SOLVED PAPER
SSC COMBINED GRADUATE LEVEL PRELIM EXAM

Held on: 27.07.2008 (First Sitting)

GENERAL INTELLIGENCE

1. In the following question, the number of letters skipped in between adjacent letters in the series is 5. Which of the following series observes this rules ?
   (a) XDIPV
   (b) XDKPV
   (c) XDJOU
   (d) XDJPV

Directions: From among the given alternatives select the one in which the set of numbers is most like the set of numbers given in the question.

2. Given set (3, 4, 5)
   (a) (6, 8, 10)
   (b) (9, 12, 15)
   (c) (6, 7, 8)
   (d) (12, 16, 20)

Directions (3 - 4): In the following questions arrange the given words in a meaningful order.

3. (A) Rain   (B) Vaporisation
   (C) Water   (D) Condensation
   (E) Cloud
   (a) A, C, B, D, E
   (b) E, C, D, A, B
   (c) C, B, E, D, A
   (d) B, C, E, D, A

4. (A) Travel   (B) Destination
   (C) Payment   (D) Reservation
   (E) Availability of berth/ Seat for reservation
   (a) A, B, C, D, E
   (b) B, C, E, D, A
   (c) B, A, E, C, D
   (d) B, E, C, D, A

Directions: Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?

5. ca_bd _ec_fd_ge ?
   (a) b, c, d, e
   (b) b, d, c, e
   (c) b, c, e, d
   (d) d, b, c, e

Directions (6 - 12): In the following questions, find the missing/ number/letters/figure from the given responses.

6. $\dfrac{A}{4}, \dfrac{D}{9}, \dfrac{H}{15}, \dfrac{M}{22}, ?$
   (a) $\dfrac{R}{30}$
   (b) $\dfrac{S}{30}$
   (c) $\dfrac{Q}{31}$
   (d) $\dfrac{Q}{30}$

7. ZCBA, YFED, XIHG, ?
   (a) WLKM
   (b) WJKL
   (c) WKLJ
   (d) WLKJ

8. 1, 2, 3, 14, 5, 34, 7, ?, ?
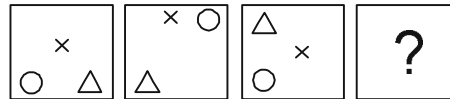   (a) 68,7
   (b) 63,9
   (c) 60, 11
   (d) 62,9

9. 255, 366, 479, 684, ?
   (a) 891
   (b) 125
   (c) 216
   (d) 343
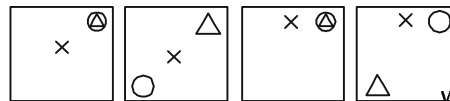
10. 25 – K – 8, 23 – 1 – 11, 21 – G – 14, 19 – E – 17,?
   (a) 17 – F – 19
   (b) 19 – C – 17
   (c) 17 – C – 20
   (d) 20 – D – 17

11. **Question Figures**

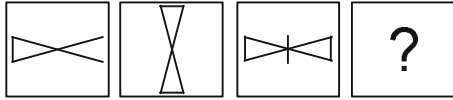**Answer Figures**

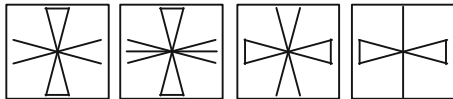(a)   (b)   (c)   (d)

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12. **Question Figures**

Answer Figures

(a)   (b)   (c)   (d)

13. A is father of C and D is son of B. E is brother of A. If C is sister of D how is B related to E ?
    (a) Sister - in - law   (b) Sister
    (c) Brother   (d) Brother - in - law

14. The difference between a mother's age and the sum of her two daughters' age is 6. The average age of two daughters is 22. What is the age of mother?
    (a) 40   (b) 44
    (c) 46   (d) 50

15. Of the six members of a panel sitting in a row X is to the left of Q but on the right of P. Y is on the right of Q but is on the eft of Z, Z is to the left of R, Find the members who are at the ex-treme ?
    (a) QZ   (b) xZ
    (c) PR   (d) QY

Directions (16-17): In each of the following questions a word given in Capital Letters is followed by four answer words. Out of these only one cannot be formed by using the letters of the given words. Find out that word.

16. INTEGRAL
    (a) ENTREATY   (b) TRIANGLE
    (c) RELATING   (d) ALERTING

17. RAPPROCHEMENT
    (a) REPRESENT   (b) REPROACH
    (c) PHANTOM   (d) CEMENT

18. In a code language the following alphabets are coded in a particular way

    A B C D E M N O S R U
    □ △ ▨ ▢ ⊓ λ ⋀ P / ⊣ ⊤ ⊦

Which word can be decoded from the following?

△ / ⊤ □ ▢
(a) BOUND   (b) BONUS
(c) BUNCH   (d) BOARD

19. If PALE is coded as 2134, EARTH is coded as 41590, how is PEARL coded in that code?
    (a) 29530   (b) 24153
    (c) 25413   (d) 25430

20. Which one of the following is correct ?
    6* 4* 9* 15
    (a) x, =, −   (b) x, −, =
    (c) =, x, −   (d) −, x, =

Directions (21-22): In each of the following questions, find the missing number from the given responses.

21.

5	20	6	9
4	8	15	3
9	25	7	9
22	7	8	?

