प्रमनों के उत्तर देने से पहले निम्नलिखित अनुदेशों को ध्यान से पढ़ लें।

इस पुस्तिका में प्रश्न अंग्रेजी तथा हिंदी दोनों में दिए गए हैं।

INSTRUCTIONS TO CANDIDATES

1. This Booklet contains 200 questions in all comprising the following four parts:
   Part-a: General Intelligence (50 questions)
   Part-b: General Awareness (50 questions)
   Part-c: Quantitative Aptitude (50 questions)
   Part-d: English Language (50 questions)

2. In questions set bilingual in English and Hindi, in case of discrepancy, the English version will prevail.

3. All questions are compulsory and carry equal marks.

4. The paper carries negative marking. 0.25 marks will be deducted for each wrong answer.

5. Before you start to answer the questions you must check up this Booklet and ensure that it contains all the pages (1-32) and see that no page is missing or repeated. If you find any defect in this Booklet, you must get it replaced immediately.

6. You will be supplied the Answer-Book exclusively by the Invigilator. You must complete and code the details of Name, Roll Number, Ticket Number and Test Form Number on Side-I of the Answer-Book carefully. You must also put your signature and Left-Hand thumb impression on the Answer-Book at the prescribed place before you actually start answering the questions. These instructions must be fully complied with, failing which, your Answer-Book will not be evaluated and you will be awarded ZERO mark. (V.H. candidates will have to ensure that these details will be filled in by the scribe. However, all V.H. candidates must put their left-hand thumb impression at the space provided in the Answer-Book. Those V.H. candidates who can sign should also put their signatures in addition to thumb impression.)

7. Answers must be shown by completely blackening the corresponding ovals on Side-II of the Answer-Book against the relevant question number by Black/Blue Ball Point Pen only. Answers which are not clearly visible will not be evaluated.

8. A machine will read the coded information in the OMR Answer-Book. In the case of incomplete or different or different in the application form, such candidate will be awarded ZERO mark. (V.H. candidates may use a black Ball Point Pen only. The machine will not be able to read the answer if any part of the answer is not filled in properly.)

9. The Answer-Book must be handed over to the Invigilator before you leave the Examination-Hall.

10. Failure to comply with any of the above instructions will render a candidate liable to such action / penalty as may be deemed fit.

11. The manner in which the different questions are to be answered has been explained at the back of this Booklet (Page No. 32), which you should read carefully before actually answering the questions.

12. Answer the questions as quickly and as carefully as you can. Some questions may be difficult and others easy. Do not spend too much time on any question.

13. In lieu of Question Nos. 42 to 50 and 142 to 150 relating to figurual portions alternate questions have been provided to be attempted by V.H. Candidates only.

14. No rough work is to be done on the Answer-Book. Space for rough work has been provided before the questions.

15. Mobile phones and wireless communication devices are completely banned in the examination halls/rooms. Candidates are advised not to keep mobile phones or any other wireless communication devices with them while switching it off, to their own interest. Failing to comply with this provision will be considered as using unfair means in the examination and action will be taken against them including cancellation of their candidature.
Part - a

GENERAL INTELLIGENCE

Directions: In Question Nos. 1 to 5, select the related letter/word/number from the given alternatives.

1. Temple : Ear ; Shoulder : Hand ; Gum : ?
   (A) Lip (B) Tongue (C) Vein (D) Tooth

2. Pea-hen : Pea-cock ; Bitch : ?
   (A) He-elephant (B) Mongoose (C) Dog (D) Wolf

3. DEVIL : ABSFI : OTHER : ?
   (A) MRFCPL (B) RWKHU (C) LQUEBO (D) LRECO

   (A) Karnataka (B) Tamil Nadu (C) Kerala (D) Andhra Pradesh

5. Teacher : Student : : Pontiff : ?
   (A) Disciple (B) Follower (C) Priest (D) Deity

6. What is once in PEN, twice in PAPER and thrice in PEPPER ?
   (A) E (B) P (C) R (D) A

7. If SUPER = 79, SUPREME = 97, then LABOUR = ?
   (A) 79 (B) 69 (C) 89 (D) 49

Directions: In Question Nos. 8 to 14, find the one which is different from the rest three.

8. (A) Lamb (B) Goat (C) Ewe (D) Ram

9. (A) Botany (B) English (C) Physics (D) Chemistry

10. (A) Krishna (B) Cauvery (C) Narmada (D) Mahanadi

11. (A) May (B) June (C) July (D) August

12. (A) Ant (B) Spider (C) Bee (D) Moth

13. (A) $8/9$ (B) $16/64$ (C) $32/25$ (D) $64/36$

14. (A) 2010 (B) 2011 (C) 2012 (D) 2013

Directions: In Question Nos. 15 to 19, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

15. 2, 5, 7, 12, 19, 31, ?, 81
   (A) 30 (B) 40 (C) 50 (D) 60

16. 6, 8 : 2, 12 : : 5, 9 : : 4, ?
   (A) 5 (B) 8 (C) 10 (D) 11

17. 3, 5, 6, 11, 9, 17, 12, ?
   (A) 20 (B) 10 (C) 22 (D) 23

18. 2, 1, 2 = 5
     3, 1, 1 = 4
     ?, 3, 1 = 7
     (A) 0 (B) 4 (C) 2 (D) 1

    (A) Q (B) R (C) S (D) T
20. Which one of the following is the sequential order of colours in Rainbow?
1. Red 2. Green
3. Violet 4. Yellow
5. Orange
(A) 3, 2, 4, 5, 1 (B) 4, 3, 2, 5, 1
(C) 3, 4, 2, 1, 5 (D) 2, 5, 4, 1, 3

