STAFF SELECTION COMMISSION

SUB-INSPECTOR IN DELHI POLICE AND CENTRAL ARMED POLICE FORCES EXAMINATION (PAPER-I)

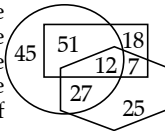# SOLVED PAPER

(24th November 2020: Shift-1)

**Time Allotted-** 2 hours   **Max marks-** 200
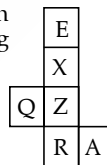
General Intelligence and Reasoning

1. In the following Venn diagram the 'Circle' stands for 'Lawyers', the 'Hexagon' stands for 'Females' and the 'Rectangle' stands for 'Food-lovers'. The given numbers represent the number of persons in that particular category. How many females are both food-lovers and lawyers?
   1. 12   **2.** 27   **3.** 19   **4.** 7

2. In a code language, if 'I like chocolates' is written as '958', 'we bought chocolates' is written as '153' and 'we like them' is written as '816', then how would 'I bought them' be written in this language.
   1. 936   **2.** 251   **3.** 951   **4.** 859

3. Which two numbers should be interchanged to make the given equation correct?
   36 × 12 + 48 ÷ 6 – 18 = 202
   1. 6 and 12   **2.** 36 and 48   **3.** 6 and 18   **4.** 36 and 18

4. Select the letter-cluster that can replace the question mark (?) in the given letter-cluster series. KOY, JPX, IQW, HRV. ?
   1. GSV   **2.** GRU   **3.** GSU   **4.** ETU

5. If 'A' denotes 'addition', 'B' denotes 'multiplication', 'C' denotes 'subtraction', and 'D' denotes 'division', then what will be the value of the following expression?
   50 D (2 B 5) A 3 B (15 A 12) C 2 B (18 C 15) = ?
   1. 80   **2.** 127   **3.** 54   **4.** 89

6. If the minute hand of a clock points towards the South at 12:00 a.m., then in which direction will the minute hand point at 3:00 a.m. in the same clock?
   1. West   **2.** North   **3.** East   **4.** South

7. In a code language if 'fast and furious' is written as 'co mo jo', do it fast is written as 'cha mo ga', and 'she did it' is written as 'ga la nop', then what will be the code for the word 'do' in the language?
   1. nop   **2.** ga   **3.** mo   **4.** cha

8. Select the letter-cluster that can replace the question mark (?) in the given letter-cluster series.
   UKS, ZPX, EUC, JZH, ?
   1. PEM   **2.** ODM   **3.** ODN   **4.** OEM

9. Select the Venn diagram that best illustrates the relationship between the following classes.
   Infants, Fathers, Males
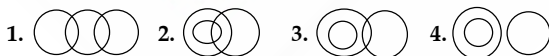
10. A cube is made by folding the given sheet. In the cubes of formed, which of the following pairs of letters will be on opposite sides?
    1. A and Z
   **2.** A and E
    3. R and X
    4. Q and X

11. Select the correct combination of mathematical signs that can sequentially replace the * signs from left to right to balance the following equation.
    15*5*24*140*7*71
   **1.** X, –, ÷, +, =   **2.** X, –, +, ÷, =
    3. X, ÷, +, –, =   **4.** ÷, +, –, X, =

12. Select the correct mirror image of the given combination when the mirror is placed at 'PQ' as shown below.

    S F Q 8 P G

13. Select the figure that will replace the question mark (?) in the following series.
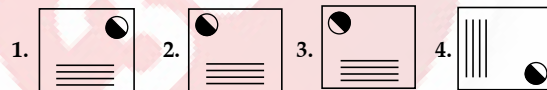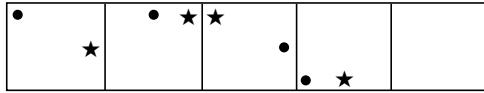
14. Which number will replace the question mark (?) in the following series?
    160, 183, 213, 252, 303, ?, 446
    1. 333   **2.** 367   **3.** 361   **4.** 379

15. Select the option that represents the correct order of the given words as they would appear in an English dictionary.?
    1. Pristine   **2.** Precious   **3.** Pressure   **4.** Presume
    5. Precaution
    1. 1, 2, 3, 4, 5   **2.** 5, 2, 3, 4, 1
    3. 5, 2, 4, 3, 1   **4.** 5, 3, 2, 4, 1

16. Which number will replace the question mark (?) in the following series?
    65, 62, 56, 47, 35, ?
    1. 25   **2.** 21   **3.** 20   **4.** 11

17. Eight friends A, B, C, D, E, F, G, and H are sitting in a straight line, all facing the North. F is sitting between D and G. B is sitting between H and A. E is third to the left of G, who is sitting at one of the corners. H is third to the left of C. Who is sitting between A and E?
    1. B   **2.** G   **3.** H   **4.** C

18. Select the option in which the given figure (X) is embedded (rotation is NOT allowed).

    (X)
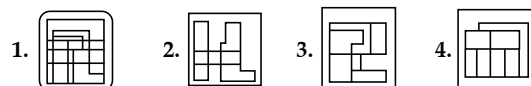
19. In a group of 73 friends, 40 friends go to Gym and Karate classes both, whereas 7 friends is neither go to Gym class not to Karate class. If a total of 36 points go to Gym class, then how many friends go to only Karate class?
    1. 44   2. 32   3. 30   4. 23

20. Select the figure that will replace the question mark (?) in the following series.

21. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

125	8	64
27	55	72
135	?	288

    1. 208   2. 144   3. 110   4. 192

22. Two statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusion logically follow(s) from the statements.
    Statements:
    No tree is a plum.
    All pomegranates are tress.
    Conclusions:
    I.   No pomegranates is a plum.
    II. No plum is a tree.
    III. Some tress are pomegranates.
    1. Only conclusions I and follow
    2. Only conclusions II and III follow
    3. Only conclusions I and II follows
    4. All of the conclusions follow

23. Select the option that is related to the third-letter cluster in the same way as the second letter-cluster is related to the first letter-cluster.
    VOWEL : ZPAFP : FRICK : ?
    1. JVGOK   2. JVMGO   3. JVJGO   4. OGMVH

24. Preeti is the only sister of Virat. Manoj is the son of Dileep, who is husband of Maaya. Virat is the son of Devansh. Devansh is Manoj's father in law. How is maaya related to Preeti?
    1. Mother-in-law   2. Sister-in-law
    3. Daughter-in-law   4. Mother

25. A paper is folded and cut as shown below. How will it appear when unfolded?
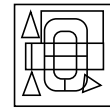

26. Three of the following four letter-clusters are alike in a certain way and one is different. Pick the odd one out.
    1. GTKX   2. MNRT   3. BYFC   4. SHWL

27. Bismita walks 200 m towards the East and then turns right and walks 210 m to reach a hospital. What is the shortest distance between the starting point and the hospital?
    1. 290 m   2. 260 m   3. 229 m   4. 310 m

28. Select the option figure which is embedded in the figure (X) given below (rotation is not allowed).

29. What was the day of the week on 14th March 2010?
    1. Tuesday   2. Sunday   3. Saturday   4. Monday

30. Which number will replace the question mark (?) in the following series?
    24, 25, 33, 60, ? 249
    1. 147   2. 124   3. 133   4. 121

31. Select the figure that will replace the question mark (?) in the following figure series.


32. Three of the following four letter-clusters are alike in a certain way and one id different. Pick the odd one out.
    1. ZCGL   2. HKOT   3. KNRW   4. ORVB

33. In a code language, 'OBESITY' is written as 'EBOHYTI'. How will 'FICTURE' be written in that language?
    1. XIFGEUS   2. XIFMERU   3. XIFGERU   4. IFYGERU

34. Select the correct mirror image of the given combination when the mirror is place at 'PQ' as shown below.

$$m\,f\,g\,h\,p\,k\,a\,z\,\Big|\,{}^{P}_{Q}$$
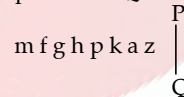
35. Select the letter-cluster that can replace the question mark (?) in the given letter-cluster series.
    THC, DIU, VJE, FKW, XLG, ?
    1. GMX   2. FKX   3. HMY   4. HNZ