(a) 7   (b) 8
(c) 9   (d) 10

22. 341 (16) 521
    613 (25) 816
    452 (?)   326
    (a) 27   (b) 22
    (c) 30   (d) 41

23. Ravi started walking from his houses east direction to Bus stop which is 3 km away. Then he set off in the bus straight to-wards his right to the school 4 km away. What is the crow flight distance from his house to the school ?
   (a) 1 km   (b) 5 km
    (c) 7 km   (d) 12 km

24. Raju moved to his North-West side for 2 km. From there he turned 90° clockwise and moved 2 km. From there he turned 90° clockwise and travelled 2 km then he would be in which direction from the original position ?
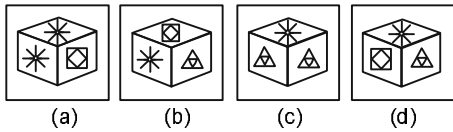   (a) South East Region
    (b) North East Region
    (c) South West Region
    (d) Western Region

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25. Choose from the four answer figures the figure that will be formed when question figure is folded into a box.
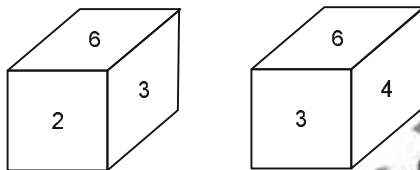
Question Figure

Answer Figures

   (a)   (b)   (c)   (d)
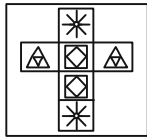
26. Two positions of a cube are given. Based on them find out which number is found opposite number 4 in a given cube ?

(a) 1   (b) 2
(c) 3   (d) 4

Directions: In question No. 27, a statement is 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 are to decide which of the given conclusions can definitely be drawn from the given statements. Indicate your answer.

27. **Statements:** Happiness derived form external materials is momentary. Ever lasting happiness has to come from within.

   Conclusions:
  (I) Nobody can experience happiness from outside.
  (II) Happiness experienced from cinema is not lasting.
  (a) Only I follows
  (b) Only II follows
  (c) Neither I nor II follow
  (d) Both I and II follow

Directions: In question No. 28 a statement is given followed by four conclusions (a) to (d). You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which one of the given conclusions are definitely drawn from the given statement.

28. "All the members of the Tennis club are members of the Badminton club too." "No woman plays Badminton".
  (a) Some women play Tennis
  (b) No member of the Tennis club plays Badminton
  (c) Some women are members of the Tennis club
  (d) No woman is a member of the Tennis club

29. Select the diagram which best represents the relationship between educated people, unemployed and teachers.

   (a)   (b)   (c)   (d)
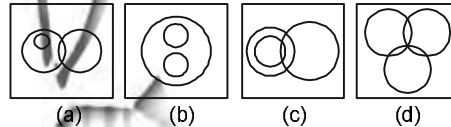
30. Which Answer figure will complete the Question figure ?

Question Figure

Answer Figures

   (a)   (b)   (c)   (d)

31.
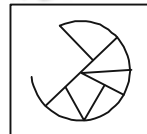
A above diagram represents school children, artists and singers. Study the diagram and identify the region which represents those school children who are artists and not singers.

(a) a   (b) b
(c) f   (d) e

Direction: In question no.32, from the Answer figures, select the one in which the question figure is hidden/ embedded.

32. **Question Figure**

Answer Figure

(a)   (b)   (c)   (d)

Directions (33-42): In each of the following questions select the related letters/word/number/figure from the alternatives.

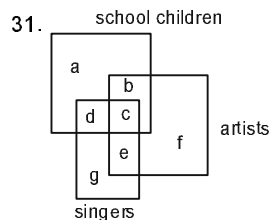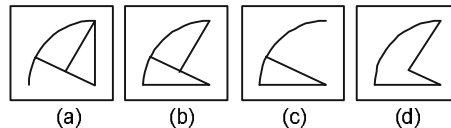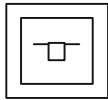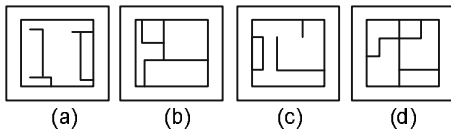33. Framework : House :: Skeleton : ?
    (a) Ribs   (b) Skull
    (c) Body   (d) Grace

34. Editor : Magazine :: ? : ?
    (a) Novel : Writer   (b) Poem : Poet
    (c) Chair : Carpenter   (d) Director : Film

35. MAT : NCW :: APE : ?
    (a) CRH   (b) BRH
    (c) BSG   (d) BSH

36. ADBC :: WZXY :: EHFG : ?
    (a) SVTU   (b) STUV
    (c) TUSV   (d) STVU

37. KITCAT : CATCIK :: PENTOP
    (a) TOPPEN   (b) TOPNEP
    (c) POPTEN   (d) POPNET

38. 01:36::2:?
    (a) 69   (b) 49
    (c) 81   (d) 70

39. 136 : 469 :: 247 : ?
    (a) 137   (b) 358
    (c) 368   (d) 146

40. DE : 10 :: HI : ?
    (a) 17   (b) 20
    (c) 36   (d) 46

41. **Question Figures**

Answer Figure

(a)   (b)   (c)   (d)
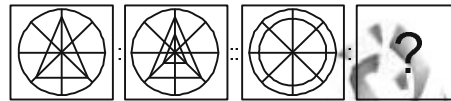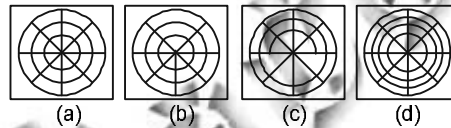
42. **Question Figure**

Answer Figure

(a)   (b)   (c)   (d)
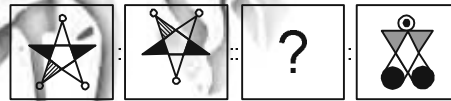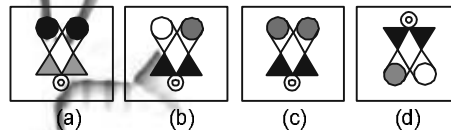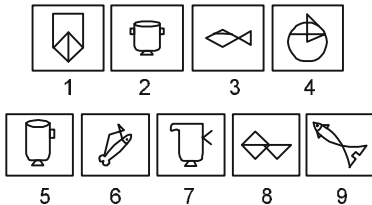
Directions (43-49): In each of the following questions find the odd word/letters/number/figure from the given responses.

