

DO NOT OPEN THE SEAL OF THE BOOKLET UNTIL YOU ARE TOLD TO DO SO

Booklet Serial No. / प्रश्न-पत्र क्रमांक

AD 2016



1235630

Time Allowed : 2 Hours (For V.H./Cerebral Palsy Candidates : 2 hrs. 40 min.)

Maximum Marks : 200

निर्धारित समय : 2 घंटे (दृष्टिबाधित/सेरिब्रल पाल्सी उम्मीदवारों के लिए : 2 घंटे 40 मिनट)

अधिकतम अंक : 200

Read the following instructions carefully before you begin to answer the questions. This Booklet contains questions in English as well as in Hindi Language.

प्रश्नों के उत्तर देने से पहले निम्नलिखित अनुदेशों को ध्यान से पढ़ लें। इस पुस्तिका में प्रश्न अंग्रेजी तथा हिन्दी दोनों भाषा में दिए गए हैं।

INSTRUCTIONS TO CANDIDATES

- This Booklet contains 200 questions in all comprising the following three parts :
Part I : General Intelligence and Reasoning (50 Questions)
Part II : General Awareness (50 Questions)
Part III : English Language and Comprehension (100 Questions)
- In questions set bilingually in English and Hindi language, in case of discrepancy, the English version will prevail.
- All questions are compulsory and carry equal marks.
- The paper carries negative marking. 0.25 marks will be deducted for each wrong answer.
- Before you start to answer the questions you must check up this Booklet and ensure that it contains all the pages (1-28) and see that no page is missing or repeated. If you find any defect in this Booklet, you must get it replaced immediately.
- You will be supplied the Answer-Sheet separately by the Invigilator. You must complete and code the details of Name, Roll Number, Ticket Number and Booklet Serial Number in the Answer-Sheet carefully. You must also put your signature and Left-Hand thumb impression on the Answer-Sheet at the prescribed place before you actually start answering the questions. These instructions must be fully complied with, failing which, your Answer-Sheet will not be evaluated and you will be awarded 'ZERO' mark. (V.H./Cerebral Palsy candidates will have to ensure that these details will be filled in by the scribe. However, all V.H./Cerebral Palsy candidates must put their Left-Hand thumb impression at the space provided in the Answer-Sheet. Those V.H./Cerebral Palsy candidates who can sign should also put their signatures in addition to thumb impression.)
- Answers must be shown by completely blackening the corresponding circles on the Answer-Sheet against the relevant question number by Black/Blue Ball-point Pen only. Answers which are not shown by Black/Blue Ball-point Pen will not be awarded any mark.
- A machine will read the coded information in the OMR Answer-Sheet. In case the information is incomplete or different from the information given in the application form, such candidate will be awarded 'ZERO' mark.
- The Answer-Sheet must be handed over to the Invigilator before you leave the Examination Hall.
- Failure to comply with any of the above instructions will render a candidate liable to such action/penalty as may be deemed fit.
- The manner in which the different questions are to be answered has been explained at the back of this Booklet (Page No. 28), which you should read carefully before actually answering the questions.
- 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.
- In lieu of Questions No. 44 to 50 relating to figural portions, alternate questions have been provided to be attempted by V.H./Cerebral Palsy candidates only.
- No rough work is to be done on the Answer-Sheet. Space for rough work has been provided below the questions in Part I of this Booklet.
- "Mobile phones and wireless communication devices are completely banned in the examination halls/rooms. Candidates are advised not to keep mobile phones/any other wireless communication devices with them even switching it off, in 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. Such candidates are also liable for debarment upto a period of five years and/or Criminal Prosecution."

