are rational
 (c) at least one coordinate irrational
 (d) coordinates which are irrational

135. In the given figure, AOB is a straight line, $\angle AOC = (3x + 20)^\circ$ and $\angle BOC = (4x - 36)^\circ$. The value of x is



- (a) 32 (b) 22
 (c) 26 (d) 24

136. AB and CD are two parallel chords on the opposite sides of the centre of the circle. If $AB = 10$ cm, $CD = 24$ cm and the radius of the circle is 13 cm, the distance between the chords is



- (a) 17 cm (b) 15 cm
 (c) 16 cm (d) 18 cm

137. If $\tan \theta = \frac{1}{\sqrt{7}}$, then $\frac{\operatorname{cosec}^2 \theta - \sec^2 \theta}{\operatorname{cosec}^2 \theta + \sec^2 \theta} = ?$

- (a) $-\frac{3}{4}$ (b) $-\frac{2}{3}$
 (c) $\frac{2}{3}$ (d) $\frac{3}{4}$

138. $\frac{\cos 60^\circ + \sin 60^\circ}{\cos 60^\circ - \sin 60^\circ} = ?$

- (a) $-(\sqrt{3} + 2)$ (b) -1
 (c) $(\sqrt{3} - 2)$ (d) $(\sqrt{3} + 2)$

139. $\sin^2 60^\circ + \cos^2 30^\circ + \cot^2 45^\circ - \sec^2 60^\circ - \operatorname{cosec}^2 30^\circ = ?$

- (a) $\frac{5}{2}$ (b) $\frac{3}{2}$ (c) $\frac{7}{2}$ (d) $\frac{1}{2}$

140. $[\sin^2 30^\circ \cos^2 45^\circ + 4 \tan^2 30^\circ$

$$+ \frac{1}{2} \sin^2 90^\circ - 2 \cos^2 90^\circ]$$

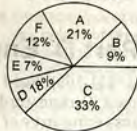
- (a) $\frac{15}{8}$ (b) $\frac{23}{12}$ (c) $\frac{47}{24}$ (d) $\frac{49}{24}$

141. $\frac{\sin A + \sin B}{\cos A - \cos B} + \frac{\cos A + \cos B}{\sin A - \sin B} = ?$

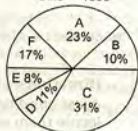
- (a) 0 (b) $\sin A \cos B$
 (c) $\cos A \cos B$ (d) $\tan A \tan B$

Directions (Q. Nos. 142-146) *The following bar graph shows the production of fertilizers (in lakh tonnes) by a company, in six consecutive years. Study the graph and answer the questions.*

Percentage of Students in six different Colleges
 Total number of Students = 3500



Percentage of Girls in each of Colleges
 Total number of Girls = 1800



142. What is the number of girls in college D?
 (a) 176 (b) 188 (c) 192 (d) 198

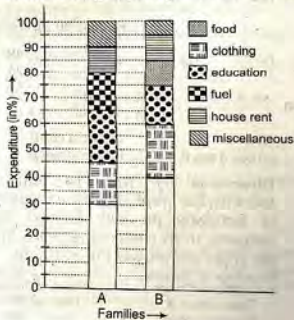
143. The number of boys from college A from what per cent of total number of students from that college?
 (a) 22.83 (b) 38.41 (c) 43.67 (d) 56.29

144. Which college has the maximum number of boys?
 (a) A (b) B (c) C (d) D

145. Which college has the lowest number of girls?
 (a) B (b) D (c) E (d) F

146. What is the total number of boys from colleges E and F together?
 (a) 215 (b) 251 (c) 283 (d) 310

Directions (Q. Nos. 147-150) The following bar diagram shows the monthly expenditure (in percentage) on food, clothing, education, fuel, house-rent and miscellaneous. Study the diagram and answer the questions given below.



147. What fraction of the total expenditure is spent on education in family A?

- (a) $\frac{13}{20}$ (b) $\frac{2}{3}$
 (c) $\frac{9}{13}$ (d) None of these

148. If the total annual expenditure of family B is ₹ 100000, then the money spent on clothes during the year is

- (a) ₹ 2000
 (b) ₹ 20000
 (c) ₹ 6000
 (d) ₹ 600

149. If the total annual expenditure of family A is ₹ 120000, then spent by it on food, clothes and house rent is

- (a) ₹ 72000 (b) ₹ 76000
 (c) ₹ 36000 (d) ₹ 30000

150. What percentage is B's expenditure on food over A's expenditure on food, when total expenditure on food, when total expenditures of both are equal?

- (a) 10% (b) 70%
 (c) 75% (d) $133\frac{1}{3}\%$

Part D English Language

Directions (Q.Nos. 151-165) Read the following passage carefully and answer the questions given below it. Certain words/phrases in the passage are given in bold to help you locate them while answering some of the questions.