43. (a) Fashion - style
    (b) Fond - affectionate
    (c) Old - ancient
    (d) Master - servant

44. (a) Dinosaur   (b) Sphinx
    (c) Unicorn   (d) Mermaid

45. (a) Intimacy   (b) Attachment
    (c) Friendship   (d) Enmity

46. (a) MNXY   (b) ABPQ
    (c) RSTU   (d) EFMN

47. (1) 1   (b) 16
    (c) 81   (d) 243

48. (1) 1023 - 1046   (b) 1169 - 1192
    (c) 1494 - 1517   (d) 1899 - 1921

49.

(a)   (b)   (c)   (d)

Direction: A series of figures is given which can be grouped into classes. Select the group into which the figures can be classified from the given responses.

50.

1 2 3 4

5 6 7 8 9

(a) 1 3 4 , 4 2 5 , 6 7 8
(b) 1 4 8 , 2 5 7 , 3 6 9
(c) 2 5 6 , 3 4 8 , 1 7 9
(d) 3 4 8 , 2 3 5 , 1 6 7

GENERAL AWARENESS

51. Why two. thin shirts can keep us warmer than a single thick shirt in winter ?
    (a) Two thin shirts become thicker so prevent transmission of heat
    (b) Air layer between two shirts works as good conductor
    (c) Air layer between two shirts behaves like insulating media
    (d) No radiation of heat takes place

52. Which laver of the earth's atmosphere reflect back the radio waves to the earth's surface ?
    (a) ionosphere   (b) stratosphere
    (c) mesosphere   (d) exosphere

53. Sound cannot pass through
    (a) water   (b) steel
    (c) air   (d) vacuum

54. Water is not effective in extinguishing a fire caused by petrol because
    (a) the flame is too hot for water to cool it down
    (b) water and petrol react chemically
    (c) water and petrol are miscible with each other
    (d) water and petrol are immiscible with each other and petrol which forms the upper layer continues to bum

55. Helium gas is used in gas balloons instead of hydrogen gas because it is
    (a) lighter than hydrogen
    (b) more abundant than hydrogen
    (c) non-combustible   (d) more stable

56. The gas used in the artificial ripening of fruits is
    (a) Acetylene   (b) Methane
    (c) Ethane   (d) Butane

57. Ruby and sapphire are oxides of
    (a) copper   (b) tin
    (c) iron   (d) aluminium

58. In the 53rd National Film Awards, the award for 'Best Feature Film' has gone for
    (a) 'Kaaipurush - Memories in the Mist'
    (b) 'Rang De Basanti'
    (c) Parzania   (d) Paheli

59. Which of the following pairs is incorrect ?
    (a) Amirkhusro - Sarod
    (b) Bhim Sen Joshi - Vocal music
    (c) Utpal Dutt - Films
    (d) Shambhu Maharaj - Kathak

60. In a photocell light energy is converted into
    (a) potential energy   (b) chemical energy
    (c) heat energy   (d) electrical energy

61. The World's largest biofuel plant with production capacity of 110 million litres of fuel annually has been set up in
    (a) China   (b) India
    (c) Brazil   (d) U.S.A.

62. Which one of the following universities is a Central University?
    (a) Kolkata   (b) Dibrugarh
    (c) Puducherry   (d) Kurukshetra

63. According to WHO, the bird flue virus cannot. be transmitted through food cooked beyond
    (a) 60 degrees celsius (b) 70 degrees celsius
    (c) 90 degrees Celsius (d) 100 degrees celsius

64. The science of map-making is
    (a) Cartography   (b) Geography
    (c) Carpology   (d) Geology

65. Who is known as 'the father of Indian missile technology'?
    (a) Dr. U.R. Rao
    (b) Dr. A.P.J. Abdul Kalam
    (c) Dr. Chidambaram   (d) Dr. Homi Bhabha

66. Which of the following cities/ towns lies to the northern-most latitude ?
    (a) Patna   (b) Allahabad
    (c) Pachmarhi   (d) Ahmedabad

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67. Which of the following Twenty-20 Cricket Rules is not correctly stated ?
    (a) Each inning has a time limit of 75 minutes. For every over bowled after that, the batting side gets extra 6 runs
    (b) If a batsman fails to reach the crease within 90 seconds after the fall of wicket, the bowling side gets 5 penalty runs
    (c) A bowler can bowl a maximum of 6 overs per innings
    (d) Fielding restrictions are applicable for the first six overs of the innings

68. What was the mascot of the Second Asian Indoor games which were held at Macau sometime back ?
    (a) Miwiki   (b) Mei Mel
    (c) Chei Chei   (d) Chei Mel

69. Who is the author of "A River Sutra" ?
    (a) V. S. Naipaul   (b) Nirad C. Choudhuri
    (c) Gita Mehta   (d) Vikram Seth

70. Where was Asia Pacific Economic Cooperation (APEC) Summit, 2007 held ?
    (a) New Delhi   (b) New York
    (c) Singapore   (d) Sydney

71. Which of the following Indian banks became the first to touch a market capitalisation of Rs. 1,00,000 crore in India?
    (a) ICICI   (b) HDFC
    (c) SBI   (d) PNB

72. The capital of IMF is made up by contribution of the
    (a) credit   (b) deficit financing
    (c) member nations (d) borrowings

73. Who among the following is a non-resident Indian ?
    (a) An Indian tourist in America
    (b) A person of Indian origin working as a Computer Engineer in America
    (c) A person of Indian origin employed in the U.N.O. office at New Delhi
    (d) The Indian manager of State Bank of India branch in London

74. Where is the National Academy of Agricultural Research Management located ?
    (a) Dehradoon   (b) Hyderabad
    (c) New Delhi   (d) Itanagar

75. Which kind of power accounts for the, largest share of power generation in India ?
    (a) hydro-electricity   (b) thermal
    (c) nuclear   (d) solar