उम्मीदवारों के लिए अनुदेश

- इस पुस्तिका में कुल 200 प्रश्न हैं, जिनमें निम्नलिखित तीन भाग शामिल हैं :
भाग I : सामान्य बुद्धिमत्ता एवं तर्कशक्ति (50 प्रश्न)
भाग II : सामान्य जानकारी (50 प्रश्न)
भाग III : अंग्रेजी भाषा एवं परिज्ञान (100 प्रश्न)
- अंग्रेजी और हिन्दी भाषा में तैयार किए गए द्विभाषी प्रश्नों में कोई विसंगति होने की स्थिति में अंग्रेजी विवरण मान्य होगा।
- सभी प्रश्न अनिवार्य हैं तथा सबके बराबर अंक हैं।
- प्रश्न-पत्र में नकारात्मक अंकन होगा। हर गलत उत्तर के लिए 0.25 अंक काटा जाएगा।
- प्रश्नों के उत्तर देने से पहले आप इस पुस्तिका की जाँच करके देख लें कि इसमें पूरे पृष्ठ (1-28) हैं तथा कोई पृष्ठ कम या दुबारा तो नहीं आ गया है। यदि आप इस पुस्तिका में कोई त्रुटि पाएँ, तो तत्काल इसके बदले दूसरी पुस्तिका ले लें।
- निरीक्षक द्वारा आपको उत्तर-पत्रिका अलग से दी जाएगी। उत्तर-पत्रिका में नियमावली के अनुसार ध्यानपूर्वक अपना नाम, रोल नम्बर, टिकट नम्बर और प्रश्न-पत्र क्रमांक अवश्य लिखें। प्रश्नों के उत्तर वास्तव में शुरू करने से पहले उत्तर-पत्रिका पर निर्धारित स्थान में आप अपने हस्ताक्षर एवं बाएँ हाथ के अंगूठे का निशान भी अवश्य लगाएँ। उपर्युक्त अनुदेशों का पूरी तरह अनुपालन किया जाए, अन्यथा आपकी उत्तर-पत्रिका को जाँचा नहीं जाएगा और 'शून्य' अंक दिया जाएगा। (दृष्टिबाधित/सेरिब्रल पाल्सी उम्मीदवार सुनिश्चित करें कि यह विवरण लिपिक द्वारा भरा जाएगा। परन्तु सभी दृष्टिबाधित/सेरिब्रल पाल्सी उम्मीदवार उत्तर-पत्रिका में निर्धारित स्थान पर अपने बाएँ हाथ के अंगूठे का निशान अवश्य लगाएँ। जो दृष्टिबाधित/सेरिब्रल पाल्सी उम्मीदवार हस्ताक्षर कर सकते हैं, वे अंगूठे के निशान के अलावा अपने हस्ताक्षर भी कर दें।)
- उत्तर-पत्रिका में सभी उत्तर प्रश्न संख्या के सामने दिए गए सम्बन्धित गोलाकार खानों को केवल काले/नीले बॉल-पॉइंट पेन से पूरी तरह काला करके दिखाएँ। जो गोलाकार खाने काले/नीले बॉल-पॉइंट पेन से नहीं भरे जाएँ, उनके लिए कोई अंक नहीं दिया जाएगा।
- ओ.एम.आर. उत्तर-पत्रिका में भरी गई कूट सूचना को एक मशीन पढ़ेगी। यदि सूचना अपूर्ण है अथवा आवेदन प्रपत्र में दी गई सूचना से भिन्न है, तो ऐसे उम्मीदवार को 'शून्य' अंक दिया जाएगा।
- परीक्षा भवन छोड़ने से पहले उम्मीदवार को उत्तर-पत्रिका निरीक्षक के हवाले कर देनी चाहिए।
- ऊपर के अनुदेशों में से किसी एक का भी पालन न करने पर उम्मीदवार पर विवेकानुसार कार्यवाही की जा सकती है या दण्ड दिया जा सकता है।
- विभिन्न प्रश्नों के उत्तर देने की विधि इस पुस्तिका के पीछे (पृष्ठ संख्या 28) में छपे हुए निर्देशों में दे दी गई है; इसे आप प्रश्नों के उत्तर देने से पहले ध्यानपूर्वक पढ़ लें।
- प्रश्नों के उत्तर जितनी जल्दी हो सके तथा ध्यानपूर्वक दें। कुछ प्रश्न आसान तथा कुछ कठिन हैं। किसी एक प्रश्न पर बहुत अधिक समय न लगाएँ।
- आकृति से सम्बन्धित प्रश्न संख्या 44 से 50 के बदले में केवल दृष्टिबाधित/सेरिब्रल पाल्सी उम्मीदवारों द्वारा हल किए जाने के लिए वैकल्पिक प्रश्न दिए गए हैं।
- कोई रफ़ कार्य उत्तर-पत्रिका पर नहीं करना है। रफ़ कार्य के लिए स्थान इसी पुस्तिका के भाग I के प्रश्नों के नीचे दिया गया है।
- "परीक्षा हॉलों/कमरों में मोबाइल फ़ोन तथा बेतार संचार साधन पूरी तरह निषिद्ध हैं। उम्मीदवारों को उनके अपने हित में सलाह दी जाती है कि मोबाइल फ़ोन/किसी अन्य बेतार संचार साधन को स्विच ऑफ़ करके भी अपने पास न रखें। इस प्रावधान का अनुपालन न करने पर परीक्षा में अनुचित उपायों का प्रयोग माना जाएगा और उनके विरुद्ध कार्रवाई की जाएगी, उनकी अभ्यर्थिता रद्द कर देने सहित। ऐसे उम्मीदवारों को पाँच वर्ष के लिए प्रतिबंधित भी किया जा सकता है और/या उन पर आपराधिक अभियोजन चलाया जा सकता है।"

PART I : GENERAL INTELLIGENCE AND REASONING

Directions : In questions no. 1 to 9, select the related word/letters/number from the given alternatives.

1. Adversary : Enemy :: Adversity : ?
(A) Love (B) Difficulty
(C) Friend (D) Dynamic
2. Bird : Worm :: ?
(A) Lion : Cave
(B) Cat : Mouse
(C) Horse : Stable
(D) Trap : Cheese
3. MAD : JXA :: RUN : ?
(A) UXQ (B) ORK
(C) OSQ (D) PRJ
4. BEGK : ADFJ :: PSVY : ?
(A) LQUT (B) LOQT
(C) ORUX (D) ROUX
5. AZBY : CXDW :: EVFU : ?
(A) GTHS (B) GSTH
(C) GHTS (D) TGSH
6. 42 : 20 :: 64 : ?
(A) 33 (B) 34
(C) 31 (D) 32
7. 6 : 18 :: 4 : ?
(A) 10 (B) 14
(C) 6 (D) 8
8. 8 : 24 :: ? : 32
(A) 10 (B) 8
(C) 5 (D) 6
9. Prediction : Future :: Regret : ?
(A) Sin (B) Time
(C) Past (D) Present

Directions : In questions no. 10 to 18, find the odd word/letters/number/number pair from the given alternatives.

10. (A) 84 (B) 26
(C) 78 (D) 91
11. (A) 59 (B) 12
(C) 48 (D) 96
12. (A) 21 - 40 (B) 23 - 46
(C) 16 - 32 (D) 19 - 38
13. (A) Slow (B) Late
(C) Tired (D) Tardy
14. (A) Commotion (B) Annihilation
(C) Agitation (D) Confusion
15. (A) Sun : Star (B) Painter : Artist
(C) Pen : Stationery (D) Earth : Moon
16. (A) NPR (B) XWV
(C) EDC (D) MLK
17. (A) CEGI (B) SUWY
(C) MOQS (D) ZADE
18. (A) LINE (B) LEAN
(C) NILE (D) LIEN
19. Arrange the words given below in a meaningful sequence :
1. Printer
2. Publisher
3. Writer
4. Editor
5. Seller
(A) 3, 4, 1, 2, 5 (B) 2, 4, 3, 5, 1
(C) 2, 3, 4, 1, 5 (D) 3, 4, 2, 1, 5