21. If the numbers starting with 944 are BSNL numbers, how many BSNL numbers are there in the below series?
948554 944251 944189 943525 944185
932251 944285 985128 944424 924785
944325 946895 947895 944242 944944
(A) 8 (B) 7
(C) 6 (D) 5

22. Which of the following words appear first in a dictionary?
(A) Improve (B) Impress
(C) Imprint (D) Impugn

23. Arrange the following words as per order in the dictionary:
1. Detach 2. Devise
3. Denote 4. Digest
5. Depict
(A) 5, 4, 3, 2, 1 (B) 3, 5, 1, 2, 4
(C) 3, 2, 1, 5, 4 (D) 5, 2, 4, 1, 3

24. Arrange the following in chronological order:
1. S. Radhakrishnan
2. Rajendra Prasad
3. Giani Zail Singh
4. V.V. Giri
5. A.P.J. Abdul Kalam
(A) 2, 1, 4, 5, 3 (B) 2, 1, 3, 4, 5
(C) 2, 1, 4, 3, 5 (D) 2, 1, 5, 4, 3

25. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?
_ f g _ e g _ e e f _ e _ g g
(A) e e f g e (B) f e g e f
(C) e f e g e (D) f e g e f

Directions: In Question Nos. 26 and 27, select the wrong number in the series.

26. 6, 18, 36, 108, 216, 648, 1290, 3888
(A) 36 (B) 108
(C) 1290 (D) 648

27. 3, 5, 8, 11, 14, 17, 23
(A) 8 (B) 11
(C) 17 (D) 23

28. A boy walks northwards. After a while he turns towards his right and a little further to his left. Finally after walking a distance of one kilometre, he turns to his left again. In which direction he is moving now?
(A) North (B) South
(C) East (D) West

29. The following address has been reproduced against (A), (B), (C) and (D), three of which have some mistakes or the other. Choose the one without any mistake.
Dr. C.V.R. Ramaswamy
19, Babanasam Street
Airport Road, Lawspet
Puducherry – 635124
(A) Dr. C.V.R. Ramaswamy
19, Babanasam Street
Airport Road, Lawspet
Puducherry – 635124
(B) DR. C.R.V. Ramaswamy
19, Babanasam Street
Airport Road, Lawspet
Puducherry – 635124
(C) Dr. C.V.R. Ramaswamy
19, Babanasam Street
Airport Road, Lawspet
Puducherry – 635124
(D) Dr. C.V.R. Ramaswamy
19, Babanasam Street
Airport Road, Lawspet
Puducherry – 635124

30. From the given alternatives, select the word which cannot be formed using the letters of the given word.
THOROUGHLY
(A) Rough (B) Glory
(C) Thorny (D) Though

SPACE FOR ROUGH WORK
31. If 'Vocation' is written as 'Catroovn', 'Guidance' is written as
(A) Idanucge (B) Idancueg (C) Uidanucug (D) Guidanuc

32. In a code language, the following alphabets are coded in a particular way:
A B C D E F G H I R S T
↑ ↓ ↔ 1 2 3 4 5 6 7 8 9 10 11 12 13 14
Which word can be coded as
$\mathbb{Q} \mathbb{Q} \mathbb{Q} \mathbb{Q}$
(A) TIGER (B) TRIGER (C) TIGHT (D) FIGHT

33. If $52 \times 45 = 30, 73 \times 21 = 23$ and
$84 \times 52 = 42$, then $62 \times 43 = ?$
(A) 20 (B) 24 (C) 30 (D) 32

34. If BET = ROD, CAN = SIM and
MUG = LAN, then MEN = ?
(A) LOM (B) OLM (C) MOL (D) LMO

35. In a code language, the following alphabets are coded in a particular way:
A B C D E F G H I J K L M N
1 2 3 4 5 6 7 8 9 10 11 12 13 14
Find out the word with the given code 2, 1, 14, 4.
(A) BEND (B) FEND (C) BAND (D) HAND

36. The following data shows the game level and its scores. Find out the score for the 6th level:
Level → 1, 2, 3, 4, 5, 6
Scores → 2, 3, 4, 5, 6, 7
(A) 24 (B) 32 (C) 44 (D) 52

37. If AMPLIFIER is coded as CORNHKGKT, then QGELYJ is coded as what?
(A) RHFMZK (B) RHFNAL (C) SIGNAL (D) SIGMzk

38. Statement: Finance companies collapse due to mismanagement.
Conclusions: I. Even good management cannot run finance companies with success.
II. Proper management can help finance companies to thrive.
(A) Both conclusions I and II follow.
(B) Neither conclusion I nor II follow.
(C) Only conclusion I follows.
(D) Only conclusion II follows.

39. Statements: I. Sohan is a good sportsman.
II. All sportsmen are healthy.
Conclusions: I. All healthy persons are sportsmen.
II. Sohan is healthy.
(A) Only conclusion I follows.
(B) Only conclusion II follows.
(C) Either conclusion I or II follows.
(D) Neither conclusion I nor II follows.

40. Two trains A and B running at 60 kmph and 40 kmph respectively in opposite directions from stations X and Y 200 km apart will cross or collide at a moment exactly after
(A) 1 hour and 30 minutes
(B) 3 hours and 20 minutes
(C) 2 hours
(D) 2 hours and 30 minutes

41. Ram was born on 29th February. He celebrated his birthday falling on exactly 29th February 2008 for the fourth time. In which year he was born?
(A) 1992 (B) 2004 (C) 2000 (D) 1996
42. In the given diagram, circle represents athletes, square represents tall men and triangle represents bank officers. Which region represents bank officers who are athletes?