76. Who was the President of Indi-an National Congress when the Mountbatten Plan of independence was accepted ?
    (a) Jawaharlal Negro
    (b) Sandra Patel
    (c) MaulanaAzad
    (d) AcharyaJ. B. Kripalani

77. Age of a candidate to contest Par-liamentary election should not be lesser than
    (a) 18 years   (b) 21 years
    (c) 25 years   (d) 26 years

78. Who developed the idea that "means justify the ends"?
    (a) Kautilya
    (b) Raja Ram Mohan Roy
    (c) Swami Dayanand Saraswatl
    (d) Mahatma Gandhi

79. Who said that 'the real seat of taste is not the tongue, but the mind'?
    (a) Aurobindo Ghosh
    (b) Mahatma Gandhi
    (c) Bal GangadharT lak
    (d) Swami Vivekananda

80. Which Amendment Act intro-duced changes in the preamble to the Indian Constitution ?
    (a) the 38th Amendment Act, 1975
    (b) the 40th Amendment Act, 1976
    (c) the 42nd Amendment Act, 1976
    (d) the 44th Amendment Act, 1979

81. The interval between two sessions of either House of Parliament should not exceed
    (a) three months   (b) six months
    (c) nine months   (d) twelve months

82. The caves and rock-cut temples at Ellora are
    (a) Hindu and Buddhist
    (b) Buddhist and Jain
    (c) Hindu and Jain
    (d) Hindu, Buddhist and Jain

83. The original name ofTansen, the most famous musician at the court of Akbar was
    (a) Lal Kalwant   (b) Banda Bahadur
    (c) Ramatanu Pande   (d) Markandey Pande

84. Provincial Autonomy was one of the important features of the Act of
(a) 1935   (b) 1919
(c) 1909   (d) 1858

85. The Seven Pagodas of Mahaba-lipuram are a witness to the art patronised by the
(a) Pallavas   (b) Pandyas
(c) Cholas   (d) Cheras

86. Who was the Governor-general of India during the Revolt of 1857 ?
(a) Lord Dalhousie   (b) Lord Canning
(c) Lord Mayo   (d) Lord Ripon

87. Name the clan Buddha belonged to
(a) Gnathrika   (b) Maurya
(c) Sakya   (d) Kuru

88. Which of the following will never get the vertical rays of the sun ?
(a) Mumbai   (b) Chennai
(c) Thiruvanthapuram   (d) Srinagar

89. During which decade did the population of India record a negative growth rate ?
(a) 1921-31   (b) 1911-21
(c) 1941-51   (d) 1931-41

90. Which one of the following is an abiotic and renewable resource?
(a) iron ore   (b) livestock
(c) water   (d) forests

91. Of the following, the town which does not come within the National Capital Region is ?
(a) Panipat   (b) Rohtak
(c) Khurja   (d) Mathura

92. Which river of India is called Vridha Ganga ?
(a) Krishna   (b) Godavari
(c) Kaveri   (d) Narmada

93. The capital of Tanzania is
(a) Nairobi   (b) Lusaka
(c) Kampala   (d) Dar-es-Salaam

94. The Andaman group and Nicobar group of islands are separated from each other by
(a) Ten Degree Channel
(b) Great Channel
(c) Bay of Bengal
(d) Andaman Sea

95. The number of chambers in a human heart is
(a) Four   (b) Two
(c) Three   (d) Five

96. A universal recipient belongs to the blood group
(a) AB   (b) O   (c) B   (d) A

97. The vitamin that helps in blood clotting is
(a) Vitamin C   (b) Vitamin D
(c) Vitamin E   (d) Vitamin K

98. Which of the following is a perfect match ?
(a) Coronary attack - vascular dilation
(b) Atherosclerosis - blockage of arteries
(c) Hypertension - low blood pressure
(d) Hypotension - heart attack

99. Which of the following is correct about cold blooded animals ?
(a) Their blood remains cold all the time
(b) Their body temperature changes in accordance with the atmosphere
(c) Their body temperature remains constant all the time
(d) They kill all the animals they come across

100. 'IC Chips' for computers are usually made of
(a) Chromium   (b) Silicon
(c) Lead   (d) Copper

NUMERICAL APTITUDE

101. If a sum of money at simple interest doubles in 12 years, the rate of interest per annum is
(a) 16 3 %   (b) 7.5%
(c) 8 3 %   (d) 10%

102. Out of Rs. 50,000, that a man has, he lends Rs. 8000 at 52 per annum simple interest and Rs. 24,000 at 6 % per annum simple interest. He lends the remaining money at a certain rate of interest so that he gets total annual interest of Rs. 3680. The rate of interest per annum, at which the remaining money is lent, is
(a) 5%   (b) 7%
(c) 10%   (d) 12%

103. In what time will Rs. 10,000 amount to Rs. 13310 at 20% per annum compounded half yearly?
(a) 12% years   (b) 2 years
(c) 2 2 years   (d) 3 years

104. At a certain rate per annum, the simple interest on a sum of money for one year is Rs. 260 and the compound interest on the same sum for two years is Rs. 540.80. The rate of interest per annum is
(a) 4%   (b) 6%   (c) 8%   (d) 10%

105. A certain sum of money yields Rs.1261 as compound interest for 3 years at 5% per annum. The sum is
(a) Rs. 9000 (b) Rs. 8400
(c) Rs. 7500 (d) Rs. 8000

106. The simple interest on a sum of money at 4% per annum for 2 years is Rs. 80. The compound interest in the same sum for the same period is
(a) Rs. 82.60 (b) Rs. 82.20
(c) Rs. 81.80 (d) Rs. 81.60

107. A shopkeeper marks his goods 30% above his cost price but allows a discount of 10% at the time of sale. His gain is
(a) 21% (b) 20%
(c) 18% (d) 17%