Banking sector reforms in India were introduced in order to **improve** efficiency in the process of financial intermediation. It was expected that banks would take advantage of the changing operational environment and improve their performance. Towards this end, the Reserve Bank of India **initiated** a host of measures for the creation of a competitive environment. Deregulation of interest rates on both the deposit and lending sides imparted freedom to Banks to appropriately price their products and services. To compete effectively with non-banking entities, banks were permitted to undertake newer activities like investment banking, securities trading and insurance business. This was facilitated through amendments in the **relevant** Acts which permitted PSBs to raise equity from the market up to threshold limit (49 per cent) and also enabling the entry of new private and foreign banks. This changing face of banking led to an erosion of margins on traditional banking business, promoting banks to search for newer activities to **augment** their fee incomes. At the same time, banks also needed to **devote** focused attention to operational efficiency in order to contain their transaction costs. Simultaneously with the deregulation measures prudential norms were instituted to strengthen the safety and soundness of the banking system.

Recent internal empirical research found that over the period 1992-2003, there has been a discernible improvement in the efficiency of Indian banks. The increasing trend in efficiency has been fairly uniform, irrespective of the ownership pattern. The rate of such improvement has, however, not been sufficiently high. The analysis also **reveals** that PSBs and private sector banks in India did not differ significantly in terms of their efficiency measures. Foreign banks, on the other hand, recorded higher efficiency as compared with their Indian counterparts.

151. Which of the following is/are the measure(s) taken by Reserve Bank of India to create a competitive environment in the Banking sector?
- Banks were given freedom to take up newer activities.
 - Entry of new private and foreign banks in the field.
 - Amendments in the relevant Acts to enable PSBs to raise equity from the market.
- (a) (i) and (ii) (b) (i) and (iii)
(c) (ii) and (iii) (d) All the three
152. Prudential norms were initiated in the banking sector with a view to
- increasing operational efficiency
 - containing the non-performing assets
 - strengthening the soundness of banking system
 - improving the customer service
153. Banking sector reforms in India were introduced for the purpose of
- giving more and more employment opportunities to the educated unemployed
 - taking care of the downtrodden masses
 - increasing efficiency in the banking activities
 - giving better return to the central government
154. Banks can control their transaction costs by
- restricting their lending activities
 - undertaking more and more non-banking activities
 - encouraging the customers to bank with other banks
 - devoting more attention to operational efficiency
155. The recent internal empirical research conducted by the RBI found that
- there is cut-throat competition in banking industry
 - the rate of return is not commensurate with the operational cost
 - the rate of improvement has not been high
 - nationalised banks and private sector banks did differ in the efficiency measures
156. Which of the following statements recognising improvement in efficiency is TRUE in the context of the passage?
- There is no discernible difference in efficiency parameters
 - The foreign banks recorded higher efficiency
 - The efficiency of foreign banks is not comparable with Indian banks
 - The rate of such improvement in efficiency was very high
157. Changing face of banking led to
- closure of several banks in the country
 - entry of private banks and foreign banks
 - reduction in margins on banking business
 - formation of militant unions in the banks
158. What is the position of Indian banks as far as efficiency is concerned?
- The Indian banks did not bother about efficiency
 - Compared to foreign counter parts, Indian banks lagged behind in efficiency
 - The position of Indian banks cannot be estimated due to various factors
 - Indian banks accorded high efficiency
159. Which of the following can be the most appropriate title to the passage?
- Indian Banks and Foreign Banks
 - Customer Service in Banking Industry
 - Non-performing Assets in Banking Sector
 - Efficiency in Indian Banking

Directions (Q.Nos. 160-163) Choose the word which is most nearly the **SAME** in meaning as the word printed in **bold** as used in the passage.

160. **RELEVANT**
(a) recorded (b) opposite
(c) appropriate (d) germane

161. **AUGMENT**
(a) make (b) become
(c) enlarge (d) increase

162. **DEVOTE**
(a) activate (b) apply
(c) apportion (d) spare

163. **INITIATED**
(a) led (b) motivated
(c) implicated (d) started

Directions (Q.Nos. 164-165) Choose the word that is most **OPPOSITE** of the word printed in **bold** as used in the passage.

164. **IMPROVE**
(a) retard (b) disprove
(c) prove (d) accelerate

165. **REVEAL**
(a) show (b) conceal
(c) secretive (d) exhibit

Directions (Q.Nos. 166-175) Read each sentence to find out whether there is any grammatical error in it. The error, if any, will be in one part of the sentence. The number of that part is the answer. If there is no error, the answer is (d), i.e., 'No error'. (Ignore the errors of punctuation, if any)

166. I am grateful to you and all your friends (a) / for they showed sympathy (b) / and kindness towards me. (c) / No error (d)

167. While he was walking along the road (a) / a speeding car (b) / knocked down to him. (c) / No error (d)

168. Though none of his (a) / so-called well-wishers forwarded to help (b) / I helped him by completing his work on time. (c) / No error (d)

169. From the way he was talking it was clear (a) / that he had (b) / no control on himself. (c) / No error (d)

170. Your over-dependent on others even for (a) / trivial matters may (b) / prove disadvantageous. (c) / No error (d)

171. People who are fortunate enough to own (a) / a personal library are always (b) / held in high esteem by me. (c) / No error (d)