36. In a code language 'BLOCK' is written as '31316412'. How will 'SUPREME' be written in that language?
    1. 192116185605   2. 202317206146
    3. 192217196156   4. 202217196146

37. Select the correct option that indicates the arrangement of the following words in a logical and meaningful order.
    1. Kilogram   2. Gram   3. Quintal   4. Decigram
    5. Milligram
    1. 4, 5, 2, 3, 1   2. 4, 5, 2, 1, 3   3. 5, 4, 2, 1, 3   4. 5, 2, 4, 1, 3

38. Which number will replace the questions mark (?) in the following series?
    3, 12, 52, 159, 640, ?
    1. 1923   2. 1910   3. 1731   4. 1863

39. When a number is added to its next number and another such number that is four times its next number, the sum of these three number is 95. Find that number.
    1. 17   2. 15   3. 16   4. 14

40. Two statements are given, followed by two conclusions numbered I and II. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:
All farmers are doctors.
All doctors are magicians.
Conclusions:
I. All farmers are magicians.
II. No farmer is a magician
 1. Both the conclusions follow
 2. Only conclusions I follows
 3. Only conclusions II follows
 4. Either conclusions I or II follows

41. Study the given pattern carefully and select the number that can replace the question mark(?) in it.

14	26	182
24	16	192
?	22	187

 1. 21   **2.** 23   **3.** 30   **4.** 17

42. Six friends P, Q, R, S, T and U are sitting around a circular table, facing the centre of the table. P is second to right of S. Q is sitting to the immediate left of T. P is sitting between R and U. S is sitting immediate left of R. Who is sitting between P and S?
 1. U   **2.** R   **3.** T   **4.** Q

43. A paper is folded and cut as shown below. How will it appear when unfolded?
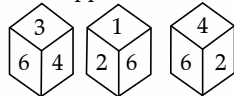

 1.   **2.**   **3.**   **4.**

44. Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.
BEST : WVHE : CROP : ?
 1. SRVG   **2.** RTUF   **3.** SRUF   **4.** PRUM

45. Three different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. Select the number that will be on the face opposite to the face showing '1'.

 1. 5   **2.** 2   **3.** 4   **4.** 3

46. In a code language, 'PLUM' is written as 'KQOMFVNN'. How will 'BIG' be written in that language?
 1. YCRKTM   **2.** YCRJTH   **3.** CYRJGT   **4.** XCSJTH

47. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

17	41	?
15	24	29
49	106	85

 1. 24   **2.** 37   **3.** 28   **4.** 32

48. 'A # B' means 'A is the husband of B'.
'A @ B' means 'A is the sister of B'.
'A & B' means 'A is the mother of B'.
'A % B' means 'A is the son of B'.
If S # Z @ R % K # J & T # N, then which of the following statements is NOT correct?
 1. K is the father-in-law of N. **2.** R and T are brothers.
 3. Z is the sister of T.   **4.** J is the mother of S.

49. Select the number-pair in which two numbers are related in the same way as are the two numbers of the following number-pair.
14 : 588
 1. 12 : 666   **2.** 20 : 980   **3.** 11 : 344   **4.** 18 : 972

50. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

17	18	19
21	22	?
396	437	520

 1. 28   **2.** 30   **3.** 25   **4.** 27

General Knowledge and General Awareness

51. Which of the following Viceroys appointed the Hunter Commission in 1882?
 1. Lord Mayo   **2.** Lord Ripon
 3. Lord Lytton   **4.** Lord Minto

52. The 'Kathasaritsagara' is written by:
 1. Kalidasa   **2.** Bhasa   **3.** Jayadeva   **4.** Somadeva

53. Bangladesh was a part of Pakistan from _____ to _____.
 1. 1947; 1989   **2.** 1947; 1962   **3.** 1947; 1971   **4.** 1947; 1958

54. Which of the following persons won the Sultan Padamsee Playwriting Award for his first play 'Larins Sahib'?
 1. Ramchandra Guha   **2.** Gurcharan Das
 3. Amitav Ghosh   **4.** Shashi Tharoor

55. The Silent Valley Movement was started in 1973 in the state of:
 1. Odisha   **2.** Kerala
 3. Andhra Pradesh   **4.** Himachal Pradesh

56. Which among the following organisations releases Index of Economic Freedom?
 1. Heritage Foundation
 2. Fraser Institute
 3. International Monetary Fund
 4. World Bank

57. Viticulture refers to the:
 1. commercial rearing of silkworm
 2. growing of vegetables
 3. breeding of fish
 4. cultivation of grapes

58. The headquarters of the World Trade Organization is located at:
 1. Bonn   **2.** Geneva   **3.** Dubai   **4.** Paris

59. Who was the 24th Governor of the Reserve Bank of India?
 1. C Rangarajan   **2.** YV Reddy
 3. Urjit Patel   **4.** Bimal Jalan

60. The approximate period between two consecutive new moons is _____ days.
 1. 15.5   **2.** 29.5   **3.** 14.5   **4.** 28.5

61. The Rig Veda is divided into _____ books or mandalas.
 1. 12   **2.** 34   **3.** 8   **4.** 10

62. Which among the following is NOT true about a solution and the solute concerned?
 1. The particles of the solute settle down at the bottom when the solution is kept undisturbed.
 2. The particles of the solute do not scatter a beam of light.
 3. The particles of the solute cannot be seen with unaided eyes.
 4. A solution is a homogeneous mixture.

63. The tomb of Itimad-ud-Daulah, inlaid with Pietra dura decoration, is located at:
 1. Ajmer   **2.** Aurangabad
 3. Agra   **4.** Alwar

64. In the context of Sri Lankan Civil War, what does the first 'T' in LTTE stand for?
 1. Tamil   **2.** Tarantulas **3.** Tigers   **4.** Triumph