108. An article is listed at Rs. 920. A customer pays Rs. 742.90 for it after getting two successive discounts. If the rate of first discount is 15%, the rate of 2nd discount is
(a) 10% (b) 5%
(c) 8% (d) 12%

109. An article is sold at a discount of 20% and an additional discount of 30% is allowed on cash payment. If Vidya purchased the article by paying Rs. 2240 in cash, the marked price of the article was
(a) Rs. 4000 (b) Rs. 4368
(c) Rs. 4400 (d) Rs. 4480

110. A retailer purchases a grinder at a discount of 15% and sells it for Rs. 1955 at a profit of 15°/o. The amount of discount received by the retailer from the wholesaler was
(a) Rs. 270 (b) Rs. 290
(c) Rs. 300 (d) Rs. 330

111. A shopkeeper earns a profit of 12% on selling a book at 10% discount on the printed price. The ratio of the cost price and the printed price of the book is
(a) 99 : 125 (b) 25 : 37
(c) 50 : 61 (d) 45 : 56

112. Working 5 hours a day, A can complete a work in 8 days and working 6 hours a day, B can complete the same work in 10 days. Working 8 hours a day, they can jointly complete the work in
(a) 3 days (b) 4 days
(c) 4.5 days (d) 5.4 days

113. 40 men can complete a work in 40 days. They started the work together. But at the end of each 10th day, 5 men left the job. The work would have been completed in
(a) $56\frac{2}{3}$ days (b) $53\frac{1}{3}$ days
(c) 52 days (d) 50 days

114. If two persons, with equal abilities, can do two jobs in two days, then 100 persons with equal abilities can do 100 similar jobs in
(a) 100 days (b) 10 days
(c) 5 days (d) 2 days

115. A tank has a leak which would empty the completely filled tank in 10 hours. If the tank is full of water and a tap is opened which admits 4 litres of water per minute in the tank, the leak takes 15 hours to empty the tank. How many litres of water does the tank hold ?
(a) 2400 (b) 4500
(c) 1200 (d) 7200

116. A can do a piece of work in 18 days and B in 12 days. They began the work together, but B left the work 3 days before its completion. In how many days, in all, was the work completed ?
(a) 12 (b) 10 (c) 9.6 (d) 9

117. Ganga and Saraswati, working separately can now a field in 8 and 12 hours respectively. If they work in stretches of one hour alternately, Ganga beginning at 9 a.m., when will the moving be completed ?
(a) 6 p.m. (b) 6.30 p.m.
(c) 5 p.m. (d) 5.30 p.m.

118. A and B started at the same time from the same place for a certain destination. B waking at $\frac{5}{6}$ of A's speed reached the destination 1 hour 15 minutes after A. B reached the destination in
(a) 6 hours 45 minutes (b) 7 hours 15 minutes
(c) 7 hours 30 minutes (d) 8 hours 15 minutes

119. Two trains started at the same time, one from A to B and the other from B to A. If they arrived at B and A respectively 4 hours and 9 hours after they passed each other, the ratio of the speeds of the two trains was
(a) 2:1 (b) 3:2
(c) 4 : 3 (d) 5 : 4

120. Two trains of equal length, running in opposite directions, pass a pole in 18 and 12 seconds. The trains will cross each other in
(a) 14.4 seconds   (b) 15.5 seconds
(c) 18.8 seconds   (d) 20.2 seconds

121. Two men start together from the some place in the same direction to go round a circular path. If one takes 10 minutes and the other takes 15 minutes to make one complete round they will meet after
(a) 30 minutes   (b) 33 minutes
(c) 40 minutes   (d) 45 minutes

122. A moving train crosses a man standing on a platform and a bridge 300 metres long in 10 seconds and 25 seconds respectively. What will be the time taken by the train to cross a platform 200 metres ling ?
(a) 16 3 seconds   (b) 18 seconds
(c) 20 seconds   (d) 22 seconds

123. A man takes 6 hours 15 minutes in walking a distance and riding back to the starting place. He could walk both ways in 7 hours 45 minutes. The time taken by him to ride both ways, is
(a) 4 hours   (b) 4 hours 30 minutes
(c) 4 hours 45 minutes (d) 5 hours

124. A man goes downstream with a boat to some destination and returns upstream to his original place in 5 hours. If the speed of the boat in still water and the stream are 10 km/hr and 4 km/ hr respectively, the distance of the destination from the starting place is
(a) 16 km (b) 18 km (c) 21 km (d) 25 km

125. A person can row $7\frac{1}{2}$ km an hour in still water. He finds that it takes twice the time to row upstream than the time to row downstream. The speed of the stream is
(a) 2 km/hour   (b) 2.5 km/hour
(c) 3 km/hour   (d) 4 km/hour

126. A businessman sells a commodity at 10% profit. If he had bought it at 10% less and sold it for Rs. 2 less, then he would have $16\frac{2}{3}$% gained. The cost price of the commodity is
(a) Rs.32   (b) 88.36
(c) Rs.40   (d) Rs.48

127. One trader calculates the percentage of profit on the buying price and another calculates on the selling price. When their selling prices are the same, then the difference of their actual profits is Rs. 85 and both claim to have made 20% profit. What is the selling price of each ?
(a) Rs. 1700   (b) Rs. 2100
(c) Rs. 2550   (d) Rs. 2750

128. A sells a article to B at a profit of 10% B sells the article back to A at a loss of 10%. In this transaction
(a) A neither loses nor gains
(b) A makes a profit of 11
(c) A makes a profit of 20%
(d) B loses 20%

129. The ratio, in which tea costing Rs. 192 per kg is to be mixed with tea costing Rs. 150 per kg so that the mixed tea, when sold for Rs. 194.40 per kg, gives a profit of 20%, is
(a) 2 : 5   (b) 3 : 5
(c) 5 : 3   (d) 5 : 2