20. Which of the following words will come fourth if arranged according to the English dictionary ?
 (A) Ready (B) Rainbow
 (C) Rain (D) Reef
21. Which one of the given responses would be a meaningful order of the following words in ascending order ?
 1. Probation
 2. Interview
 3. Selection
 4. Appointment
 5. Advertisement
 (A) 5, 4, 2, 3, 1 (B) 4, 5, 1, 2, 3
 (C) 5, 2, 3, 4, 1 (D) 5, 3, 2, 1, 4
- Directions :** In questions no. 22 to 26, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.
22. 826, 480, 346, 134, ?
 (A) 212 (B) 126
 (C) 83 (D) 61
23. 5, 8, 16, 19, 38, 41, ?
 (A) 40 (B) 82
 (C) 44 (D) 80
24. 78, 155, 309, ?, 1233
 (A) 1000 (B) 617
 (C) 625 (D) 1230
25. ACE, GIK, MOQ, ?
 (A) UVW (B) STV
 (C) RTU (D) SUW
26. LMnP, PQrT, TUvX, ?
 (A) UVwY (B) XYzB
 (C) VWnP (D) PRsT
27. If in a certain code, DIAGRAM is written as AFXDOXJ, then how can PICTURE be written in that code ?
 (A) NFYQROC (B) MFZQROB
 (C) NGARSPC (D) MGAQRPB
28. If ABLE is written as 5324 and BINGO is written as 36178, then BANGLE can be written as
 (A) 321846 (B) 362417
 (C) 351724 (D) 356724
29. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
 h _ t _ l _ tt _ lht _ m _ lht _ l
 (A) tmhmtlm (B) lmtmhmt
 (C) mmhtltm (D) hmmttlm
30. A and B are a married couple. C and D are brothers. C is the brother of A. How is D related to B ?
 (A) Son-in-law (B) Cousin
 (C) Brother-in-law (D) Brother
31. The average age of the present ages of Amit and Anil is 32 years. If Amit is 6 years older than Anil, what is Anil's present age ?
 (A) 26 years (B) 19 years
 (C) 29 years (D) 38 years
32. From the given alternatives, select the word which **cannot** be formed using the letters of the given word.
 JURISPRUDENCE
 (A) PRUNE (B) PRESIDENT
 (C) PREJUDICE (D) PRINCE
33. From the given alternative words, select the word which can be formed using the letters of the given word.
 MONUMENT
 (A) MOUNT (B) MOVEMENT
 (C) TENENT (D) TENT

34. Some equations have been solved on the basis of a certain system. Find the correct answer for the unsolved equation on that basis.
If $29 \times 13 = 14$, $76 \times 26 = 34$, then $64 \times 14 = ?$
(A) 32 (B) 26
(C) 54 (D) 39
35. Sonu and his friend Rahul went for shopping. Sonu had ₹ 500 with him while Rahul had ₹ 240. Sonu spent twice as much as Rahul on shopping. Now Sonu has three times as much money as is left with Rahul. How much money did Sonu spend?
(A) ₹ 440 (B) ₹ 120
(C) ₹ 220 (D) ₹ 60
36. If '+' stands for division; 'x' stands for addition; '-' stands for multiplication; '÷' stands for subtraction, then which of the following equations is correct?
(A) $33 \div 4 \times 5 + 6 - 2 = 30$
(B) $33 - 4 + 5 \div 6 \times 2 = 24$
(C) $33 - 4 \div 5 \times 6 + 2 = 130$
(D) $33 \times 4 - 5 + 6 \div 2 = 26$
37. Which one of the following interchanges of signs would make the given equation correct?
 $5 + 3 \times 8 - 12 \div 4 = 3$
(A) + and x (B) + and ÷
(C) + and - (D) - and ÷
- Directions :** In questions no. 38 and 39, select the missing number from the given responses.
38.

1	4	9	16
1	2	3	4
2	4	6	?

(A) 5 (B) 4
(C) 8 (D) 7
39.

121	100	?	169
4	8	9	7
7	2	5	6

(A) 196 (B) 214
(C) 81 (D) 114
40. Starting from a point O, Mahesh walks a distance of 5 km South, then turns to his right and walks 3 km. From there he again turns right and walks 5 km. He then turns to his left and walks 5 km. How far is he from the starting point?
(A) 8 km (B) 5 km
(C) 15 km (D) 13 km
41. A girl leaves from her home. She first walks 30 m in North-West direction and then 30 m in South-West direction. Next, she walks 30 m in South-East direction. Finally, she turns towards her house. In which direction is she moving?
(A) South-East
(B) South-West
(C) North-East
(D) North-West
- Directions :** In questions no. 42 and 43, two statements are given followed by two/four conclusions I, II, III and IV. You have to consider the statements to be true, even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions can definitely be drawn from the given statements. Indicate your answer.
42. **Statements :**
1. All aeroplanes are trains.
 2. Some trains are chairs.
- Conclusions :**
- I. Some aeroplanes are chairs.
 - II. Some chairs are aeroplanes.
 - III. Some chairs are trains.
 - IV. Some trains are aeroplanes.
- (A) Only conclusions II and III follow
(B) Only conclusions III and IV follow
(C) None follows
(D) Only conclusions I and II follow

43. *Statements :*

1. All apples are oranges.
2. Some oranges are papayas.

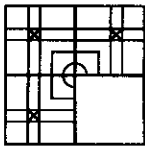
Conclusions :

- I. Some apples are papayas.
- II. Some papayas are apples.

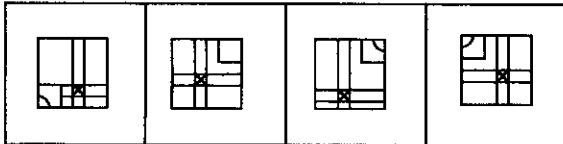
- (A) Both conclusions I and II follow
 (B) Neither conclusion I nor II follows
 (C) Only conclusion I follows
 (D) Only conclusion II follows

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

Question figure :

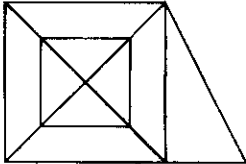


Answer figures :



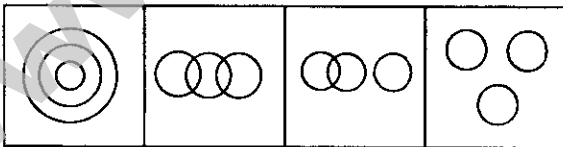
- (A) (B) (C) (D)

45. How many triangles are there in the following figure ?



- (A) 20 (B) 22
 (C) 16 (D) 18

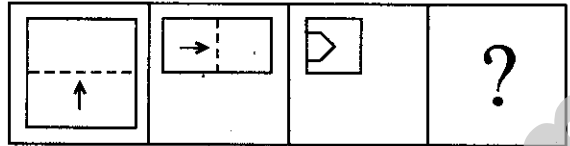
46. Which of the following figures give the proper relation to fruit, red and shirt ?



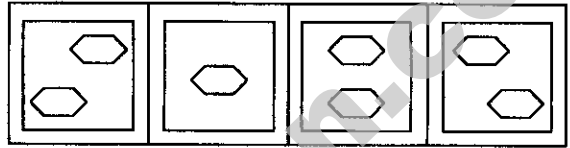
- (A) (B) (C) (D)

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

Question figures :



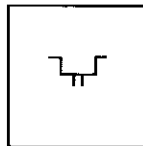
Answer figures :



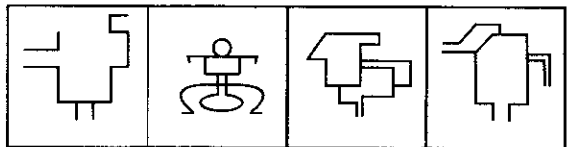
- (A) (B) (C) (D)

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

Question figure :



Answer figures :



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

49. 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 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., 'O' can be represented by 01, 33, etc., and 'Q' can be represented by 55, 78, etc. Similarly, you have to identify the set for the word 'METAL'.