65. According to the Groundnut Crop Survey Report 2018, which of the following states is the largest producer of groundnuts?
    1. Haryana　　　　　　2. Gujarat
    3. Bihar　　　　　　　4. West Bengal
66. The National Anthem of India, 'Jana Gana Mana' was first sung at the _____ Session of the Indian National Congress.
    1. Calcutta　2. Lahore　3. Belgaum　4. Tripuri
67. Rajiv Gandhi Khel Ratna Award is accorded annually by the:
    1. Ministry of Human Resource Development, Govt. of India
    2. Indian National Congress
    3. Rajiv Gandhi Memorial Trust
    4. Ministry of Youth Affairs and Sports, Govt. of India
68. The Goods and Services Tax (GST) – which has replaced the Central and State indirect taxes such as VAT, excise duty and service tax in India – was implemented on:
    1. 2 October 2017　　　2. 15 September 2017
    3. 15 August 2017　　　4. 1 July 2017
69. The Tata Iron and Steel Company (TISCO) is located at which of the following places?
    1. Bhilai　　　　　　　2. Jamshedpur
    3. Durgapur　　　　　　4. Rourkela
70. The princely state of Hyderabad was brought under the Indian Union in the year _____.
    1. 1948　　　2. 1950　　　3. 1952　　　4. 1963
71. Who among the following did NOT belong to the Rajput kingdom of Marwar?
    1. Rao Chanda　　　　　2. Rao Jodha
    3. Rana Kumbha　　　　4. Maldeva
72. Who among the following is the founder of the social activist organisation called 'Global March Against Child Labour'?
    1. Baba Amte　　　　　2. Kailash Satyarthi
    3. Kiran Bedi　　　　　4. Anna Hazare
73. Leukaemia is a cancer of the:
    1. Uterus　2. Blood　3. Lungs　4. Skin
74. Which of the following Articles of the Constitution of India prohibits employment of children in factories etc.?
    1. 31　　　2. 17　　　3. 24　　　4. 21
75. In which year did the first SAARC summit take place?
    1. 1972　　　2. 1992　　　3. 1990　　　4. 1985
76. Who is the author of the book 'We Are Displaced'?
    1. Amrita Pritam　　　　2. Malala Yousafzai
    3. Arnab Goswami　　　　4. Amrit Singh
77. Which among the following are called the amphibians of the plant kingdom?
    1. Pteridophytes　　　　2. Gymnosperms
    3. Bryophytes　　　　　4. Liverworts
78. Which section of the RBI Act empowers the Central Government to supersede the RBI board and issue directions considered to be 'necessary in public interest' to the RBI, after consulting the Governor of the bank?
    1. Section 5　2. Section 1　3. Section 3　4. Section 7
79. How many natural satellites does the planet Venus have?
    1. 2　　　2. 1　　　3. 3　　　4. 0
80. Part IV of the Indian Constitution contains the provisions on:
    1. Citizenship
    2. Fundamental Rights
    3. Directive Principles of State Policy
    4. Elections
81. Which part of the brain is instrumental in making it possible for a person to perform activity such as picking up a pencil from the floor?
    1. Cranium　　　　　　2. Cerebellum
    3. Cerebrum　　　　　　4. Hypothalamus
82. 'Bathukamma' and 'Bonalu' are state festivals of:
    1. Karnataka　　　　　2. Kerala
    3. Tamil Nadu　　　　　4. Telangana
83. Kalinjar Fort, which was strategically important during medieval times, is located in:
    1. Rajasthan　　　　　2. Sind
    3. Punjab　　　　　　　4. Uttar Pradesh
84. With reference to the United Nations' Sustainable Development Goals, which of the following is SDG 10?
    1. Reduced inequalities
    2. Zero hunger
    3. Climate action
    4. Decent work and economic growth
85. 1 horse power is equal to approximately _____ watts.
    1. 500　　　2. 750　　　3. 1000　　　4. 250
86. With which sport would you associate the name Sathish Sivalingam?
    1. Wrestling　　　　　2. Weightlifting
    3. Boxing　　　　　　　4. Hockey
87. Which of the following persons was the recipient of the inaugural Infosys Prize for Social Sciences – History, 2009?
    1. Amlan Datta　　　　2. Upinder Singh
    3. Krishna Kumar　　　　4. Hari Vasudevan
88. Which of the following terms is associated with the anatomy of the human heart?
    1. Cerebrum　　　　　2. Cerebellum
    3. Medulla　　　　　　4. Aorta
89. The 90 degree East Meridian does NOT pass through:
    1. Bangladesh　　　　　2. Sikkim
    3. Bhutan　　　　　　　4. Meghalaya
90. What is the number of hydrogen atoms in a molecule of calcium bicarbonate?
    1. 4　　　2. 0　　　3. 1　　　4. 2
91. Who was the coach of the Indian men's football team at the Intercontinental Cup, 2019?
    1. Stephen Constantine　　2. Baichung Bhutia
    3. Igor Stimac　　　　　4. Prasanta Banerjee
92. Vibration of which among the following produces only odd harmonics?
    1. An air column in a closed organ pipe
    2. A vibrating rod fixed at two ends
    3. An air column in an open organ pipe
    4. A vibrating string fixed at two ends
93. What is the meaning of the Greek origin word, 'Elektron'?
    1. Ebonite　2. Amber　3. Charge　4. Negative
94. Kamban wrote the Ramayana in which of the following languages?
    1. Telugu　　　　　　　2. Malayalam
    3. Kannada　　　　　　4. Tamil
95. In respect of classification of algae, the members of Phaeophyceae are commonly called:
    1. Red algae　　　　　2. White algae
    3. Green algae　　　　　4. Brown algae
96. Vailankanni (Velankanni) is a pilgrim centre located in the _____ district of Tamil Nadu.
    1. Salem　　　　　　　2. Nagapattinam
    3. Madurai　　　　　　4. Theni
97. The Summer Olympic Games 2000 were held at:
    1. Paris　2. Sydney　3. Seoul　4. Athens
98. In which of the following places is the Govardhan Math located?
    1. Puri　　2. Dwarka　3. Sringeri　4. Badrinath
99. Who among the following is the only Indian shuttler to have won a Summer Olympics silver medal?
    1. Prakash Padukone　　2. Pulela Gopichand
    3. Saina Nehwal　　　　4. PV Sindhu

100. Standing in an open ground on a cloudless day, at what time will your shadow be the shortest?
1. 15:00   **2.** 07:00   **3.** 12:00   **4.** 09:00

Quantitative Aptitude

101. Let $\Delta ABC \sim \Delta RPQ$ and $\dfrac{ar(\Delta ABC)}{ar(\Delta PQR)} = \dfrac{4}{9}$. If AB = 3 cm, BC = 4 cm and AC = 5 cm, then RP (in cm) is equal to:
1. 4.5   **2.** 12   **3.** 5   **4.** 6

102. A person's salary has increased from ₹7,000 to ₹12,000. What is the percentage increase in his salary?
1. $61\dfrac{1}{7}\%$ **2.** $76\dfrac{4}{7}\%$ **3.** $69\dfrac{1}{7}\%$ **4.** $71\dfrac{3}{7}\%$

103. A and B can do a piece of work in 25 days. B alone can do $66\dfrac{2}{3}\%$ of the same work in 30 days. In how many days can A alone do $\dfrac{4}{15}$ part of the same work?
1. 12   **2.** 18   **3.** 20   **4.** 15

104. If $x^2 + 8y^2 + 12y - 4xy + 9 = 0$, then the value of $(7x + 8y)$ is :
1. 9   **2.** –33   **3.** –9   **4.** 33

105. The two parallel sides of a trapezium are 17 cm and 15 cm, respectively. If the height of the trapezium is 6 cm then its area (in m²) is :
1. 0.96   **2.** 0.0096   **3.** 9.6   **4.** 960

106. If $x^2 - 3x + 1 = 0$, then the value of $\left(x^4 + \dfrac{1}{x^2} \right) \div (x^2 + 1)$ is:
1. 9   **2.** 5   **3.** 6   **4.** 7

107. If six-digit number $5x2y6z$ is divisible by 7, 11 and 13, then the value of $(x - y + 3z)$ is:
1. 9   **2.** 0   **3.** 7   **4.** 4

108. If the annual rate of simple interest increases from 11% to $17\dfrac{1}{2}\%$, then a person's yearly income increases by ₹1,071.20. The simple interest (in ₹) on the same sum at 10% for 5 years is:
1. 9,120   **2.** 8,240   **3.** 16,480   **4.** 7,250

109. If the difference between the compound interest at 17% on a sum of money for 2 years (compounded annually) is ₹433.50, then the compound interest (in ₹) is:
1. 5,533.50   **2.** 2,735.50   **3.** 5,100   **4.** 2,500

110. A rectangular lawn whose length is twice of its breadth is extended by having four semi-circular portions on its sides. What is the total area (in m²) of the lawn if the smaller side of the rectangle is 12 m? (Take π = 3.14)
1. 548.32   **2.** 444   **3.** 853.2   **4.** 308.64

111. The given bar graph represent the number of boys and girls in five different school. Read the graph and answer the question that follows.

Number of Boys and Girls in different Schools
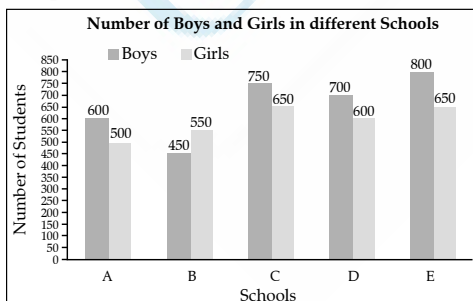
What is the average number of students (girls and boys) in schools A, B, C, D and E?
1. 596   **2.** 1250   **3.** 625   **4.** 660

112. In ΔABC AB and AC are produced to points D and E, respectively. If the bisectors of $\angle CBD$ and $\angle BCE$ meet at the points O, and $\angle BOC = 57°$, then $\angle A$ is equals to:
1. 66°   **2.** 93°   **3.** 114°   **4.** 57°

113. A single discount equivalent to three successive discounts of 6%, 15% and 14% is:
1. 34.357%   **2.** 17.5%   **3.** 68,714%   **4.** 31.286%

114. If $x + y + z = 17$, $xyz = 171$ and $xy + yz + zx = 111$, then the value of $\sqrt[9]{(x^3 + y^3 + z^3 + xyz)}$ is:
1. 0   **2.** –4   **3.** 4   **4.** –64

115. The given bar graph represent the number of boys and girls in five different schools. Read the graph and answer the question that follows.