130. If the selling price of an article is doubled, then its loss per cent is converted into equal profit per cent. The loss per cent on the article is .
(a) $26\frac{2}{3}$%   (b) 33%
(c) $33\frac{1}{3}$%   (d) 34%

131. On the basis of selling price of an article, the loss is calculated to be 25%. The percentage of loss on the basis of cost price is
(a) 18   (b) 20
(c) 22   (d) 25

132. If the difference between areas of the circumcircle and the in-circle of an equilateral triangle is 44 cm2, then the area of the triangle is $\left(\text{Take } \pi = \frac{22}{7}\right)$
(a) 28 cm²   (b) $7\sqrt{3}$ cm²
(c) $14\sqrt{3}$ cm²   (d) 21 cm²

133. A wire, when bent in the form of a square, encloses a region having area 121 cm². if the same wire is bent into the form of a circle, then

the area of the circle is $\left(\text{Take } \pi = \dfrac{22}{7}\right)$

(a) 144 cm2   (b) 180 cm2
(c) 154 cm2   (d) 1176 cm2

134. If the area of a circle inscribed in a square is 97π cm², then the area of the square is
(a) 24 cm2   (b) 30 cm2
(c) 36 cm2   (d) 81 cm2

135. The total surface area of a solid hemisphere is 1087π cm². The volume of the hemisphere is
(a) 727π cm3   (b) 144π cm3
(c) $108\sqrt{6}$ cm3   (d) $54\sqrt{6}$ cm3

136. ABC is an equilateral triangle of side 2 cm. With A, B, C as centres and radius 1 cm three arcs are drawn. The area of the region within the triangle bounded by the three arcs is
(a) $\left(3\sqrt{3} - \dfrac{\pi}{2}\right)$cm²   (b) $\left(\sqrt{3} - \dfrac{3\pi}{2}\right)$cm²
(c) $\left(-\dfrac{\pi}{2}\right)$cm²   (d) $\left(\dfrac{\pi}{2} - \sqrt{3}\right)$cm²

137. If S denotes the area of the curved surface of a right circular cone of height h and semi-vertical angle a then S equals
(a) $\pi h^2 \tan^2 \alpha$ (b) $\dfrac{1}{3}\pi h^2 \tan^2 \alpha$
(c) $\pi h^2 \sec\alpha \tan\alpha$ (d) $\dfrac{1}{3}\pi h^2 \sec\alpha \tan\alpha$

138. The ratio of the volume of a cube to that of a sphere, which will exactly fit inside the cube, is
(a) $6 : \pi$ (b) $4 : \pi$
(c) $5 : 3\pi$ (d) $4 : 3$

139. A solid metallic sphere of radius 8 cm is melted to form 64 equal small solid spheres. The ratio of the surface area of this sphere to that of a small sphere is
(a) 4 : 1   (b) 1 : 16
(c) 16 : 1   (d) 1 : 4

140. The volume of the metal of a cylindrical pipe is 748 cm3. The length of the pipe is 14cm and its external radius is 9 cm. Its thickness is $\left(\text{Take } \pi = \dfrac{22}{7}\right)$

(a) 1 cm   (b) 5.2 cm
(c) 2.3 cm   (d) 3.7 cm

141. Two iron shots each of diameter 6 cm are immersed in the water contained in a cylindrical vessel or radius 6 cm. The level of the water in the vessel will be raised by
(a) 1 cm   (b) 2 cm
(c) 3 cm   (d) 6 cm

Directions (142-145): The table given below depicts the export of a commodity through four ports in the years 1998 and 1999.

Study the table and answer the questions.

Port	Export in 1998 (in crore rupees)	Export in 1999 (in crore rupees)
A	57	61
B	148	160
C	229	234
D	146	150

142. The percentage increase in the export of the commodity from the year 1998 to 1999 was the highest from which port ?
(a) A   (b) B   (c) C   (d) D

143. What was the change in the aggregate export of the commodity in the year 1999 as compared to the year 1998 ?
(a) Nearly 4.3% increase
(b) Nearly 4.3% decrease
(c) Nearly 0.04% increase
(d) Nearly 0.04% decrease

144. What was the average increase in the export of the commodity from the ports in the year 1999 as compared to the year 1998 ?
(a) Rs. 82500000   (b) Rs. 80000000
(c) Rs. 75000000   (d) Ps. 62500000

145. The percentage increase in the export of the commodity from the year 1998 to 1999 was the lowest from which port ?
(a) A   (b) B   (c) C   (d) D

146. $\dfrac{(5.624)^3 + (4.376)^3}{5.624 \times 5.624 - (5.624 \times 4.376) + 4.376 \times 4.376}$

(a) 10   (b) 1.248
(c) 20.44   (d) 1

147. If $x - \dfrac{1}{x} = 4$ than $\left(x + \dfrac{1}{x}\right)$ is equal to

(a) $5\sqrt{2}$ (b) $2\sqrt{5}$

(c) $4\sqrt{2}$ (d) $4\sqrt{5}$

148. The next number of the sequence 2, 6, 12, 20, 30, 42, 56, __ is
(a) 60   (b) 64   (c) 68   (d) 72

149. $\left(1 - \dfrac{1}{2}\right)\left(1 - \dfrac{1}{3}\right)\left(1 - \dfrac{1}{4}\right)\cdots\left(1 - \dfrac{1}{n-1}\right)\left(1 - \dfrac{1}{n}\right)$ is equal to

(a) $\dfrac{1}{2n}$ (b) $\dfrac{1}{5n}$ (c) $\dfrac{1}{3n}$ (d) $\dfrac{1}{n}$

150. $\dfrac{137 \times 137 + 137 \times 133 + 133 \times 133}{137 \times 137 \times 137 - 133 \times 133 \times 133}$ is equal to

(a) 4   (b) 270

(c) $\dfrac{1}{4}$ (d) $\dfrac{1}{270}$

151. $\left[\dfrac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}} - \dfrac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}\right]$ simplifies to

(a) $2\sqrt{6}$ (b) $4\sqrt{6}$

(c) $2\sqrt{3}$ (d) $3\sqrt{2}$

152. How many numbers between 1000 and 5000 are exactly divisible by 225?
(a) 16   (b) 18   (c) 19   (d) 12

153. Which term of the sequence

$\dfrac{1}{2}, -\dfrac{1}{4}, \dfrac{1}{8}, -\dfrac{1}{16}, \ldots$ is $-\dfrac{1}{256}$?