(A) P and M  (B) P  (C) Q  (D) P and Q

43. Which of the answer figures is the mirror image of the given figure if the mirror is held at AB?

Question Figure: 

Answer Figures: 

(A)  (B)  (C)  (D)

44. Which figure is different from the rest?

\[ V V \square V \square V \square \]

(A)  (B)  (C)  (D)

45. A square transparent sheet with a pattern is given. Figure out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded along the marked line?

Question Figure: 

Answer Figures: 

(A)  (B)  (C)  (D)

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

Question Figure: 

Answer Figures: 

(A)  (B)  (C)  (D)

47. Question Figures:

Answer Figures: 

(A)  (B)  (C)  (D)

48. Question Figures:

Answer Figures: 

(A)  (B)  (C)  (D)
49. A sheet of paper is folded in a particular manner, punched once and then unfolded. The punched, unfolded paper appears as in the given figure. Find out the manner in which the paper was folded and punched by choosing the correct answer.

**Question Figure:**

![Figure](image)

**Answer Figures:**

(A) ![Option A](image)  (B) ![Option B](image)  (C) ![Option C](image)  (D) ![Option D](image)

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., F can be represented by 14, 21, etc and E can be represented by 20, 32, etc. Similarly, you have to identify the set for the word ‘REST’.

**Matrix I**

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>E</td>
<td>F</td>
<td>I</td>
<td>N</td>
</tr>
</tbody>
</table>

**Matrix II**

<table>
<thead>
<tr>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>P</td>
<td>R</td>
<td>S</td>
<td>T</td>
</tr>
</tbody>
</table>

(A) 57, 20, 96, 98  
(B) 69, 01, 58, 68  
(C) 95, 44, 96, 98  
(D) 76, 01, 65, 59

---

**FOR VISUALLY HANDICAPPED CANDIDATES ONLY**

**Directions:** In Question Nos. 42 to 45, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

42. 37, 47, 58, ?, 79, 95  
(A) 71  (B) 69  (C) 68  (D) 67

43. 128, 2, 82, 62, 44, 28  
(A) 99  (B) 104  (C) 109  (D) 106

44. 7, 9, 18, 24, 51, ?, 150, 204  
(A) 27  (B) 69  (C) 28  (D) 68

45. ao, nbc, bp, occ, cq,  
(A) def  (B) pde  (C) rst  (D) opq

46. Sita was supposed to meet her friend at noon every Sunday. The first day the friend came at 12.30, the next time at 1.20, then at 2.30, then at 4.00. When did the friend turn up the time after that?  
(A) 5.00 pm  (B) 5.15 pm  (C) 5.40 pm  (D) 5.50 pm

47. There are two measures, 1/2 litre measure and 1/8th litre measure in a shop. One person came to the shop to buy 2½ litres of oil. What is the minimum number of times he has to measure using both measures to get the required quantity of oil?  
(A) 4  (B) 6  (C) 7  (D) 9

48. Some equations are solved on the basis of certain system. Find out the correct answer for the unsolved equation on that basis.

1 + 5 = 62, 3 + 2 = 34, 7 + 1 = ?  
(A) 72  (B) 28  (C) 27  (D) 82

49. If RAMESH is written as 357912 and SITA is written as 1405, then SAMIR is written as  
(A) 15473  (B) 15743  (C) 14753  (D) 14573

50. If p means -, q means +, r means + and s means ×, then 16p4q (5s8) r2 =  
(A) -8  (B) 32  (C) 20  (D) 12
51. The largest component of National Income in India is
(A) Service Sector
(B) Agriculture
(C) Industrial Sector
(D) Trade Sector

52. Transfer payments mean
(A) Old age pensions.
(B) Unemployment compensations.
(C) Social security payments.
(D) All the above.

53. In a developing country like India, in which sector a high rate of disguised unemployment exists?
(A) Corporate Sector
(B) House-hold Sector
(C) Service Sector
(D) Agricultural Sector

54. A holding which will yield the farmers at least a subsistence is known as
(A) Optimum holding
(B) Marginal holding
(C) Economic holding
(D) Subsistence holding

55. Which activity is not included in production?
(A) Production of wheat by a farmer
(B) Production of medicines by a company.
(C) Services given by a nurse in hospital.
(D) Services done by a house-wipe in her own house.

56. Who of the following enjoy constitutional position?
(1) Finance Commission
(2) National Development Council
(3) Election Commission
(4) Planning Commission
(A) 1, 3 (B) 1, 2
(C) 2, 4 (D) 2, 3

57. One of the following is the smallest (area-wise) Lok Sabha constituency in India:
(A) Chandni Chowk
(B) Delhi Sadar
(C) Kolkata North-West
(D) Mumbai South

58. The winning candidate in the Election of President of India should secure:
(A) Majority number of votes polled.
(B) Sixty six percent of votes polled.
(C) Fifty percent of votes polled.
(D) More than fifty percent and majority of the total votes polled.