Number of Boys and Girls in different Schools
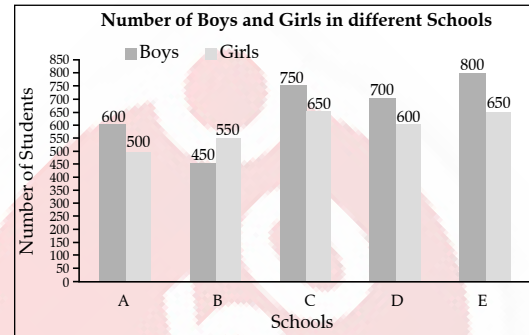
What is the ratio of the girls from school A, B and C taken together to the boys from all schools taken together?
1. 59 : 66   **2.** 33 : 17   **3.** 66 : 59   **4.** 17 : 33

116. A solid lead sphere of radius 11 cm is melted and recast into small solid spheres of radius 2 cm each. How many maximum number (in integer) of such squares can be made?
1. 125   **2.** 166   **3.** 100   **4.** 30

117. The average weight of a group of 3 people A, B and C is 70 kg when D joins the group, the average becomes 60 kg. A man E, whose weight is 5 kg more than that of D, replaces A and the average weight of B, C, D and E now becomes 59 kg. What is the average weight (in kg) of A, D and E? (correct to the nearest integer)
1. 40   **2.** 35   **3.** 39   **4.** 30

118. A solid metallic cube of side 9 cm and the solid metallic cuboid having dimensions 5 cm, 13 cm, 31 cm are melted to form a single cube. How much (in ₹) is the cost to polish a new cube at a rate of ₹10 per cm²?
1. 8,650   **2.** 11,760   **3.** 13,620   **4.** 27,440

119. The least number which is exactly divisible by 4, 5, 8, 10 and 12 is:
1. 120   **2.** 150   **3.** 180   **4.** 240

120. The given pie chart shows the percentage distribution of 450 employees in an organisation. Read the pie chart and answer the question that follows.
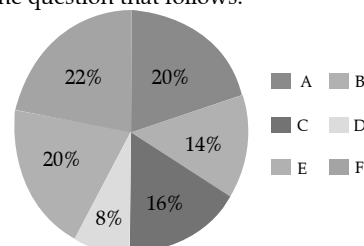

If 75% of the employees in department D are males, how many females employees are there in that department
1. 9   **2.** 36   **3.** 27   **4.** 18

121. The value of

$$\frac{0.325 \times 0.325 + 0.175 \times 0.175 + 25 \times 0.00455}{5 \times 0.0065 \times 3.25 - 7 \times 0.175 \times 0.025} + \frac{0.5}{1.5}$$ is:

1. 0   2. $\frac{7}{3}$ 3. 3   4. $\frac{11}{3}$

122. If the average price of three chairs is ₹14,014 enterprises are in the ratio of 3 : 4 : 7, then the highest price (in ₹) of chair is:

1. 5,005   2. 3,003   3. 1,001   4. 7,007

123. The remainder when $72 \times 73 \times 78 \times 76$ is divided by 35 is:

1. 12   2. 22   3. 8   4. 15

124. The value of $\dfrac{\sin^2 30° + \cos^2 60° + \sec 45° . \sin 45°}{\sec 60° + \csc 30°}$ is equal to:

1. $\frac{1}{4}$ 2. $\frac{3}{8}$ 3. $-\frac{1}{4}$ 4. $-\frac{3}{8}$

125. The given histogram shows the frequency distribution of the speed of cars passing through a particular spot on highway. Read the graph and answer the following question.
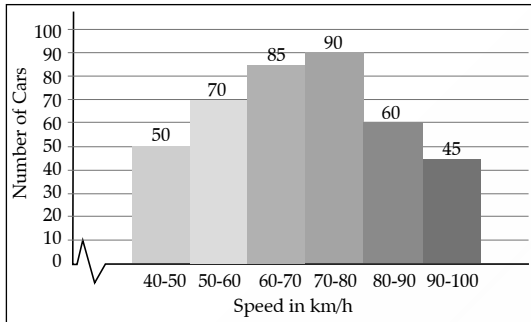
The number of cars with speed (km/h) in the interval (60 – 70) km/h is what percentage less than the number of cars with speed (km/h) in the interval (70 – 80) km/h? (correct to one decimal place)

1. 5.6%   2. 8.6%   3. 7.5%   4. 5.9%

126. The student of a class donated as sum of ₹2,809 to the Fund. Each student donated as many rupees as the number of students in the class. The number of student in the class is:

1. 51   2. 53   3. 49   4. 47

127. A man spends 75% of his income. If his income increased by 28% and his expenditure increases by 20%, then what is the increase or decrease percentage in his savings?

1. 13% increase   2. 52% decrease
3. 13% decrease   4. 52% increase

128. The given pie chart shows the percentage distribution of 450 employees in an organisation. Read the pie chart and answer the question that follows.
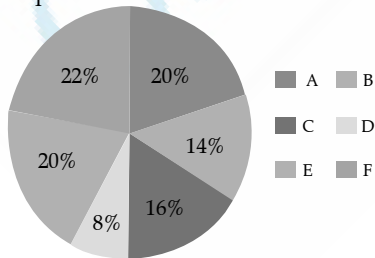
What is the number of employees working in department F?

1. 36   2. 99   3. 63   4. 72

129. The length of the shadow of a vertical pole on the ground is 36 m. If the angle of elevation of the sun at that time is θ, such that $\sec\theta = \dfrac{13}{12}$, then what is the height (in cm) of the pole?

1. 12   2. 15   3. 18   4. 9

130. PA and PB are two tangents from a point P outside a circle with centre O at the points A and B on it. If ∠PAB = 130° then angle ∠OAB equal to:

1. 45°   2. 65°   3. 35°   4. 50°

131. A sum of ₹8,200 was divided among A, B, and C in such a way that A had ₹500 more than B and C had ₹300 more than A. How much was C share (in ₹)?

1. 2,300   2. 3,100   3. 2,800   4. 2,000

132. The given pie chart shows the percentage distribution of 450 employees in an organisation. Read the pie chart and answer the question that follows.
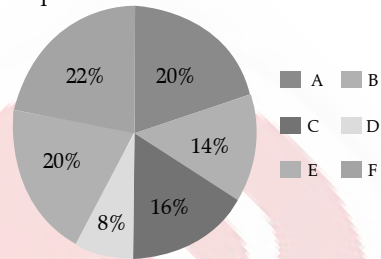
What is the central angle of the sector representing the number of employees in department E?

1. 36°   2. 108°   3. 90°   4. 72°

133. The monthly salary of a person was ₹75,000. He used to spend on Family Expenses (E), Taxes (T), Charity (C) and rest were his savings. E was 60% of the income, T was 20% of E, and C was 15% of T. When his salary got raised by 40% he maintained the percentage level of E, but T became 30% of E and C became 20% of T. The ratio of the savings of his earlier salary to that of his present salary is:

1. 337 : 325   2. 644 : 655   3. 655 : 644   4. 325 : 337

134. The given histogram shows the frequency distribution of the speed of cars passing through a particular spot on a highway? Read the graph and answer the following questions.
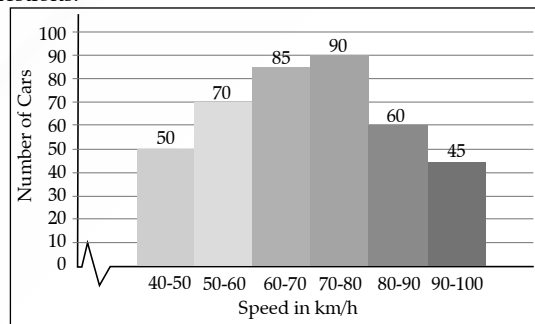
What is the ratio of the number of cars with speed less than 60 km/h to the number of cars with speed more than 70 km/h?