(a) 9th   (b) 8th   (c) 7th   (d) 5th

154. Given that $1^2 + 2^2 + 3^2 + \ldots + n^2 = \dfrac{n}{6}(n+1)(2n+1)$, then $10^2 + 11^2 + 12^2 + \ldots + 20^2$ is equal to

(a) 2616   (b) 2585

(c) 3747   (d) 2555

155. The smallest number, which when divided by 5, 10, 12 and 15, leaves remainder 2 in each case; but when divided by 7 leaves no remainder, is

(a) 189   (b) 182

(c) 175   (c) 91

156. A number consists of two digits. If the number formed by inter-changing the digits is added to the original number, the result-ing number (i.e. the sum) must be divis ble by

(a) 11   (b) 9

(c) 5   (d) 3

157. If $(125)^x = 3125$, then the value of x is

(a) $\dfrac{1}{5}$ (b) $\dfrac{3}{5}$ (c) $\dfrac{5}{3}$ (d) $\dfrac{5}{7}$

158. The sum of two numbers is 216 and their HCF is 27. How many pairs of such numbers are there?

(a) 1   (b) 2   (c) 3   (d) 0

159. A number when divided by 119 leaves remainder 19. If the same number is divided by 17, the remainder will be

(a) 12   (b) 10   (c) 7   (d) 2

160. Which of the following numbers is the greatest?

$\sqrt{2}, \sqrt[3]{3}, \sqrt[4]{4}, \sqrt[6]{6}$

(a) $\sqrt{2}$ (b) $\sqrt[3]{3}$

(c) $\sqrt[4]{4}$ (d) $\sqrt[6]{6}$

161. $\left[(50)^3 + (-30)^3 + (-20)^3\right]$ is equal to

(a) 170000   (b) -15000

(c) 90000   (d) -90000

162. What is $5^{\frac{1}{2}}, 5^{\frac{1}{4}}, 5^{\frac{1}{8}} \ldots$ equal to ?

(a) 6   (b) 1

(c) 0   (d) 5

163. $\left[\dfrac{3\sqrt{2}}{\sqrt{3} + \sqrt{6}} - \dfrac{4\sqrt{3}}{\sqrt{6} + \sqrt{2}} + \dfrac{\sqrt{6}}{\sqrt{2} + \sqrt{3}}\right]$ is simplified to

(a) $\sqrt{6}$ (b) $\sqrt{3}$

(c) $\sqrt{2}$ (d) 0

164. The first day of the year 1998 was Thursday. On what day of the week would the last day of the year 2001 fall ?

(a) Monday   (b) Sunday

(c) Saturday   (d) Tuesday

165. The largest number of five digits, which is a perfect square is
(a) 99999 (b) 99976
(c) 99856 (d) 99764

166. The sum of first 50 odd natural numbers is
(a) 1000 (b) 1250
(c) 5200 (d) 2500

167. $\dfrac{(998)^2-(997)^2-45}{(98)^2-(97)^2}$ equals
(a) 1995 (b) 195
(c) 95 (d) 10

168. The product of the LCM and the HCF of two numbers is 24. If the difference of the numbers is 2, then the greater of the number is
(a) 3 (b) 4
(c) 6 (d) 8

169. If $5^{\sqrt{x}}+12^{\sqrt{x}}=13^{\sqrt{x}}$, then x is equal to
(a) $\dfrac{25}{4}$ (b) 4
(c) 9 (d) 16

170. The wrong number in the sequence 1, 8, 27, 84, 125, 216, 343 is
(a) 1 (b) 27
(c) 84 (d) 216

171. A number when divided by 5 leaves a remainder 3. What is the remainder when the square of the same number is divided by 5?
(a) 1 (b) 2
(c) 3 (d) 4

172. Two numbers are in the ratio 3 : 4. If their LCM is 240, the smaller of the two number is
(a) 100 (b) 80
(c) 60 (d) 50

173. By how much does $\dfrac{9}{7\frac{}{8}}$ exceed $\dfrac{6}{7\frac{}{8}}$?
(a) $6\dfrac{3}{4}$ (b) $6\dfrac{1}{8}$
(c) $6\dfrac{3}{28}$ (d) $7\dfrac{3}{4}$

174. The first odd number is 1, the second odd number is 3, the third odd number is 5 and so on. The 200th odd number is
(a) 399 (b) 421
(c) 357 (d) 599

175. Only two entries are known of the following Arithmetic progression :
—, 5, —, —, 14, —, ...
What should be the number just after 14 ?
(a) 17 (b) 18
(c) 19 (d) 20

176. The average of 30 numbers is 12. The average of the first 20 of them is 11 and that of the next 9 is 10. The last number is
(a) 60 (b) 45
(c) 40 (d) 50

177. The present average age of a family of four members is 36 years. If the present ago of the youngest member of the family be 12 years, the average age of the family at the birth of the youngest number was
(a) 48 years (b) 40 years
(c) 32 years (d) 24 years

178. The average of eight numbers is 20. If the sum of first two numbers is 31, the average of the next three numbers is $21\dfrac{1}{3}$ and the Seventh and eighth numbers exceed the sixth number by 4 and 7 respectively, then the eighth number is
(a) 20 (b) 25
(c) 21.6 (d) 25.3

179. The bowling average of a cricketer was 12.4. He improves his bowling average by 0.2 points when he takes 5 wickets for 26 runs in his last match. The number of wickets taken by him before the last match was
(a) 125 (b) 150
(c) 175 (d) 200

180. A train covers a distance of 3584 km in 2 days 8 hours. If it covers 1440 km on the first day and 1608 km on the second day, by how much does the average speed of the train for the remain-ing part of the journey differ from that for the entire journey ?
(a) 3 km/hour more (b) 3 km/hour less
(c) 4 km/hour more (d) 5 km/hour less

181. 65g is what per cent of 2 kg ?