Matrix I

	0	1	2	3	4
0	M	O	R	A	L
1	O	R	A	L	M
2	R	A	L	M	O
3	A	L	M	O	R
4	L	M	O	R	A

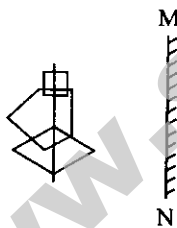
Matrix II

	5	6	7	8	9
5	Q	U	I	E	T
6	U	I	E	T	Q
7	I	E	T	Q	U
8	E	T	Q	U	I
9	T	Q	U	I	E

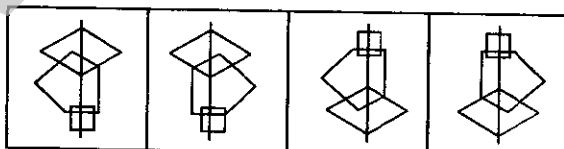
- (A) 32, 76, 95, 44, 04
 (B) 32, 76, 44, 95, 04
 (C) 23, 67, 96, 40, 44
 (D) 23, 76, 95, 40, 44

50. If a mirror is placed on the line MN, then which of the answer figures is the right image of the question figure?

Question figure :



Answer figures :



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

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44. In a certain code language, '743' means 'mangoes are good'; '657' means 'eat good food' and '934' means 'mangoes are ripe'. Which digit means 'ripe' in that language?
 (A) 5 (B) 4
 (C) 9 (D) 7
45. The ratio of boys and girls in a class is 5 : 3. If there are 520 boys in the school, find the number of girls in that school.
 (A) 312 (B) 866
 (C) 170 (D) 311
46. If A = 26, SON = 33, then CAR = ?
 (A) 27 (B) 29
 (C) 57 (D) 59
47. A, B, C and D are 4 friends. C is taller than D but shorter than B, who is taller than A. Who is the tallest?
 (A) C (B) D
 (C) A (D) B
48. 5 girls took part in a race. Reena finished before Mohini but behind Gauri. Ananya finished before Sanchi but behind Mohini. Who won the race?
 (A) Mohini (B) Ananya
 (C) Reena (D) Gauri
49. A lady introduced the girl coming with her as "she is the daughter of the mother of my husband's son". What relation did the girl bear to her?
 (A) Cousin (B) Daughter-in-law
 (C) Daughter (D) Sister
50. Nikhilesh ranks 18th in a class of 49 students. What is his rank from the last?
 (A) 18 (B) 19
 (C) 31 (D) 32

PART II : GENERAL AWARENESS

51. The fall of Bastille is associated with the
 (A) French Revolution of 1789
 (B) American War of Independence
 (C) Greek War of Independence
 (D) Russian Revolution of November, 1917
52. Which Governor General was called as the 'Father of Local Self-Government' in India?
 (A) Lord Canning
 (B) Lord William Bentinck
 (C) Lord Ripon
 (D) Lord Wellesley
53. "The Three Emperors' League", 1873 was also known as
 (A) Triple Alliance
 (B) Reinsurance Treaty
 (C) The Dual Alliance
 (D) Dreikaiserbund Treaty
54. Panditraj Jagannath was the poet laureate of which of the following rulers?
 (A) Shah Jahan (B) Aurangzeb
 (C) Humayun (D) Akbar
55. Which of the following is formed out of volcanic eruptions in India?
 (A) Lakshadweep Islands
 (B) Western Ghats
 (C) Himalayas
 (D) Deccan Plateau
56. Which of the following works of Plato is primarily a 'treatise' on justice?
 (A) *The Statesman* (B) *The Republic*
 (C) *Apology* (D) *Phaedo*
57. Who was referred to as the "Ambassador of Hindu-Muslim Unity" by Sarojini Naidu?
 (A) Abdul Ghaffar Khan
 (B) Shaikat Ali
 (C) Maulana Azad
 (D) Muhammad Ali Jinnah
58. The capital of Yadava kings was
 (A) Varanasi (B) Kanchipuram
 (C) Krishnagiri (D) Devagiri
59. Average Fixed Cost Curve is
 (A) 'U' shaped
 (B) 'V' shaped
 (C) Downward sloping
 (D) Upward sloping
60. Article 368 of the Indian Constitution deals with
 (A) Right to Primary Education
 (B) Right to Information
 (C) Amending Procedure
 (D) Emergency Provisions
61. Who among the following proposed the suggestion for a Constituent Assembly first in 1935?
 (A) Gandhi (B) J.P. Narayan
 (C) M.N. Roy (D) Nehru
62. According to Paul Appleby the quality of good administrators is
 (A) Integrity (B) Loyalty
 (C) Self-confidence (D) Intelligence
63. The supply-side measure to control inflation is
 (A) Price control through Public Distribution System
 (B) Higher taxation to mop up liquidity
 (C) Credit control
 (D) Reducing public expenditure
64. The Ability Principle of Taxation is given by
 (A) Edgeworth (B) Joan Robinson
 (C) J.S. Mill (D) Adam Smith
65. 'World Economic Report' is published by
 (A) UNDP
 (B) IMF
 (C) UNCTAD
 (D) World Bank
66. 'Galloping Inflation' is also known as
 (A) Running Inflation
 (B) Hyper Inflation
 (C) Creeping Inflation
 (D) Walking Inflation