1. 13 : 8   2. 8 : 5   3. 8 : 13   4. 5 : 8

135. The value of $2\frac{1}{3} \div 2\frac{1}{2}$ of $1\frac{3}{5} + \left(\frac{3}{8} + \frac{1}{7} \times 1\frac{3}{4}\right)$ is:

1. $\frac{25}{24}$ 2. $\frac{29}{24}$ 3. $\frac{25}{24}$ 4. $\frac{5}{24}$

136. A person covers a distance of 300 km and then returns to the straight point. The time taken by him for the outward journey is 5 hours more than the time taken for

the return journey. If he returned at a speed of 10 km/h more than the speed of going, what was the speed for the outward journey?

1. 15 **2.** 20 **3.** 30 **4.** 25

137. ABCD is a cyclic quadrilateral such that AB is the diameter of the circle circumscribing it and ∠ADC = 118°. What is the measure of ∠BAC?

1. 32° **2.** 28° **3.** 45° **4.** 30°

138. The given histogram shows the frequency distribution of the speed of cars passing through a particular spot on a highway. Read the graph and answer the following questions.
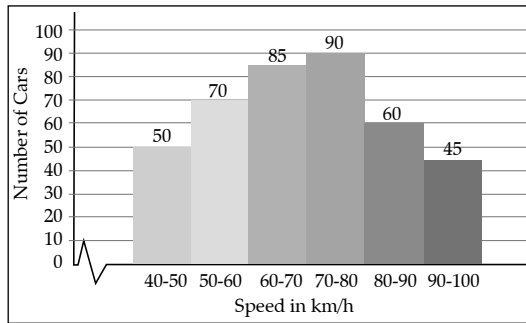
What percentage of cars were running with the speed of 90km/h and above?

1. 10% **2.** 21.25% **3.** 11.25% **4.** 15.75%

139. A and B can do a piece of work in 36 days. B and C can do the same work in 60 days. A and C can do the same work in 45 days. In how many days can B alone complete the same work?:

1. 120 **2.** 45 **3.** 60 **4.** 90

140. A man bought an article and sold it at a gain of 10%. If he had bought the article at 20% less and sold for Rs. 1,000 more, he would have made a profit of 40%. The earlier selling price of the article (in ₹) is:

1. 50,000 **2.** 40,000 **3.** 55,000 **4.** 60,000

141. If sin $3x$ = cos $(3x - 45°)$, $0° < 3x < 90°$, then x is equal to:

1. 27.5° **2.** 45° **3.** 35° **4.** 22.5°

142. Asha and Suman mus forts have heights 9 cm and 16 cm. If the fort tops are at 25 cm apart from each other, then the distance (in cm) between two forts is:

1. 7 **2.** 16 **3.** 25 **4.** 24

143. The area of a field in the shape of a hexagon is $1944\sqrt{3}\,\text{m}^2$. What will be the cost (in ₹) of feeding it at the rate of ₹11.50 per meter?

1. 2,256 **2.** 2,785 **3.** 2,484 **4.** 3,200

144. The given bar graph represents the number of boys and girls in five different schools. Read the graph and answer the question that follows.
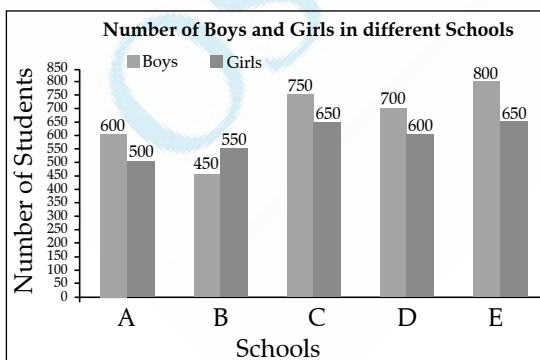
In which school is the percentage of boys more than 55%?

1. C **2.** B **3.** E **4.** A

145. If house tax is paid before the due date, one gets reduction of 12% on the amount of the bill. By paying the text before the due date, a person got a reduction of ₹2,100. The amount (in ₹) of house tax was:

1. 25,000 **2.** 21,000 **3.** 15,400 **4.** 17,500

146. The value of $\left(5 \div 2 \text{ of } \dfrac{1}{2}\right) + \left(5\dfrac{1}{4} \div \dfrac{3}{7} \text{ of } \dfrac{1}{2}\right) \div$ $\left(5\dfrac{1}{9} \div -7\dfrac{7}{8} \div 9\dfrac{9}{10}\right) \times \dfrac{11}{21}$ is:

1. $\dfrac{35}{24}$ **2.** $\dfrac{15}{28}$ **3.** –2 **4.** 8

147. A bus covers a 60 kilometers distance in 1 hour 30 minutes, whereas the same distance is covered by a car in 45 minutes. What is the ratio of the speed of the car to the speed of the bus?

1. 5 : 3 **2.** 1 : 2 **3.** 2 : 1 **4.** 3 : 5

148. A and B started a business investing amounts of ₹92,500 and ₹1,12,500, respectively. If B's share in the profit earned by them is ₹9,000, what is the profit (in ₹) earned by A?

1. 10,000 **2.** 11,240 **3.** 7,400 **4.** 9,000

149. Pipes A, B and C can fill an empty tank in $\dfrac{30}{7}$ hours, if all the three pipes are opened simultaneously. A and B are filling pipes and C is an emptying pipe. Pipe A can fill the tank in 15 hours and pipe C can empty it in 12 hours. In how long (in hours) can pipe B alone fill the empty tank?

1. 6 **2.** 3 **3.** 4 **4.** 5

150. When operated separately, pipe A takes 5 hours less than pipe B to fill a cistern, and when operated together, the cistern gets filled in 6 hours. In how much time (in hours) will pipe A fill the cistern, if operated separately?

1. 15 **2.** 10 **3.** 9 **4.** 18

English Comprehension

151. Select the most appropriate ANTONYM of the given word.

MUSTER

1. disperse **2.** convene **3.** assemble **4.** mobilize

152. Identify the segment in the sentence which contains a grammatical error.

You cannot lead a healthy life although you stop smoking.

1. a healthy life **2.** although you
3. stop smoking **4.** You cannot lead

153. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

Every year the family goes <u>for a pilgrim</u> to the temple at Tirupathi.

1. at the pilgrim **2.** from the pilgrimage
3. on a pilgrimage **4.** No substitution required

154. Select the most appropriate ANTONYM of the given word.

REVIVE

1. arouse **2.** console **3.** ruin **4.** renew

155. Select the most appropriate synonym of the given word.

SUMPTUOUS

1. bereft **2.** meager **3.** stingy **4.** opulent

156. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'

The forecast predicts that there <u>will be little rain</u> in the month of July.

1. must be a little rain
2. would be few rain
3. should be many rain
4. No substitution required

157. Select the correctly spelt word.

1. vengance
2. wengence
3. vengeance
4. wengeance

158. Identify the segment in the sentence which contains a grammatical error.

I had to hold on to the wall to steady itself or I could have fallen.

1. I had to hold on
2. to the wall
3. to steady itself
4. could have fallen

159. Identify the segment in the sentence which contains a grammatical error.

She has been working tirelessly since hours.

1. been working
2. She has
3. since hours
4. tirelessly

160. Fill in the blank with the most appropriate word

Second-hand furniture _____ here at reasonable prices.

1. are sold
2. were selling
3. has sold
4. is sold

161. Fill in the blank with the most appropriate word.

_____ of our success depends on our own efforts.

1. Few
2. Many
3. Less
4. Much

162. Select the most appropriate meaning of the given idiom.

Pocket an insult

1. bear an insult quietly
3. resent an affront
3. express true feelings
3. plan a revenge

163. Select the most appropriate meaning of the given idiom.

Make one's mark

1. leave a clue
2. attain recognition
3. claim a right
4. sign a deal

164. Identify the segment in the sentence which contains a grammatical error.

I was sorry to be hearing of his misfortune.

1. sorry to
2. of his misfortune
3. I was
4. be hearing

165. Select the correctly spelt word.

1. momentery
2. momentary
3. mommentary
4. momentory

Comprehension:

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each number.