59. The Supreme Court of India was set up:
(A) By the Constitution
(B) By a law of Parliament
(C) By a Presidential Order
(D) By the Act of 1947

60. According to Gandhi, the scope for class struggle and love for property can be reduced by
(A) Decentralization
(B) Participatory democracy
(C) Separation of Judiciary from Executive
(D) Trusteeship

61. The battle of Plassey was fought between
(A) East India Company and Shah Alam
(B) East India Company and Shujauddaula
(C) East India Company and Sirajuddaula
(D) East India Company and Anwaruddin

62. Name the Pakistan Prime-Minister who signed the Simla Agreement in 1972.
(A) Ayub Khan
(B) Yahya Khan
(C) Z.A. Bhutto
(D) Benazir Bhutto

63. The Non-Cooperation Movement started in
(A) 1870 (B) 1920
(C) 1921 (D) 1942

64. Who was the Nawab when Dalhousie annexed Awadh in 1856?
(A) Nasiruddin Mahmud Shah
(B) Wajid Ali Shah
(C) Shuja ud Daula
(D) Alivardi Khan
65. Rana Pratap Singh of Mewar was defeated by the Mughal army in the battle of
(A) Mewar  (B) Chittor
(C) Haldighati  (D) Udaipur

66. The burst of monsoons in the month of June brings rain to
(A) Kerala and Karnataka
(B) Kerala and Southern coast of Tamil Nadu
(C) Kerala, Tamil Nadu and parts of Andhra Pradesh
(D) Kerala, Tamil Nadu and Karnataka

67. The typical natural vegetation above 3600 metres on the Himalaya is
(A) alpine grassland
(B) alpine forests
(C) coniferous forests
(D) subtropical pine forests

68. Delhi gets winter rainfall due to
(A) south west monsoons
(B) north east monsoons
(C) conventional rain
(D) western disturbance

69. The monazite sands on the Kerala coasts, used for generating nuclear energy contain
(A) platinum  (B) copper
(C) uranium  (D) bauxite

70. El Nino occurs over
(A) Atlantic Ocean
(B) Indian Ocean
(C) Pacific Ocean
(D) Mediterranean Sea

71. Iodine solution is used to test the presence of
(A) Sugar  (B) Proteins
(C) Starch  (D) Fats

72. All are protozoan diseases except
(A) Elephantiasis
(B) Oriental sores
(C) Sleeping sickness
(D) Kala-azar

73. Transfer of genetic information from one generation to the next generation is by
(A) RNA  (B) Codon
(C) DNA  (D) messenger RNA

74. Which of the following is a true fish?
(A) Silver fish  (B) Star fish
(C) Dog fish  (D) Shell fish

75. The largest invertebrate is a/an
(A) Sponge  (B) Mollusc
(C) Arthropod  (D) Echinoderm

76. The basic structural and functional unit of living organisms is
(A) Cell  (B) Tissue
(C) Organ  (D) Systems

77. When two ice cubes are pressed together, they join to form one cube. Which one of the following helps to hold them together?
(A) Hydrogen bond formation
(B) Vander Waals forces
(C) Covalent attraction
(D) Dipole interaction

78. Electric fuse is an alloy of
(A) tin and lead
(B) zinc and lead
(C) copper and iron
(D) carbon and tin

79. The chemical used for cloud seeding for artificial rain is
(A) Silver Nitrate
(B) Potassium Bromide
(C) Silver Iodide
(D) PotassiumNitrate

80. Microphone is a device which transforms the
(A) sound signal into current signal
(B) current signal into sound signal
(C) sound signal into light signal
(D) light signal into sound signal

81. A ____ is an input device, which is used for converting pictures, maps and drawings into digital form for storage in computers.
(A) OCR  (B) OMR
(C) MICR  (D) digitizer

82. In C language, the formatting character should be preceded by the symbol:
(A) +  (B) /
(C) %  (D) –

83. Which among the following is liquid non-metal?
(A) Mercury  (B) Bromine
(C) Water  (D) Alcohol
84. Pressure Cooker cooks faster because
   (A) boiling point decrease with rise of pressure
   (B) it cooks the food at low pressure
   (C) higher temperature is attained for cooking
   (D) the material of the cooker is a good conductor

85. In silvery paints, the main constituent present is
   (A) Aluminium powder
   (B) Silver powder
   (C) Lead powder
   (D) White lead

86. When a strong beam of light is passed through a colloidal solution, the light will
   (A) be scattered
   (B) pass unchanged
   (C) be absorbed
   (D) be reflected

87. Carbon monoxide poisoning can be cured by
   (A) exposing the affected person to fresh oxygen.
   (B) eating butter.
   (C) drinking lemon-water.
   (D) consuming multi-vitamin tablet.

88. Which of the following phenomena is supposedly associated with global warming?
   (A) Southern Oscillations
   (B) El Nino
   (C) La Nino
   (D) El Nino Modiki

89. Which one of the following is a greenhouse gas?
   (A) Nitrogen
   (B) Helium
   (C) Carbon dioxide
   (D) Sulphur dioxide

90. Which of the following is a method/process of disposing of solid waste which cannot be reused or recycled?
   (A) Landfills
   (B) Incineration
   (C) Pyrolysis and Gasification
   (D) All the above

91. The world's largest producer of desalinated sea water is
   (A) Kuwait
   (B) Iran
   (C) Saudi Arabia
   (D) Iraq

92. For which type of fertilizer, India is fully dependent on imports?
   (A) Nitrogen Fertilizer
   (B) Phosphatic Fertilizer
   (C) Potash Fertilizer
   (D) None of these

93. Ban Ki Moon, the present Secretary General of U.N.O., belongs to
   (A) Austria
   (B) China
   (C) Republic of Korea
   (D) Japan

94. The caves of Ajanta and Ellora belonged to:
   (A) Jains
   (B) Buddhists
   (C) Hindus
   (D) Sikhs

95. Who amongst the following Indians has featured in the list of "World's 100 most influential women", selected by the "Time Magazine"?
   (A) Sare Jahan Se Acha
   (B) Sonia Gandhi
   (C) Pratibha Patil
   (D) Sushma Swaraj

96. The 6 medals which the Indian sportsmen have bagged in the London Olympics are in
   (A) Wrestling, Shooting, Boxing and Badminton.
   (B) Wrestling, Archery, Boxing and Badminton.
   (C) Wrestling, Boxing, Hockey and Badminton.
   (D) Wrestling, Shooting, Boxing and Swimming.