67. The lysimeter helps in the estimation of
 (A) Relative humidity
 (B) Vapour pressure
 (C) Wind direction
 (D) Evapotranspiration
68. Compounds that are needed for enzymes to function properly are
 (A) Vitamins (B) Heavy metals
 (C) Buffers (D) Steroids
69. Heavy water is
 (A) Rain water
 (B) Tritium oxide
 (C) Deuterium oxide
 (D) Deuterium
70. Which one of the following is commonly known as 'Pond Silk' ?
 (A) *Rhizopus* (B) Yeast
 (C) *Ulothrix* (D) *Spirogyra*
71. 'Gynecomastia' is
 (A) Increased height in females
 (B) Development of an extra finger in females
 (C) Development of breasts in males
 (D) Development of hair on ears in males
72. The highest concentration of urea is found in
 (A) Dorsal aorta (B) Hepatic vein
 (C) Renal vein (D) Hepatic portal vein
73. Terrigenous deposits are found in
 (A) Ocean Trenches
 (B) Rift Valley
 (C) Continental Shelf and Slope
 (D) Deep Sea Plain
74. Which of the following is the only volcanic peak in Antarctica ?
 (A) Mt. Erebus (B) Mt. Elbrus
 (C) Mt. Cook (D) Mt. Blanc
75. Who laid the foundation of the 'School of Possibilism' ?
 (A) La Blache (B) Humboldt
 (C) Ratzel (D) Brunches
76. Which of the following computer memories is non-volatile ?
 (A) SRAM
 (B) ROM
 (C) RAM
 (D) DRAM
77. In present day computing, which code is used and is accepted worldwide ?
 (A) Hollerith Code
 (B) EBCDIC
 (C) ISCI
 (D) ASCII
78. Which of the following is the strongest base in aqueous solution ?
 (A) Triethylamine (B) Ammonia
 (C) Ethylamine (D) Diethylamine
79. The inert gas which is substituted for nitrogen in the air used by deep sea divers for breathing, is
 (A) Krypton (B) Argon
 (C) Helium (D) Xenon
80. 'Cryogenics' is the study of
 (A) Superconductor (B) Production of fuels
 (C) Low temperature (D) High temperature
81. To prevent damage from lightning, lightning conductors are used on tall structures. The lightning conductor
 (A) should be in the form of a vertical rod
 (B) can be of any shape
 (C) should be made of a good conductor like copper with sharp-pointed edges
 (D) should be made of a good conductor but can be of any shape
82. Infrared radiations are detected by
 (A) Nanometer
 (B) Photometer
 (C) Spectrometer
 (D) Pyrometer
83. Beta rays emitted by a radioactive material are
 (A) Charged particles emitted by nucleus
 (B) Neutral particles
 (C) Electromagnetic radiations
 (D) The electrons orbiting around the nucleus

84. World Autism Awareness Day is observed on
 (A) 3rd April (B) 5th April
 (C) 1st April (D) 2nd April
85. Who invented the 'World Wide Web' ?
 (A) Martin Cooper
 (B) R. Samuel Tomlinson
 (C) Charles Babbage
 (D) Tim Berners-Lee
86. The novel 'When the River Sleeps' is written by
 (A) Vikram Seth (B) Shobhaa De
 (C) Easterine Kire (D) Anuradha Roy
87. In which country did the world's first organised motor race occur ?
 (A) U.S.A. (B) Portugal
 (C) France (D) Germany
88. Who won the prestigious Gujar Mal Modi Award for Innovative Science and Technology for the year 2015 ?
 (A) G.M. Reddy
 (B) Vivekanand Kain
 (C) Amalendu Krishna
 (D) Prof. Mustansir Barma
89. 'Entomology' is the science that studies
 (A) Insects
 (B) Formation of rocks
 (C) Behaviour of human beings
 (D) None of these
90. Which country uses the 'Birr' as its currency ?
 (A) Togo (B) Eritrea
 (C) Estonia (D) Ethiopia
91. How many Nobel Prize Awards are awarded each year ?
 (A) 7 (B) 4
 (C) 6 (D) 5
92. Wellington Trophy is associated with
 (A) Chess (B) Hockey
 (C) Bridge (D) Rowing
93. The tree popularly known as 'Green Gold', but which is an ecological disaster, is
 (A) Eucalyptus (B) Pipal
 (C) Banyan (D) None of these
94. Garampani Sanctuary is located at
 (A) Gangtok, Sikkim
 (B) Kohima, Nagaland
 (C) Junagarh, Gujarat
 (D) Diphu, Assam
95. Which one of the following is *not* an artificial sweetener ?
 (A) Saccharin (B) Sucralose
 (C) Aspartame (D) Fructose
96. An acid having basicity one is
 (A) Disodium hydrogen phosphate
 (B) Sodium phosphate
 (C) Phosphoric acid
 (D) Sodium dihydrogen phosphate
97. Which one of the following vegetable oils is used in the manufacture of paints ?
 (A) Sunflower oil
 (B) Linseed oil
 (C) Cottonseed oil
 (D) Palm oil
98. Acid rain is caused by the pollution of environment by
 (A) Ozone and Carbon dioxide
 (B) Nitrous oxide and Sulphur dioxide
 (C) Carbon dioxide and Nitrogen
 (D) Carbon monoxide and Carbon dioxide
99. Which of the following is *not* a gaseous air pollutant ?
 (A) Hydrocarbon
 (B) Smoke
 (C) Oxides of sulphur
 (D) Oxides of nitrogen
100. Which of the following is called the 'land of one thousand lakes' ?
 (A) Greenland (B) U.S.A.
 (C) Finland (D) Sweden

PART III : ENGLISH LANGUAGE AND COMPREHENSION

Directions : In questions no. 101 to 110, some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the circle (●) corresponding to the appropriate option. If a sentence is free from error, blacken the circle corresponding to "No Error" in the Answer Sheet.

101. Will you please / give me little milk / for my cat ? / No error.
 (A) (B) (C) (D)
102. The light bulbs / on the hall / need to be changed. / No error.
 (A) (B) (C) (D)
103. A recent survey indicates / that the number of drug addicts / grew day by day. / No error.
 (A) (B) (C) (D)
104. I want to exchange / my Maruti / from a Santro. / No error.
 (A) (B) (C) (D)
105. There were extensive / lawn in front / of the bungalow. / No error.
 (A) (B) (C) (D)
106. Wise men follow nobel / ideas whereas fools / disregard them. / No error.
 (A) (B) (C) (D)
107. The navel officers / successfully fought the pirates /
 (A) (B)
 who had looted and plundered for many years. / No error.
 (C) (D)
108. He acted not / as per my advice / but somebody else. / No error.
 (A) (B) (C) (D)
109. The chairs in the / room are in a / state disarray. / No error.
 (A) (B) (C) (D)
110. Ashoka the Great was / regarded one of the greatest emperors /
 (A) (B)
 the world has ever produced. / No error.
 (C) (D)

Directions : In questions no. 111 to 115, sentences are given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the most appropriate alternative out of the four and indicate it in the Answer Sheet.