Necessity, they say, is the mother of invention. Dr Burjor P Banaji, pioneer of Lasik surgery in India has (1)_____ over a dozen surgical instruments. When (2)_____ senior eye surgeon at Max Eye Care started Lasik, there were (3)_____ surgeons doing it worldwide and no (4)_____ instruments were available either. "As I want things (5)_____, I designed a whole slew of instruments that made my surgery more efficient," says Banaji.

166. Select the most appropriate option to fill in blank no.1.

1. founded
2. invented
3. recovered
4. discovered

167. Select the most appropriate option to fill in blank no. 2.

1. those
2. the
3. they
4. these

168. Select the most appropriate option to fill in blank no. 3.

1. more
2. little
3. any
4. few

169. Select the most appropriate option to fill in blank no. 4.

1. specific
2. limited
3. exact
4. correct

170. Select the most appropriate option to fill in blank no. 5.

1. punitive
2. prolific
3. popular
4. perfect

171. Fill in the blank with the most appropriate word.

Eggs are sold _____ the dozen.

1. at
2. to
3. by
4. in

172. Select the most appropriate synonym of the given word.

GAUDY

1. simple
2. plain
3. proper
4. flashy

173. Select the most appropriate synonym of the given word.

DESPISE

1. adore
2. admire
3. abhor
4. approve

174. Select the most appropriate synonym of the given word.

WRENCH

1. supply
2. reject
3. deter
4. wrest

175. Select the most appropriate one-word substitution for the given group of words.

A person who is trained for travelling into space

1. scientist
2. pilot
3. physicist
4. astronaut

176. Select the most appropriate ANTONYM of the given word.

DEPREDATION

1. plunder
2. devastation
3. construction
4. pillage

177. Select the most appropriate one-word substitution for the given group of words.

Harsh or discordant sound

1. monotony
2. harmony
3. cacophony
4. symphony

178. Select the most appropriate one-word substitution for the given group of words.

The dates when days and nights are of equal length

1. equinox
2. solstice
3. eclipse
4. stellar

179. Select the misspelt word.

1. beguile
2. bemoan
3. bereave
4. beseige

180. Select the most appropriate one-word substitution for the given group of words.

A large bedroom for a number of people in an institution

1. dormitory
2. auditorium
3. chamber
4. apartment

181. Select the misspelt word.

1. pursue
2. vicious
3. tyrrany
4. resistance

182. Select the most appropriate synonym of the given word.

FASTEN

1. allow
2. affix
3. halt
4. hurry

183. Fill in the blank with the most appropriate word.

_____ you deserve credit for the success of the show.

1. no less
2. such that
3. none but
4. only if

184. Select the most appropriate one-word substitution for the given group of words.

Arrangement of events according to the dates of occurrence

1. analogy
2. chronology
3. trilogy
4. theology

185. Select the correctly spelt word.

1. commotion
2. cammosion
3. camotion
4. comosion

186. Select the most appropriate ANTONYM of the given word.

MENACE

1. peril
2. threat
3. comfort
4. balance

187. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

A large <u>swarm of</u> dogs was blocking the way.

1. pack of
2. No substitution required
3. herd of
4. school of

188. Identify the segment in the sentence which contains a grammatical error.

One of the proposals received by us seem very interesting.

1. seem very interesting
2. received by us
3. the proposals
4. One of

189. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'
<u>Have either</u> of you been to the planetarium before?

1. Have everyone
2. Has either
3. Has both
4. No substitution required

190. Select the most appropriate meaning of the given idiom.
Rise to the occasion

1. take a big risk in order to succeed
2. assess a critical situation carefully
3. show you can deal with a situation successfully
4. challenge an opponent who is strong

191. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.
The mare hurt its hooves <u>when running to</u> the forest.

1. while running through
2. with running across
3. No substitution required
4. when running into

192. Fill in the blank with the most appropriate word.
_____ of living life on his own terms, he made few compromises.

1. Desired
2. Desirous
3. Desiring
4. Desire

193. Select the most appropriate meaning of the given idiom.
Kith and kin

1. family relations
2. colleagues
3. distant enemies
4. neighbours

194. Select the most appropriate meaning of the given idiom.
Strike when the iron is hot

1. wait patiently for the results
2. sort out differences promptly
3. grab a favourable opportunity promptly
4. torture someone with a hot iron

195. Select the most appropriate ANTONYM of the given word.
DISTRACT

1. divert
2. beguile
3. clarify
4. perplex

Comprehension:

Read the passage and answer the questions that follow.

Greek religious traditions encompassed a large pantheon of gods, complex mythologies, rituals and cult practices. Greece was a polytheistic society, and looked to its gods and mythology to explain natural mysteries as well as current events. Religious festivals and ceremonies were held throughout the year, and animal sacrifice and votive offerings were popular ways to appease and worship the gods. Religious life, rituals and practices were one of the unifying aspects of Greece across regions and poleis (cities, or city-states, such as Athens and Sparta).

Greek gods were immortal beings who possessed human-like qualities and were represented as completely human in visual art. They were moral and immoral, petty and just, and often vain. The gods were invoked to intervene and assist in all matters large, small, private and public.

City-states claimed individual gods and goddesses as their patrons. Temples and sanctuaries to the gods were built in every city. Many cities became cult sites due to their connection with a god or goddess and specific myths. For instance, the city of Delphi was known for its oracle and sanctuary of Apollo, because Apollo was believed to have killed a dragon that inhabited Delphi.

The history of the Greek pantheon begins with the primordial deities Gaia (Mother Earth) and Uranus (Father Sky), who were the parents of the first of twelve giants known as Titans. Among these Titans were six males and six females. The males were named Oceanus, Hyperion, Coeus, Crius, Iapetus, and Kronos. The females were named Themis, Mnemosyne, Tethys, Theia, Phoebe, and Rhea.

Kronos eventually overthrew Uranus and ruled during a mythological Golden Age. Over time, he and Rhea had twelve children who would become the Olympian gods. However, Kronos heard a prophecy that his son would overthrow him, as he did to Uranus. In an effort to avert fate, he ordered Rhea to allow him to devour each of the children upon their birth.

Best known among the pantheon are the twelve Olympian gods and goddesses who resided on Mt. Olympus in northern Greece. Zeus, the youngest son of Rhea and Kronos, was hidden from his father, instead of being swallowed. Once he became a man, he challenged his father's rule, forcing Kronos to regurgitate the rest of his swallowed children. These children were Zeus's siblings, and together they overthrew Kronos, making Zeus the father of gods and men.

196. Kronos devoured his children at birth because:

1. he was a titan who hated children
2. it was a cult practice to please the gods
3. his son was predicted to overthrow him
4. he did not have faith in his wife

197. The twelve Olympian Gods and Goddesses were the children of:

1. Gaia and Uranus
2. Kronos and Rhea
3. Zeus and Phoebe
4. Hyperion and Theia

198. How did Zeus bring back his siblings?

1. by making Kronos vomit the swallowed children
2. by worshipping the sanctuary of Apollo
3. by reviving them with an elixir
4. by challenging and slaying Crius

199. Which of the following statements about Greek Gods is NOT true?

1. some of them were immoral, petty and vain.
2. greek Gods were mortals.
3. they possessed human qualities.
4. they were invoked to aid in all matters.