97. The country's 12th Indian Institute of Management (IIM) has been started at __________ in Uttarakhand.
   (A) Kashipur
   (B) Dehradun
   (C) Haridwar
   (D) Haldwani

98. Which one of the following plant is used to treat blood pressure?
   (A) Sarpagandha
   (B) Neem
   (C) Babool
   (D) Tulsi

99. Subject matter which Manu Smriti deals with is related to
   (A) Economics
   (B) Politics
   (C) Law
   (D) Art

100. Who has authored the book 'Straight From the Heart'?
    (A) Kapil Dev
    (B) Kapil Sibal
    (C) Kapil Srimohan
    (D) None of the above
Part - c

QUANTITATIVE APTITUDE

101. 100 × 10 - 100 + 2000 + 100 = ?
   (A) 29   (B) 920
   (C) 980   (D) 1000

102. A person gives $\frac{1}{4}$ of his property to his daughter, $\frac{1}{2}$ to his sons and $\frac{1}{5}$ for charity. How much has he given away?
   (A) $\frac{1}{20}$   (B) $\frac{9}{20}$
   (C) $\frac{1}{10}$   (D) $\frac{9}{10}$

103. If $(1101)^2 = 1212201$, find the value of $\sqrt{121.2201}$.
   (A) 110.1   (B) 11.01
   (C) 1.101   (D) 11.001

104. If p, q, r are in Geometric Progression, then which is true among the following?
   (A) $q = \frac{p+r}{2}$   (B) $p^2 = qr$
   (C) $q = \sqrt{pr}$   (D) $\frac{r}{q} = \frac{p}{r}$

105. The HCF (GCD) of a, b is 12, a, b are positive integers and a > b > 12. The smallest values of (a, b) are respectively
   (A) 12, 24   (B) 24, 12
   (C) 24, 36   (D) 36, 24

106. A and B can separately do a piece of work in 6 days and 12 days respectively. How long will they together take to do the work?
   (A) 9 days   (B) 18 days
   (C) 6 days   (D) 4 days

107. 3 men and 4 boys can complete a piece of work in 12 days. 4 men and 3 boys can do the same work in 10 days. Then 2 men and 3 boys can finish the work in number of days is
   (A) $17\frac{1}{2}$   (B) $\frac{5}{11}$
   (C) 8   (D) 22

108. If a dining table with marked price ₹6,000 was sold to a customer for ₹5,500, then the rate of discount allowed on the table is
   (A) 10%   (B) 8%
   (C) 8 $\frac{1}{3}$%   (D) 9%

109. The cost of manufacture of a tape recorder is ₹1,500. The manufacturer fixes the marked price 20% above the cost of manufacture and allows a discount in such a way as to get a profit of 8%. The rate of discount is
   (A) 12   (B) 8
   (C) 20   (D) 10

110. The length and perimeter of a rectangle are in the ratio 5 : 18. Then length and breadth will be in the ratio
   (A) 4 : 3   (B) 3 : 5
   (C) 5 : 4   (D) 4 : 7

111. The number to be added to each of the numbers 7, 16, 43, 79 to make the numbers in proportion is
   (A) 2   (B) 3
   (C) 5   (D) 1

112. The average monthly expenditure of a family is ₹2,200 during first three months, ₹2,550 during next four months and ₹3,120 during last five months of the year. If the total savings during the year was ₹1,260, what is the average monthly income?
   (A) ₹1,260   (B) ₹1,280
   (C) ₹2,805   (D) ₹2,850
113. 5 years ago, the average age of P and Q was 15 years. Average age of P, Q and R today is 20 years. How old will R be after 10 years?
   (A) 35 years  (B) 40 years  (C) 30 years  (D) 50 years

114. How much percent above the cost price should a shopkeeper mark his goods so as to earn a profit of 32% after allowing a discount of 12% on the marked price?
   (A) 50%  (B) 40%  (C) 60%  (D) 45%

115. Ramesh bought 10 cycles for ₹500 each. He spent ₹2,000 on the repair of all cycles. He sold five of them for ₹750 each and the remaining for ₹550 each. Then the total gain or loss % is
   (A) Gain of 8\frac{1}{3} %   (B) Loss of 8\frac{1}{3} %
   (C) Gain of 7\frac{2}{3} %   (D) Loss of 7\frac{1}{3} %

116. What percent of 3.6 kg is 72 gms.?
   (A) 32  (B) 22  (C) 12  (D) 2

117. 90% of the students in school passed in English, 85% passed in Mathematics and 150 students passed in both the subjects. If no student failed in both the subjects, find the total number of students.
   (A) 120  (B) 220  (C) 200  (D) 300

118. The speed 3\frac{1}{2} m/sec when expressed in km/hour becomes
   (A) 8  (B) 9  (C) 10  (D) 12

119. The sum of money that yields a compound interest of ₹420 during the second year at 5% p.a is
   (A) ₹4,000  (B) ₹42,000  (C) ₹8,000  (D) ₹21,000