111. They _____ living here since 2000.
 (A) are (B) will be
 (C) are still (D) have been
112. The stranger _____ in through the window last night.
 (A) crept (B) creeping
 (C) creeps (D) creep
113. I _____ him on this point.
 (A) agreed with (B) admitted to
 (C) agree to (D) agreeing with
114. Do not look _____ on women.
 (A) right (B) left
 (C) up (D) down
115. The specialist _____ you want to meet is available only on Thursdays.
 (A) whose (B) who
 (C) which (D) whom

Directions : In questions no. 116 to 120, out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

116. Persuade
 (A) Coax (B) Restrain
 (C) Deter (D) Hinder
117. Wander
 (A) Gallop (B) Roam
 (C) Race (D) Wrestle

118. Caliber
 (A) Calmness (B) Crowd
 (C) Career (D) Capacity
119. Consciousness
 (A) Nothingness (B) Awareness
 (C) Vision (D) Understanding
120. Hesitate
 (A) Pause (B) Settle
 (C) Resolve (D) Determine

Directions : In questions no. 121 to 125, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

121. Relentless
 (A) Yielding (B) Kind
 (C) Gentle (D) Sensitive
122. Virtue
 (A) Untrue (B) Defeat
 (C) Fool (D) Vice
123. Hostility
 (A) Partnership (B) Relationship
 (C) Enmity (D) Friendship
124. Assent
 (A) Dissent (B) Self-interest
 (C) Separation (D) Confusion
125. Evasive
 (A) Explicit (B) Unclear
 (C) Categorical (D) Indefinite

Directions : In questions no. 126 to 130, four alternatives are given for the Idiom/Phrase underlined in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

126. The teacher was taken aback by the student's remark.
 (A) hurt (B) pleased
 (C) annoyed (D) surprised

127. Our parents allowed us to watch films once in a blue moon.

- (A) secretly (B) forever
(C) everywhere (D) rarely

128. Hold your tongue, my lad ! I'll deal with you later.

- (A) Cool the tongue
(B) Gargle
(C) Stick out the tongue
(D) Be silent

129. If you read his letter between the lines, you will find that he has no faith in his colleague's honesty.

- (A) find out the inner meaning
(B) read an untidy letter
(C) strain your eyes
(D) read in secret

130. The lawyer insisted on having the contract in black and white.

- (A) figuratively (B) obliquely
(C) in writing (D) orally

Directions : In questions no. 131 to 135, the first and the last parts of the sentence/passage are numbered 1 and 6. The rest of the sentence/passage is split into four parts and named P, Q, R and S. These four parts are not given in their proper order. Read the sentence/passage and find out which of the four combinations is correct and indicate it in the Answer Sheet.

131. 1. An officer in Andhra Pradesh

- P. found that the tribals put
Q. materials in turbid water
R. who was in charge of tribal development
S. certain gums and wood
6. to make the water clear.

- (A) PQSR (B) RPSQ
(C) RSPQ (D) PSRQ

132. 1. Along with the orthodox Hindu's

- P. and in the deity,
Q. Raghupati has his Brahmin's pride
R. faith in the scriptures
S. because he is the
6. lord of the temple.

- (A) RQPS (B) SQPR
(C) SPQR (D) RPQS

133. 1. Use bright, cheerful, favourable words and phrases to describe other people. Make it

- P. for all your friends and associates.
Q. Be extremely careful
R. a rule to have a big, positive word
S. to avoid
6. the petty cut-him-down language.

- (A) RPQS (B) QRPS
(C) PQRS (D) RSPQ

134. 1. It is the twilight hour.

- P. The sound breaks the still silence around me.
Q. I turn round and see her seated on a rock.
R. I hear more bells behind me.
S. The temple bell rings in the distance.
6. Her eyes sparkle like the anklets on her swinging feet.

- (A) SQPR (B) RQSP
(C) RSQP (D) SPRQ

135. 1. My grandmother was an old woman.

- P. But that was hard to believe.
Q. And she even had a husband.
R. People said that she had once been young and pretty.
S. She had been like this for the twenty years that I had known her.
6. She often told us of the games she used to play as a child.

- (A) RSPQ (B) RPQS
(C) SRQP (D) QPSR

Directions : In questions no. 136 to 145, a sentence has been given in Active/Passive Voice. Out of the four alternatives suggested, select the one which best expresses the same sentence in Passive/Active Voice and mark your answer in the Answer Sheet.

- 136.** A small epitaph had been laid out by them in his memory.
 (A) They were laying out, in his memory, a small epitaph.
 (B) They lay out a small epitaph in his memory.
 (C) They laid out a small epitaph.
 (D) They had laid out a small epitaph in his memory.
- 137.** The nurse is giving food to the sick boy.
 (A) The sick boy is being given food by the nurse.
 (B) Food is given to the sick boy by the nurse.
 (C) The sick boy is given food by the nurse.
 (D) The sick boy gets food from the nurse.
- 138.** Our parents have taught us to behave properly.
 (A) Our parents taught us how to behave properly.
 (B) Our parents have been teaching us how to behave properly.
 (C) We have been taught to behave properly by our parents.
 (D) We were taught how not to behave properly by our parents.
- 139.** Why did your father refuse such an honourable job ?
 (A) Why is such an honourable job refused by your father ?
 (B) Why was such an honourable job refused by your father ?
 (C) Why was such an honourable job denied by your father ?
 (D) Why does your father refused such an honourable job ?
- 140.** James Cameron directed the Titanic.
 (A) James Cameron had directed the Titanic.
 (B) James Cameron had been directing the Titanic.
 (C) The Titanic has been directed by James Cameron.
 (D) The Titanic was directed by James Cameron.
- 141.** Mr. Dutta teaches us English.
 (A) By Mr. Dutta we are taught English.
 (B) We have been taught English by Mr. Dutta.
 (C) English is taught to us by Mr. Dutta.
 (D) We are being taught English by Mr. Dutta.
- 142.** Has the postman not delivered the letter ?
 (A) Is the letter delivered by the postman ?
 (B) The postman hasn't delivered the letter.
 (C) Has the letter been delivered by the postman ?
 (D) Has the letter not been delivered by the postman ?
- 143.** John is building a new cupboard.
 (A) A new cupboard is been built by John.
 (B) John's new cupboard is being built.
 (C) John has been building a new cupboard.
 (D) A new cupboard is being built by John.
- 144.** Someone will pay you next Monday.
 (A) You will be paid next Monday.
 (B) Someone is going to pay you next Monday.
 (C) You would be paid next Monday.
 (D) Someone will be paying you next Monday.
- 145.** Drinking was ruining his life gradually.
 (A) Gradually, his life is ruined because of drinking problems.
 (B) Drinking problems caused the gradual ruin of his life.
 (C) His life was being ruined gradually by drinking.
 (D) His life is ruined by gradual drinking.