200. Animal sacrifices were made to Gods to:

1. pacify and worship them
2. understand nature's mystetries
3. know about future events
4. enrage and challenge them

Answer Key

1.	(1)	**2.**	(1)	**3.**	(1)	**4.**	(3)	**5.**	(1)	**6.**	(4)	**7.**	(4)	**8.**	(4)	**9.**	(3)	**10.**	(3)
11.	(2)	**12.**	(4)	**13.**	(2)	**14.**	(2)	**15.**	(2)	**16.**	(3)	**17.**	(4)	**18.**	(1)	**19.**	(3)	**20.**	(3)
21.	(3)	**22.**	(4)	**23.**	(3)	**24.**	(1)	**25.**	(2)	**26.**	(2)	**27.**	(1)	**28.**	(4)	**29.**	(2)	**30.**	(2)
31.	(4)	**32.**	(4)	**33.**	(3)	**34.**	(3)	**35.**	(3)	**36.**	(4)	**37.**	(3)	**38.**	(1)	**39.**	(2)	**40.**	(4)
41.	(4)	**42.**	(2)	**43.**	(4)	**44.**	(3)	**45.**	(3)	**46.**	(2)	**47.**	(3)	**48.**	(4)	**49.**	(4)	**50.**	(3)
51.	(2)	**52.**	(4)	**53.**	(3)	**54.**	(2)	**55.**	(2)	**56.**	(1)	**57.**	(4)	**58.**	(2)	**59.**	(3)	**60.**	(2)

61.	(4)	62.	(1)	63.	(3)	64.	(3)	65.	(2)	66.	(1)	67.	(4)	68.	(4)	69.	(2)	70.	(1)
71.	(3)	72.	(2)	73.	(2)	74.	(3)	75.	(4)	76.	(2)	77.	(3)	78.	(4)	79.	(4)	80.	(3)
81.	(2)	82.	(4)	83.	(4)	84.	(1)	85.	(2)	86.	(2)	87.	(2)	88.	(4)	89.	(2)	90.	(4)
91.	(3)	92.	(1)	93.	(2)	94.	(4)	95.	(4)	96.	(2)	97.	(2)	98.	(1)	99.	(4)	100.	(3)
101.	(1)	102.	(4)	103.	(4)	104.	(2)	105.	(2)	106.	(3)	107.	(3)	108.	(2)	109.	(1)	110.	(3)
111.	(2)	112.	(1)	113.	(4)	114.	(2)	115.	(4)	116.	(2)	117.	(2)	118.	(2)	119.	(1)	120.	(1)
121.	(4)	122.	(4)	123.	(3)	124.	(2)	125.	(1)	126.	(2)	127.	(4)	128.	(2)	129.	(2)	130.	(2)
131.	(2)	132.	(4)	133.	(3)	134.	(3)	135.	(2)	136.	(2)	137.	(2)	138.	(3)	139.	(4)	140.	(3)
141.	(4)	142.	(4)	143.	(3)	144.	(3)	145.	(3)	146.	(4)	147.	(3)	148.	(3)	149.	(3)	150.	(2)
151.	(1)	152.	(2)	153.	(3)	154.	(3)	155.	(4)	156.	(4)	157.	(3)	158.	(3)	159.	(3)	160.	(4)
161.	(4)	162.	(1)	163.	(2)	164.	(4)	165.	(2)	166.	(2)	167.	(2)	168.	(4)	169.	(1)	170.	(4)
171.	(3)	172.	(4)	173.	(3)	174.	(4)	175.	(4)	176.	(3)	177.	(3)	178.	(1)	179.	(4)	180.	(1)
181.	(3)	182.	(2)	183.	(3)	184.	(2)	185.	(1)	186.	(3)	187.	(1)	188.	(1)	189.	(2)	190.	(3)
191.	(1)	192.	(2)	193.	(1)	194.	(3)	195.	(3)	196.	(3)	197.	(2)	198.	(1)	199.	(2)	200.	(1)

Answers with Explanations

1. **Option (1) is correct.**
   The number of females which are both food-lovers and lawyers is 12 and is highlighted below.
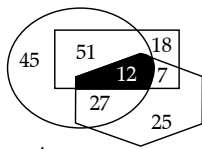
   Hence, 12 is the correct answer.

2. **Option (1) is correct.**
   I like chocolates- → 958, we bought chocolates → 153,
   We like them → 816
   Chocolate is common in the first two statements and 5 is also common in the first two statements; therefore; code for chocolates is 5. Similarly, the code for we is 1.

Chocolates	→	5
We	→	1
Like	→	8
I	→	9
Them	→	6
Bought	→	3

   Therefore the code for I bought them is 936.
   Hence, 936 is the correct answer.

3. **Option (1) is correct.**
   Using BODMAS
   $36 × 6 + 4 – 18 = 216 + 4 – 18 = 220–18 = 202$
   Therefore,   LHS = RHS.
   Hence, 6 and 12 is the correct answer.

4. **Option (3) is correct.**

K	O	Y
–1	+1	–1
J	P	X
–1	+1	–1
I	Q	W
–1	+1	–1
H	R	V
–1	+1	–1
G	S	U

   Hence, GSU is the correct answer.

5. **Option (1) is correct.**
   A denotes +, B denotes ×, C denotes -, D denotes ÷
   $50 ÷ (2 × 5) + 3 × (15 + 12) – 2 × (18 – 15) = x$
   Using BODMAS
   $50 ÷ 10 + 3 × 27 – 2 × 3$

   $5 + 3 × 27 – 2 × 3 ⇒ 5 + 81 – 6 ⇒ 86 – 6 = 80$
   Hence, 80 is the correct answer.

6. **Option (4) is correct.**
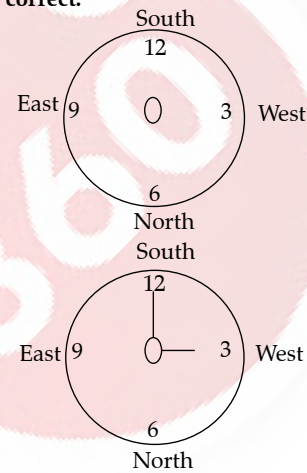
   The minute hand at 12:00 a.m. and at 3.00 am are in the same direction. So, the minute hand at 3.00 am also points towards the south direction.
   Hence, the correct answer is South.

7. **Option (4) is correct.**

   Code for 'it' is 'ga'
   Code for 'fast' is 'mo'
   So, the remaining word is 'do' and remaining code is 'cha'
   Code for 'do' is 'cha'
   Hence, 'cha' is the correct answer.

8. **Option (4) is correct.**

U	K	S
+5	+5	+5
Z	P	X
+5	+5	+5
E	U	C
+5	+5	+5
J	Z	H
+5	+5	+5
O	E	M

   Hence, OEM is the correct answer which is option 4.

9. Option (3) is correct.
The relation between the given classes is:
Infants can be females and males.
Fathers are always male.
The Venn diagram is
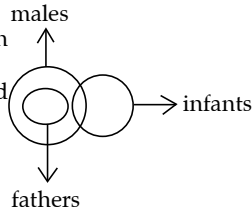
10. Option (3) is correct.
The opposite side of the cube are
E and Z
X and R
Q and A
- A and Z (when folded, two sides are adjacent to each other).
- A and E when folded, two sides are adjacent to each other.
- Q and X when folded, two sides are adjacent to each other.
- R and X; they are opposite to each other.
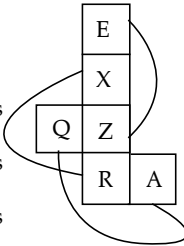
Hence, the correct answer is R and X.

11. Option (2) is correct.
Option 1
$$15 \times 5 - 24 \div 140 + 7 = 71$$
$$15 \times 5 - 0.171 + 7 = 71$$
$$75 - 0.171 + 7 = 71$$
$$82 - 0.171 = 71$$
81.82 is not equal to 71
Option 2
$$15 \times 5 - 24 + 140 \div 7 = 71$$
$$15 \times 5 - 24 + 20 = 71$$
$$75 - 24 + 20 = 71$$
$$95 - 24 = 71$$
$$71 = 71$$

12. Option (4) is correct.
The mirror image of given combination when the mirror is placed at *pq*.
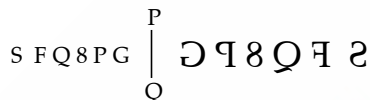
When we place the mirror at the right place, then the elements which appear on the right side will appear on the left side and the objects which appear on the left side will appear on the right side and the position of the objects will also change.

13. Option (2) is correct.
We can see that the circle is rotating clockwise and the shaded part is changing as a mirror image of it
The lines are rotating clockwise and each time increase by 1.
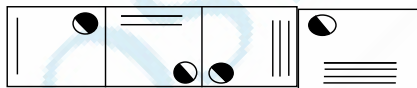
14. Option (2) is correct.
Square + prime number in decreasing order
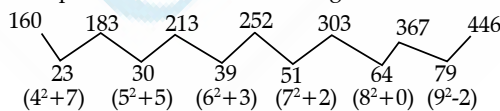
$$303 + 6 = 367$$
Hence, 367 is the correct answer.