120. A solid hemisphere is of radius 11 cm.
    The curved surface area in sq. cm is
    (A) 1140.85  (B) 1386.00  (C) 760.57  (D) 860.57

121. An exterior angle of a regular polygon is 72°. The sum of all the interior angles is
    (A) 360°  (B) 480°  (C) 520°  (D) 540°

122. The radii of the base of a cylinder and a cone are in the ratio \sqrt{3} : \sqrt{2} and their heights are in the ratio \sqrt{2} : \sqrt{3}. Their volumes are in the ratio of
    (A) \sqrt{3} : \sqrt{2}  (B) 3\sqrt{3} : \sqrt{2}
    (C) \sqrt{3} : 2\sqrt{2}  (D) \sqrt{2} : \sqrt{3}

123. If the length of each median of an equilateral triangle is 6\sqrt{3} cm, the perimeter of the triangle is
    (A) 24 cm  (B) 32 cm  (C) 36 cm  (D) 42 cm

124. A hall 25 metres long and 15 metres broad is surrounded by a verandah of uniform width of 3.5 metres. The cost of flooring the verandah, at ₹27.50 per square metre is
    (A) ₹9149.50  (B) ₹8146.50  (C) ₹9047.50  (D) ₹4186.50

125. A cone and a hemisphere stand on equal base and have the same height. The ratio of their whole surfaces is
    (A) \sqrt{2} + 1 : 3  (B) \sqrt{2} - 1 : 3
    (C) \sqrt{2} : 3  (D) 2 : 3

126. Two cubes of sides 6 cm each are kept side by side to form a rectangular parallelepiped. The area (in sq. cm) of the whole surface of the rectangular parallelepiped is
    (A) 432  (B) 360  (C) 396  (D) 340

127. The expression x^4 - 2x^2 + k will be a perfect square when the value of k is
    (A) 2  (B) 1  (C) -1  (D) -2

128. The area bounded by the lines x = 0, y = 0, x + y = 1, 2x + 3y = 6 (in square units) is
    (A) 2  (B) \frac{1}{2}  (C) \frac{2}{3}  (D) 3
129. If \( x \) is real \( x + \frac{1}{x} \neq 0 \) and \( x^3 + \frac{1}{x^3} = 0 \),
then the value of \( \left(x + \frac{1}{x}\right)^4 \) is
\[
(A) \ 4 \quad (B) \ 9 \quad (C) \ 16 \quad (D) \ 25
\]

130. If \( x + \frac{1}{x} = 3 \), then the value of \( x^5 + \frac{1}{x^5} \) is
\[
\begin{align*}
(A) \ 322 & \quad (B) \ 126 \\
(C) \ 123 & \quad (D) \ 113
\end{align*}
\]

131. If \( a + b + c + d = 1 \), then the maximum value of \((1 + a)(1 + b)(1 + c)(1 + d)\) is
\[
\begin{align*}
(A) \ 1 & \quad (B) \ \frac{1}{2} \\
(C) \ \frac{3}{4} & \quad (D) \ \frac{5}{4}
\end{align*}
\]

132. A chord of a circle is equal to its radius. The angle subtended by this chord at a point on the circumference in the major segment is
\[
\begin{align*}
(A) \ 60^\circ & \quad (B) \ 120^\circ \\
(C) \ 90^\circ & \quad (D) \ 30^\circ
\end{align*}
\]

133. The angle between the external bisectors of two angles of a triangle is 60°. Then the third angle of the triangle is
\[
\begin{align*}
(A) \ 40^\circ & \quad (B) \ 50^\circ \\
(C) \ 60^\circ & \quad (D) \ 80^\circ
\end{align*}
\]

134. 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
\[
\begin{align*}
(A) \ 17 \text{ cm} & \quad (B) \ 15 \text{ cm} \\
(C) \ 16 \text{ cm} & \quad (D) \ 18 \text{ cm}
\end{align*}
\]

135. In a right angled \( \Delta ABC \), \( \angle ABC = 90^\circ \);
BN is perpendicular to AC, AB = 6 cm, AC = 10 cm. Then AN : NC is
\[
\begin{align*}
(A) \ 3 : 4 & \quad (B) \ 9 : 16 \\
(C) \ 3 : 16 & \quad (D) \ 1 : 4
\end{align*}
\]

136. Two parallel chords are drawn in a circle of diameter 30 cm. The length of one chord is 24 cm and the distance between the two chords is 21 cm. The length of the other chord is
\[
\begin{align*}
(A) \ 10 \text{ cm} & \quad (B) \ 18 \text{ cm} \\
(C) \ 12 \text{ cm} & \quad (D) \ 16 \text{ cm}
\end{align*}
\]

137. In a triangle \( \Delta ABC \), \( \angle ABC = 75^\circ \) and
\( \angle ACB = \frac{\pi}{4} \). The circular measure of
\( \angle BAC \) is
\[
\begin{align*}
(A) \ \frac{5\pi}{12} \text{ radian} & \quad (B) \ \frac{\pi}{3} \text{ radian} \\
(C) \ \frac{\pi}{6} \text{ radian} & \quad (D) \ \frac{\pi}{2} \text{ radian}
\end{align*}
\]

138. The shadow of a tower is \( \sqrt{3} \) times its height. Then the angle of elevation of the top of the tower is
\[
\begin{align*}
(A) \ 45^\circ & \quad (B) \ 30^\circ \\
(C) \ 60^\circ & \quad (D) \ 90^\circ
\end{align*}
\]