Directions : In questions no. 146 to 155, a part of the sentence is underlined. Below are given alternatives to the underlined part which may improve the sentence. Choose the correct alternative. In case no improvement is required, choose "No Improvement" option. Mark your answer in the Answer Sheet.

146. The sight chosen for the school building is good.
 (A) site
 (B) side
 (C) eye-sight
 (D) No improvement
147. The matter must be considered in every point of view.
 (A) from every
 (B) on every
 (C) at every
 (D) No improvement
148. The poor villagers have waited in the bitter cold for more than two hours now.
 (A) has been waiting
 (B) have been waiting
 (C) had waited
 (D) No improvement
149. You must accustom yourself with new ideas.
 (A) accustomed with
 (B) accustom yourself to
 (C) accustom to
 (D) No improvement
150. Will you lend me few rupees in this hour of need?
 (A) borrow me a few rupees
 (B) lend me a few rupees
 (C) lend me any rupees
 (D) No improvement
151. The car with a burst tyre halted swiftly.
 (A) stopped quick
 (B) jolted to a halt
 (C) stopped fastly
 (D) No improvement

152. Many incidents of the last month seem unimportant when viewed in perception.
 (A) prospective
 (B) perspective
 (C) perceptive
 (D) No improvement
153. The youths jostled their way in the crowd.
 (A) over
 (B) among
 (C) through
 (D) No improvement
154. What is wrong with the argument is that even if the two premises are true, then the conclusion isn't necessarily true.
 (A) the conclusion will be true
 (B) the conclusions aren't necessarily true
 (C) the conclusion is false
 (D) No improvement
155. He is entitled to a reward for honesty.
 (A) titled
 (B) entitled
 (C) entitle to
 (D) No improvement

Directions : In questions no. 156 to 165, a sentence has been given in Direct/Indirect. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct and mark your answer in the Answer Sheet.

156. "Do you know that man ?" Ravi asked his friend.
 (A) Ravi asked his friend whether he knew that man.
 (B) Ravi asked his friend whether he knows that man.
 (C) Ravi asked his friend he knew or not that man.
 (D) Ravi ask his friend if he knows that man.

- 157.** I asked him whether he had not promised to come.
- (A) I said to him, "Do you not promise to come?"
- (B) I said, "Did I ask you, not to come?"
- (C) I asked him, "Did you come? You promise."
- (D) I said to him, "Did you not promise to come?"
- 158.** Rahul said, "What have you been searching for all these hours?"
- (A) Rahul asked what I have been searching for all those hours.
- (B) Rahul said that what you had been searching for all these hours.
- (C) Rahul asked me what I was searching for all these days.
- (D) Rahul asked me what I had been searching for all those hours.
- 159.** He said to the children, "Come to the park with me."
- (A) I invited the children to come to the park with me.
- (B) I invited the children to come to the park with us.
- (C) He invited the children to come to the park with me.
- (D) He invited the children to come to the park with him.
- 160.** I said to him, "You are wrong."
- (A) I said that he was wrong.
- (B) I told him that he is wrong.
- (C) I told him how wrong he was.
- (D) I told him that he was wrong.
- 161.** He said to me, "You are late."
- (A) He told me that I was late.
- (B) He told me that you were late.
- (C) He said to me that you were late.
- (D) He said to me that I was late.
- 162.** The teacher said, "Be quiet and listen to my words."
- (A) The teacher asked the students to be quiet and listen to her words.
- (B) The teacher shouted students listen to my words and be quiet.
- (C) The teacher said to stop talking and listen to her words.
- (D) The students were told be quiet and listen to her words.
- 163.** He said that the book was very interesting.
- (A) He said, "This book had been very interesting."
- (B) He said, "This book would be very interesting."
- (C) He said, "This book is very interesting."
- (D) He said, "This book has been very interesting."
- 164.** She said to him, "I have bought a new car."
- (A) She told him that she had bought a new car.
- (B) She told him that she has bought a new car.
- (C) She told him that she would buy a new car.
- (D) She told him that a new car has been bought by her.
- 165.** "I love chocolate," said Angeline.
- (A) Angeline said she loves chocolate.
- (B) Angeline says she loved chocolate.
- (C) Angeline said that she loves chocolate.
- (D) Angeline said that she loved chocolate.

Directions : In questions no. 166 to 185, in the following two passages some of the words have been left out. Read the passages carefully and choose the correct answer to each question out of the four alternatives and fill in the blanks.

Passage I

(Questions No. 166 – 175)

How old is the Earth ? This is a 166 to which we may never have the exact 167 . Man has 168 about the age of the Earth since 169 times, and there were all kinds of myths and 170 that seemed to have the answer. When it was proven that the Earth 171 around the Sun, 172 then knew where to begin. To find the 173 of the Earth, it was necessary to 174 how the solar system was 175 .

166. (A) debate (B) fact
(C) point (D) question
167. (A) answer (B) deduction
(C) reason (D) logic
168. (A) thought (B) asked
(C) wondered (D) marvelled
169. (A) olden (B) ancient
(C) antiquated (D) bygone
170. (A) fables (B) story
(C) tale (D) legends

171. (A) moved (B) revolved
(C) circled (D) rotated
172. (A) academicians (B) students
(C) scientists (D) scholars
173. (A) date (B) oldness
(C) years (D) age
174. (A) recount (B) explain
(C) tell (D) narrate
175. (A) formed (B) begun
(C) born (D) originated

Passage II

(Questions No. 176 – 185)

One thing we can do is 176 a good book. Another is to look at a new 177 conducted by William Mercer, one of the world's largest Human Resources consultancies. Mercer decided to 178 some of the world's great cities. They produced their results by giving 179 for 180 criteria. These included political, economic and social environment, healthcare, educational provision, recreation and transport 181 . So, which are the best cities to live in, and which should we 182 ? In 183 first place were Vancouver, Berne, Vienna and Zurich, while Sydney, Geneva, Auckland and Copenhagen came in second. Swiss cities 184 three of the top ten places, making it the single most successful country of all those 185 .