(a) $\dfrac{13}{4}$　　　　　(b) $\dfrac{65}{2}$

(c) $\dfrac{15}{8}$　　　　　(d) $\dfrac{13}{8}$

182. In an examination 80% candidates passed in English and 85% candidates passed in Mathematics. If 73% candidates passed in both these subjects, then what per cent of candidates failed in both the subjects ?
(a) 8　　　　　(b) 15
(c) 27　　　　(d) 35

183. Half of 1 per cent, written as a decimal, is
(a) 0.2　　　　(b) 0.02
(c) 0.005　　　(d) 0.05

184. If the length of a rectangular plot of land is increased by 5% and the breadth decreased by 10%, by how much will its area change?
(a) increase by 5.5%　(b) decrease by 5.5%
(c) decrease by 0.55%(d) No change

185. If the price of a commodity is increased by 50% by what fraction must its consumption be reduced so as to keep the same expenditure on its consumption ?

(a) $\dfrac{1}{4}$　(b) $\dfrac{1}{3}$　(c) $\dfrac{1}{2}$　(d) $\dfrac{2}{3}$

186. The price of sugar is reduced by 20%. Now a person can buy 500g more sugar for Rs. 36. The original price of the sugar per kilogram was
(a) Rs. 14.40　　　(b) Rs. 18
(c) Rs. 15.60　　　(d) Rs. 16.50

187. B got 20% marks less than A. What per cent marks did A got more than B ?
(a) 20　　　　　(b) 25
(c) 12　　　　　(d) 80

188. The population of a town increases every year by 4%. If its present population is 50,000, then after 2 years it will be
(a) 53,900　　　(b) 54,000
(c) 54,080　　　(d) 54,900

189. If a : b : c = 3 : 4 : 7, then the ratio (a + b + c) : c is equal to
(a) 2 : 1　　　　(b) 14 : 3
(c) 7 : 2　　　　(d) 1 : 2

190. The present ages of A and B are in the ratio 4 : 5 and after 5 years they will be in the ratio 5 : 6. The present age of A is
(a) 10 years　　　(b) 20 years
(c) 25 years　　　(d) 40 years

191. An alloy contains zinc, copper and tin in the ratio 2 : 3 : 1 and another contains copper, tin and lead in the ratio 5 : 4 : 3. If equal weights of both alloys are melted together to form a third alloy, then the weight of lead per kg in the new alloy will be

(a) $\dfrac{1}{2}$ kg　(b) $\dfrac{1}{8}$ kg　(c) $\dfrac{3}{14}$ kg　(d) $\dfrac{7}{9}$ kg

192. In a 729 litres mixture of milk and water, the ratio of milk to water is 7 : 2. To get a new mixture containing milk and water in the ratio 7 : 3, the amount of water to be added is
(a) 81 litres　　　(b) 71 litres
(c) 56 litres　　　(d) 50 litres

193. Rama's expenditures and savings are in the ratio 5 : 3. If her income increases by 12% and expenditure by 15%, then by how much per cent do her savings increase ?
(a) 12　　　　　(b) 7
(c) 8　　　　　(d) 13

194. The number of students in 3 classes are in the ratio 2 : 3 : 4. If 12 students are increased in each class, this ratio changes to 8 : 11 :14. The total number of students in the three classes in the beginning was
(a) 162　　　　(b) 108
(c) 96　　　　(d) 54

195. A, B and C started a business by investing Rs. 40500, Rs. 45000 and Rs. 60000 respectively. After 6 months C withdrew Rs. 15000 while A invested Rs. 4500 more. In annual profit of Rs. 56100, the share of C will exceed that of A by
(a) Rs. 900　　　(b) Rs. 1100
(c) Rs. 3000　　　(d) Rs. 3900

196. In 40 litres mixture of milk and water the ratio of milk to water is 7 : 1. In order to make the ratio of milk and water 3 : 1, the quantity of water (in litres) that should be added to the mixture will be

(a) 6　　(b) $6\dfrac{1}{2}$　(c) $6\dfrac{2}{3}$　(d) $6\dfrac{3}{4}$　www.examrace.com

197. In what ratio must a mixture of 30% alcohol strength be mixed with that of 50% alcohol strength so as to get a mixture of 45% alcohol strength ?
(a) 1 : 2　　　　　(b) 1 : 3
(c) 2 : 1　　　　　(d) 3 : 1

198. A box has 210 coins of denominations one-rupee and fifty paise only. The ratio of their respective values is 13 : 11. The number of one-rupee coins is
(a) 65　　　　　(b) 66
(c) 77　　　　　(d) 78

199. Kamal took Rs. 6800 as a loan which along with interest is to be repaid in two equal annual instalments. If the rate of interest is $12\frac{1}{2}\%$, compounded annually, then the value of each instalment is
(a) Rs. 8100　　　　　(b) Rs. 4150
(c) Rs. 4050　　　　　(d) Rs. 4000

200. A man lent Rs. 60,000, partly at 5% and the rest at 4% simple interest. If the total annual inter-est is Rs. 2560, the money lent at 4% was
(a) Rs. 40000　　　　　(b) Rs. 44000
(c) Rs. 30000　　　　　(d) Rs. 45000

ANSWERS

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