139. If \( \tan \theta = 1 \), then the value of \( \tan 3\theta \) is
\[
\begin{align*}
(A) \ \sqrt{3} & \quad (B) \ -\frac{1}{\sqrt{3}} \\
(C) \ \frac{1}{\sqrt{3}} & \quad (D) \ -\sqrt{3}
\end{align*}
\]

140. If \( \tan \theta = 2 \), then the value of \[
\frac{8 \sin \theta + 5 \cos \theta}{\sin^3 \theta + 2 \cos^3 \theta + 3 \cos \theta}
\]
is
\[
\begin{align*}
(A) \ \frac{21}{5} & \quad (B) \ \frac{8}{5} \\
(C) \ \frac{7}{5} & \quad (D) \ \frac{16}{5}
\end{align*}
\]

141. If \( 7 \sin^2 \theta + 3 \cos^2 \theta = 4 \) \((0^\circ \leq \theta \leq 90^\circ)\),
then value of \( \theta \) is
\[
\begin{align*}
(A) \ \frac{\pi}{2} & \quad (B) \ \frac{\pi}{3} \\
(C) \ \frac{\pi}{6} & \quad (D) \ \frac{\pi}{4}
\end{align*}
\]
The graph shows the production of wheat in different years of a particular State. Study the graph and answer Questions (142-145).

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<td>Quintals</td>
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</table>

142. The year in which the production reached maximum is
(A) 1995  (B) 1997  (C) 1999  (D) 2000

143. The percentage increase in production of wheat from 1997-1998 is
(A) 100%  (B) 150%  (C) 90%  (D) 120%

144. The year which had the percentage of decrease vis-a-vis its previous year in production as $13\frac{1}{3}$% is
(A) 96-97  (B) 95-96  (C) 99-2000  (D) 2000-01

145. The total production from the year 1995 to 1998 (in quintals) is
(A) 3000  (B) 3100  (C) 3200  (D) 3300

Following is the pie-chart showing the spendings of a family on various items in a particular year.

146. The ratio of the total amount spent for food and medicine is
(A) 1 : 2  (B) 3 : 1  (C) 12 : 5  (D) 11 : 5

147. If the total amount spent on the family during the year was ₹50,000, how much they spent for buying clothes?
(A) ₹6,250  (B) ₹6,500  (C) ₹7,250  (D) ₹7,500

148. If the total amount spent on the family during the year was ₹35,000, the amount spent for study of children and food together was
(A) ₹19,250  (B) ₹19,500  (C) ₹19,750  (D) ₹19,850

149. Angle of the pie chart representing the expenditure on entertainment is
(A) 15°  (B) 10°  (C) 36°  (D) 12\frac{1}{2}°

150. If the difference in the amount spent for buying clothes and house maintenance was ₹1,500, how much they spent for house maintenance?
(A) ₹5,000  (B) ₹6,000  (C) ₹7,000  (D) ₹8,000

SPACE FOR ROUGH WORK
Part - d

ENGLISH LANGUAGE

Directions: In Question Nos. 151 to 155, some parts of the sentences have errors and some have none. Find out which part of a sentence has an error and blacken the oval (●) corresponding to the appropriate letter (A, B, C). If a sentence is free from error, blacken the oval corresponding to (D).

151. The Vice-Chancellor / wants all vacancies (A) (B) / to be filled up. / No Error. (C) (D)

152. In world of ours / one has to compete / (A) (B) for almost everything. / No Error. (C) (D)

153. Bose is / more popular than / (A) (B) any student in the class. / No Error. (C) (D)

154. How is Surrinder / going with / (A) (B) his work? / No Error. (C) (D)

155. It is said / that this room is not being (A) (B) opened / for the last fifty years. / (C) No Error. (D)

Directions: In Question Nos. 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 and indicate it by blackening the appropriate (●) oval.

156. Many women in developing countries experience a cycle of poor health that ____ before they are born.
(A) originates (B) derives (C) begins (D) establishes

157. It is difficult ____ affection on her.
(A) showering (B) to shower (C) shower (D) of showering

158. Our ancestors had immense difficulty ____ procuring books.
(A) for (B) of (C) in (D) on

159. I asked him if I ____ borrow his car for a day.
(A) will (B) could (C) can (D) should

160. Work hard so that you ____.
(A) shall get good marks (B) will get good marks (C) may get good marks (D) should get good marks
Directions: In Question Nos. 161 to 165, out of the four alternatives, choose the one which best expresses the meaning of the given words.

161. wholesome
   (A) complete  (B) ripe
   (C) sound      (D) desirable

162. infirm
   (A) unsteady  (B) timid
   (C) nervous   (D) weak

163. cordial
   (A) affectionate (B) generous
   (C) friendly    (D) kind

164. sole
   (A) only       (B) principal
   (C) important  (D) immediate

165. systematically
   (A) scientifically (B) technically
   (C) methodically (D) symmetrically

Directions: In Question Nos. 166 to 170, choose the word opposite in meaning to the given word.