176. (A) obtain (B) retrieve
(C) look (D) read
177. (A) consultation (B) advice
(C) survey (D) research
178. (A) judge (B) rule
(C) proclaim (D) decide
179. (A) marks (B) places
(C) signs (D) spots
180. (A) assorted (B) different
(C) various (D) ranging
181. (A) facilities (B) versions
(C) ways (D) reasons
182. (A) regret (B) avoid
(C) escape (D) deny
183. (A) united (B) together
(C) joint (D) dual
184. (A) absorbed (B) vacated
(C) occupied (D) controlled
185. (A) experimented (B) established
(C) created (D) surveyed

Directions : In questions no. 186 to 200, you have three brief passages with 5 questions following each passage. Read the passages carefully and choose the best answer to each question out of the four alternatives and mark it by blackening the appropriate circle (●) in the Answer Sheet.

Passage I

(Questions No. 186 – 190)

The London Eye is a giant Ferris wheel situated on the banks of the River Thames in London, England. The entire structure is 135 metres (443 ft) tall and the wheel has a diameter of 120 metres (394 ft).

It is the tallest Ferris wheel in Europe, and the most popular paid tourist attraction in the United Kingdom, visited by over 3.5 million people annually. When erected in 1999 it was the tallest Ferris wheel in the world, until surpassed first by the 160 metres (520 ft) Star of Nanchang in 2006 and then the 165 metres (541 ft) Singapore Flyer in 2008. Supported by an A-frame on one side only, unlike the taller Nanchang and Singapore wheels, the Eye is described by its operators as “the world’s tallest cantilevered observation wheel”. It provides the highest public viewing point, and is the 20th tallest structure, in London.

The London Eye, or Millennium Wheel, was officially called the British Airways London Eye and then the Merlin Entertainments London Eye. Since 20 January 2011, its official name is the EDF Energy London Eye following a three-year sponsorship deal.

The London Eye adjoins the western end of Jubilee Gardens, on the South Bank of the River Thames between Westminster Bridge and Hungerford Bridge, in the London Borough of Lambeth. The site is adjacent to that of the former Dome of Discovery, which was built for the Festival of Britain in 1951.

186. The London Eye is situated on the banks of
 (A) The Thames
 (B) London Borough
 (C) Westminster Bridge
 (D) Hungerford Bridge
187. The highest viewing point is provided by
 (A) Dome of Discovery
 (B) Millennium Wheel
 (C) Westminster Bridge
 (D) Hungerford Bridge
188. The structure built for the Festival of Britain in 1951 was
 (A) Dome of Discovery
 (B) Jubilee Gardens
 (C) Millennium Wheel
 (D) London Eye
189. The tallest Ferris wheel in the world is
 (A) Dome of Discovery
 (B) London Eye
 (C) Star of Nanchang
 (D) Singapore Flyer
190. Which of the following does *not* mean the same as 'entire' ?
 (A) Partial
 (B) Whole
 (C) Complete
 (D) Total

Passage II

(Questions No. 191 - 195)

Not all that glitters is gold. Not all that is white is milk. Not all people who wear saffron clothes are sages. These age-old sayings hold true even now, especially the last one. We see a lot of people wearing saffron clothes, but not all of them are *sanyasis* in the true sense of the word. A *sanyasi* is one who guides his followers on the right path.

Recently, I attended the inaugural function of a home for destitute women in Mysore. In most cases, the women were there because they were either harassed by their in-laws or tortured by drunken husbands. Owing to their socio-economic conditions, even the parents of the victims were unable to take them in and care for their hapless children. There had also been instances when young girls, lured by romance, had run away from their homes and had been deserted by their lovers after the honeymoon. These girls usually did not dare return to their parents.

The saying that 'success has many fathers, but failure has none' is true indeed. We get to see only the distressed women and their children, while the main cause of their problems remains hidden in the background. So the victims cannot be blamed altogether. Often it is circumstances that force them into such drudgery. These women and girls need to be psychologically strong and determined to face difficulties with courage and go on with their lives.

191. Wearing saffron clothes does not make one a *sanyasi*, is another way of saying
 (A) Saffron must be changed to some other colour
 (B) Anybody who wears saffron is a *sanyasi*
 (C) Saffron must only be worn by true ascetics
 (D) Saffron is not the favourite colour of the *sanyasis*
192. Owing to their socio-economic conditions, even the parents of the victims were unable to help them because
 (A) Their social and economic situation did not allow them to do so
 (B) They could afford to but were reluctant
 (C) They were financially self-sufficient
 (D) Society considered them to be backward

193. Success has many fathers but failure has none means
 (A) Success comes naturally to men not women
 (B) No one owns up to failure
 (C) Success has only fathers but no mothers
 (D) Failure has many mothers but no fathers
194. The main reason for the main cause of their problems remaining hidden is
 (A) People don't want to be bothered with others' problems
 (B) Nobody has tried to expose it
 (C) Nobody has bothered to find out the real cause
 (D) People are waiting for it to come out in the open
195. The opening sentence "Not all that glitters is gold" means
 (A) Only gold has that unmistakable shine
 (B) Glitter is the true quality of truth
 (C) All metals that shine must necessarily be as good as gold
 (D) One must not be deceived by appearances
196. Dr. John Gibbon of U.S.A. developed a artificial heart in
 (A) 1960
 (B) 1950
 (C) 1955
 (D) 1953
197. All the body's cells need a constant supply of
 (A) Helium
 (B) Oxygen
 (C) Nitrogen
 (D) Hydrogen
198. Heart diseases occur from
 (A) Pericardium
 (B) Heart cells
 (C) Damage to the heart muscles
 (D) Coronium
199. If the supply of oxygen is cut off, the brain cells survive
 (A) for 15 minutes
 (B) for an hour
 (C) 4 to 5 minutes
 (D) 9 to 10 minutes
200. The heart sends oxygen-rich blood
 (A) to the entire body
 (B) to the lungs only
 (C) to the brain only
 (D) to the kidneys only

Passage III

(Questions No. 196 - 200)

The heart is one of the most vital components of the human body. The heart of the human body has the continuous job to keep oxygen-rich blood flowing through the body. All the body's cells need a constant supply of oxygen, particularly in the brain. The brain cells live only four to five minutes after the oxygen is cut off and death comes to the entire body. Heart disease can result from damage to the heart muscles, the valves or the pacemaker. If the muscle is damaged, the heart is unable to pump properly. If the valves are damaged, blood cannot flow normally. Dr. John Gibbon of U.S.A. developed a machine in 1953 that could take over temporarily from the heart. Surgeons had the chance to repair or replace a defective heart. Many patients have had plastic valves inserted in their hearts when their hearts were faulty. Many people are now being kept alive with tiny battery operated pacemakers.

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