172. A small loaf of bread (a) / given with affection is far superior to (b) / a delicious dish served with indifferently. (c) / No error (d)

173. The incentive seems to having been worked well (a) / because the number of employees going on leave (b) / has reduced significantly. (c) / No error (d)

174. His dishonest acts have made his parents (a) / bent their heads (b) / in shame. (c) / No error (d)

175. Everybody know that his failure can (a) / be attributed only (b) / to his lack of practice. (c) / No error (d)

Directions (Q.Nos. 176-180) In each sentence below a word is printed in **bold**. Below each sentence, four words/ group of words are suggested, one of which can replace the **bold** word, without changing the meaning of the sentence. Find out the appropriate word/ group of words in each case.

176. His **inflexible** attitude is the root cause of most of his problems.

- (a) negative (b) nasty
(c) hesitant (d) rigid

177. If you **familiarize** yourself with the culture of that area, you will be able to enjoy life there.

- (a) submit (b) acquaint
(c) associate (d) look after

178. For such a **gigantic** task, there should be some special task force.

- (a) trivial (b) important
(c) huge (d) gallantry

179. If you are required to handle things under stress, mistakes are **inevitable**.

- (a) correctable (b) detectable
(c) unpardonable (d) unavoidable

180. People who **trespass** this gate will be fined.

- (a) cross without permission
(b) climb up and cross over
(c) break unlawfully
(d) pass on

Directions (Q.Nos. 181-185) *In each question below three words are given numbered as (a), (b) and (c). One of these three words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt, mark (d) i.e., 'All correct' as your answer.*

181. (a) Adventure (b) Demonstration
(c) Innosent (d) All correct
182. (a) Immitation (b) Dependable
(c) Miniature (d) All correct
183. (a) Lucrative (b) Ancestral
(c) Performance (d) All correct
184. (a) Futility
(b) Seperation
(c) Embarrassment
(d) All correct
185. (a) Tournament (b) Enhancement
(c) Amazingly (d) All correct

Directions (Q.Nos. 186-190) *Rearrange the following six sentences A, B, C, D, E and F in the proper sequence to form a meaningful paragraph; then answer the questions given below them.*

- A. The researchers in these companies claim that they could do better by allowing their employees to doze off at work place.
- B. The dreams, while at work, are thus helpful to solve crucial problems.
- C. Would you believe that some UK based companies are arranging for bed at the work place?
- D. The reason, they claim, could be that dreams produce creative solutions.
- E. We only hope that these crucial problems in UK are different from those of ours.
- F. But it is true and is considered as a step to improve quality of their products.

186. Which of the following should be the **FIRST** sentence after rearrangement?
(a) A (b) B
(c) C (d) D

187. Which of the following should be the **THIRD** sentence after rearrangement?
(a) A (b) B
(c) C (d) D
188. Which of the following should be the **FOURTH** sentence after rearrangement?
(a) A (b) B
(c) C (d) D
189. Which of the following should be the **FIFTH** sentence after rearrangement?
(a) A (b) B
(c) C (d) D
190. Which of the following should be the **SIXTH (Last)** sentence after rearrangement?
(a) A (b) B (c) C (d) E

Directions (Q.Nos. 191-200) *In the following passage, there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, four words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.*

In any organised group of mammals, no matter how cooperative, there is always a(191).... for social dominance. As he pursues this each adult individual(192).... a particular social rank, giving him his position, or status in the group hierarchy. The situation never remains(193).... for very long, largely because all the status strugglers are(194).... older. When the overlords or 'top-dogs' become senile, their seniority is challenged and they are(195).... by their immediate subordinates. There is then renewed dominance squabbling as(196).... moves a little further up the social ladder. At the other end of the scale, the younger members of the group are maturing rapidly, keeping up the pressure from(197).... In the addition, certain members of the group may suddenly be(198).... down by disease or accidental death leaving gaps in the hierarchy that have to be quickly filled.

The general result is a constant condition of status tension.

Under natural (199).... this tension remains tolerable because of the limited size of the social grouping.

If, however, in the artificial environment of captivity, the group size becomes too big, or the space available too small, then the status 'rat race' soon gets out of hand, dominance battle rage uncontrollably and the leaders of the packs, prides, colonies or tribes come under(200).... strain.

191. (a) stress (b) feel
(c) struggle (d) war
192. (a) desire (b) allots
(c) inherits (d) acquires

193. (a) unstable (b) stable
(c) equitable (d) equal
194. (a) growing (b) aheading
(c) looking (d) feeling
195. (a) piked (b) throned
(c) thrown (d) overthrown
196. (a) no one (b) they
(c) junior (d) everyone
197. (a) below (b) above
(c) sides (d) top
198. (a) come (b) go
(c) feel (d) struck
199. (a) upbringing (b) forces
(c) conditions (d) pressures
200. (a) desirable (b) severe
(c) unwashed (d) stress