166. impetuous
   (A) agitated  (B) impulsive
   (C) cautious  (D) reckless

167. approached
   (A) retreated  (B) reached
   (C) arrived   (D) reproached

168. culmination
   (A) completion (B) climax
   (C) conclusion (D) beginning

169. include
   (A) embrace  (B) embody
   (C) eliminate (D) enclose

170. unpredictable
   (A) pliable  (B) reliable
   (C) possible (D) potential

Directions: In Question Nos. 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. If you want to be happy, cut your coat according to your cloth.
   (A) be honest in your dealings
   (B) work according to your capacity
   (C) live within your means
   (D) don’t be too ambitious

172. She broke down in the middle of her speech.
   (A) could not proceed
   (B) fell down
   (C) became angry
   (D) cried

173. He lays out fifty percent of his income on bonds and shares.
   (A) allots  (B) distributes
   (C) donates  (D) spends

174. I will do the work if I am allowed a free hand in the choice of materials.
   (A) complete liberty
   (B) an expense account
   (C) to employ men to work
   (D) unlimited funds

175. He is as hard as nail, never moved by anything.
   (A) tough
   (B) emotionless
   (C) physically strong
   (D) hard working
Directions: In Question Nos. 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. I give key to my wrist watch everyday.
   (A) wind down
   (B) wound up
   (C) wind
   (D) No improvement

177. We did a test when the lights went out.
   (A) have been doing
   (B) were doing
   (C) had done
   (D) No improvement

178. The frightened convict wept for mercy.
   (A) mumbled
   (B) pleaded
   (C) shouted
   (D) No improvement

179. He put up a lot of work on that article.
   (A) put in
   (B) put down
   (C) put over
   (D) No improvement

180. The beggar was satisfied with his lowly meal.
   (A) miserly
   (B) mean
   (C) meagre
   (D) No improvement

Directions: In Question Nos. 181 to 185, out of the four alternatives choose the one which can be substituted for the given words/sentence.

181. One who eats human flesh.
   (A) Carnivore  (B) Herbivore
   (C) Glutton     (D) Cannibal

182. Liable to be easily broken.
   (A) Weak       (B) Brittle
   (C) Thin       (D) Hard

183. One who is out to destroy the Government.
   (A) Anarchist  (B) Villain
   (C) Criminal   (D) Enemy

184. One who loves all mankind.
   (A) Philologist (B) Philosopher
   (C) Philanthropist (D) Philatelist

185. A person who cannot make a mistake.
   (A) Inexplicable (B) Inevitable
   (C) Indispensable (D) Infallible

Directions: In Question Nos. 186 to 190, there are four different words out of which one is correctly spelt. Find the correctly spelt word and indicate it by blackening the appropriate oval.

186. (A) Consistency  (B) Consistancy
   (C) Consistensy (D) Consistansy

187. (A) Adolescence (B) Adolescence
   (C) Adolescence (D) Adolescense

188. (A) Belligerant (B) Belligerent
   (C) Belligerent (D) Belligerent

189. (A) Dynosaur (B) Dinosaur
   (C) Dinosor  (D) Dinosaurus

190. (A) Pariphery (B) Periphery
   (C) Pariphary (D) Periphery
Directions: In Question Nos. 191 to 200, you have a passage with 10 questions following the passage. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Jazz had its beginnings in song. Its roots lie deep in the tradition of Negro folk singing that once flourished throughout the rural Southland of the United States before the Civil War. The Negro, in those days, owned only a few crude musical instruments which he made for himself from boxes, barrels and brooms. His voice was his principal means of musical expression. Songs of work and play, trouble and hope, rose on rich and rhythmic voices everywhere in the South – from peddlers crying their wares to the countryside, from work gangs on the railroads, from families gathered at the day's end to sing away their weariness in their unpainted cottages overlooking the cotton fields, from the wayside churches singing with the sounds of Sabbath praise.

These were the voices which the early Negro musicians imitated and transferred to their horns when they taught themselves to play the discarded band instruments that came into hands at the close of the Civil War in the eighties. As played by their proud Negro owners, the instruments became extensions of the human voice – "singing horns" which opened the way to Jazz. For this reason there has always been a strong singing quality to Jazz.

191. Where do the roots of Jazz lie?
   (A) In the songs sung in the urban Southland of the United States.
   (B) In the songs sung on railroad gangs.
   (C) In church hymns.
   (D) In Negro folk singing.

192. The Negro owned _______ musical instruments.
   (A) only a few    (B) many
   (C) no            (D) the main

193. Where and when did Negro folk singing flourish?
   (A) In the urban Southland of the United States after the Civil War.
   (B) In the United States at the end of the Civil War.
   (C) In the Southland during the Civil War.
   (D) In the rural Southland of the United States before the Civil War.

194. Who sang the folk songs?
   (A) The religious groups.
   (B) Voices from everywhere in the South.
   (C) The early Jazz musicians.
   (D) The Negro musicians.

195. Where were the folk songs sung?
   (A) Everywhere.
   (B) In the churches only.
   (C) On the railroads, in the cotton fields and in the churches.
   (D) Everywhere in the urban Southland.

196. Which of the following statements is true in the context of the passage?
   The early Jazz musicians
   (A) were familiar with the instruments they were learning to play.
   (B) were not familiar with the instruments they were learning to play.
   (C) knew about the rules of music.
   (D) were taught to play the instruments.

197. What opened the way to Jazz?
   (A) The discarded musical instruments.
   (B) The crude band instruments.
   (C) The musical instruments made from boxes.
   (D) "Singing horns."

198. Which of the following statements is false in the context of the passage?
   (A) The early Jazz musicians extended the range of their horns.
   (B) The band instruments became extensions of the human voice.
   (C) Jazz has always had a strong singing quality.
   (D) The Negro's voice was not his principal means of musical expression.

199. The phrase 'sing away' in the passage means
   (A) sing songs at the end of a tiring day
   (B) sing songs to forget
   (C) sing songs to make the worry disappear
   (D) sing songs to draw attention

200. Which of the following is the most appropriate title for the passage?
   (A) The tradition of Negro folk singing
   (B) The 'singing horns'
   (C) The early origins of Jazz
   (D) The history of Jazz