15. Option (2) is correct.
Since, the first two letters PR is the same in all words, now we will check the 3rd letters of words which are i, e, e, e, e. We know that e comes before i but e is the same

again. Now we will check for the next letter having 3rd letter as e which are c, s, s, c. We also know that c comes before s but again c is the same. We will now check the next letter of those words which are having c as the 4th letter common which are i, a. We know that a comes before i so the 1st letter will be the 5th word and the 4th will be 2; similarly, we have the arrangement 5, 2, 3, 4, 1. Hence, 5, 2, 3, 4, 1 is the correct answer.

16. Option (3) is correct.
The pattern is as follows:
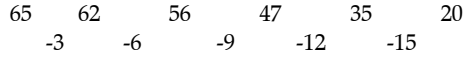
Hence, 20 is the correct answer.

17. Option (4) is correct.
Eight friends A, B, C, D, E, F, G, H are sitting in a straight line.
(1) E is third to the left of G who is sitting at one of the corners.
(2) F is sitting between D and G.
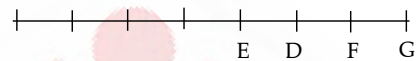
(3) H is third to the left of C.
(4) B is sitting between H and A.

According to the arrangement, C is sitting between A and E.
Hence, C is the correct answer.

18. Option (1) is correct.
As we can see the given fig is embedded.
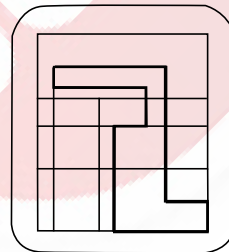
19. Option (3) is correct.
Total persons = 73.
Whereas 7 friends neither go to the Gym class nor to Karate Class = 73 – 7 = 66
Friends who go to the Gym = 36
Friends who go to only the Karate class = Total friends (except 7) – Total friends go to the Gym = 66 – 36 = 30
Hence, 30 is the correct answer.

20. Option (3) is correct.
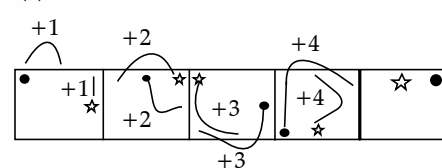
21. Option (3) is correct.
The pattern is as follows:
125, 27, 135 $5^3 = 125$
$$5 \times 27 = 135$$
8, 55, 110 $2^3 = 8$
$$2 \times 55 = 110$$
64, 72, 288 $4^3 = 64$
$$4 \times 72 = 288$$
Hence, the correct answer is 110.

22. Option (4) is correct.
Venn diagram
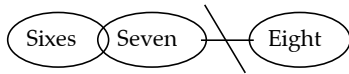
Conclusions:
(1) No pomegranate is a plum: True
(2) No plum is a tree: True
(3) Some trees are pomegranate: True

23. Option (3) is correct.
Every vowel is added by + 1.
Every consonant is added by + 4.

V	O	W	E	L
+4	+1	+4	+1	+4
Z	P	A	F	P

Similarly,

F	R	I	C	K
+4	+4	+1	+4	+4
J	V	J	G	O

Hence, JVJGO is the correct answer.

24. Option (1) is correct.
Draw blood relation Tree.
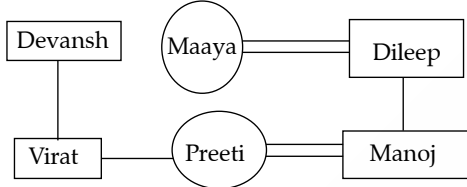
From the above blood relation tree, Maaya is the mother-in-law of Preeti.

25. Option (2) is correct.
The process of unfolding is shown below
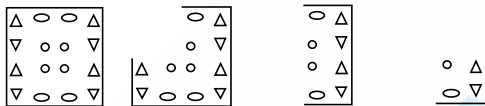
26. Option (2) is correct.
Option (1) The pattern is as follows:

G	Reverse	T
G	+4	K
T	+4	X

So, $\boxed{G\ T\ K\ X}$ with +4

Similarly, option (3), $\boxed{B\ Y\ F\ C}$ with +4

option (4), $\boxed{S\ H\ W\ L}$ with +4

option (2), $\boxed{M\ N\ R\ T}$ with +6 and +5
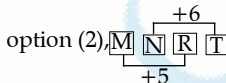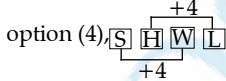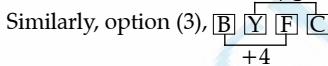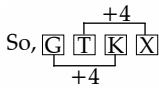
So, option (2) is odd one cut.

27. Option (1) is correct.
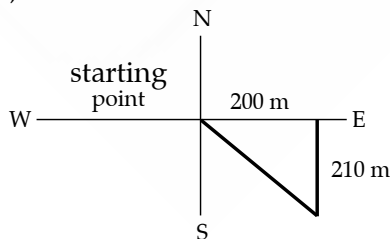
By applying Pythagoras's theorem,

$$(x)^2 = 200^2 + 210^2$$
$$(x)^2 = 40000 + 44100$$
$$(x)^2 = 84100 \Rightarrow x = 290m$$

Hence, the correct answer is 290 m.

28. Option (4) is correct.
The 4th option is available in the question part which is highlighted.
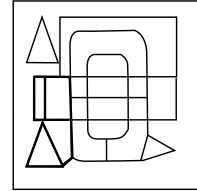
29. Option (2) is correct.
The pattern is as follows:

	Simple year	Leap year
No. of Odd days	365 ÷ 7 = 52 weeks + **1 odd day**	366 ÷ 7 = 52 weeks + **2 odd days**
Years	**No. of odd days**	
100 yeas	5	
200 years	3	
300 years	1	
400 years	0	

Multiple of 400 years have 0 odd days.
Calculating a leap year for finding the number of 1-99 years, divide the number of years by 4 and the quotient will be the number of leap years.
14 March 2010 total odd days
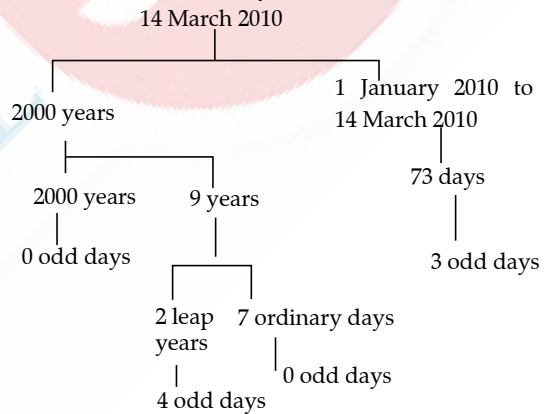
Total odd days ----- 0 + 4 + 0 + 3 = 7 ---- 0 odd days
0 code for Sunday.
Hence, Sunday is the correct answer.

30. Option (2) is correct.
The pattern is as follows.
$24 + 1^3 = 25$, $25 + 2^3 = 33$, $33 + 3^3 = 60$, $60 + 4^3 = 124$,
$124 + 5^3 = 249$
Hence, 124 is the correct answer.

31. Option (4) is correct.
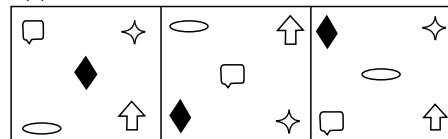
In the given pattern, the middle part is in the left corner and bottom-left corner goes to the upper-left corner, top-left corner comes to the middle part in the next box.

The symbol in the bottom-right goes up the right corner; these are interchanging in every net box.
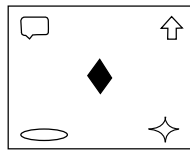
32. Option (4) is correct.
The pattern is as follows:

Z------+3------C-----+4-----G--------+5--------L,

H------+3------K-----+4-----O--------+5--------T

K-------+3-----N------+4----R--------+5--------W,

O-------+3-----R------+4---V--- ------+6--------B

ORVB doesn't follow the same pattern and is the correct answer.

Hence, ORVB is the correct answer.

33. Option (3) is correct.
The pattern is here.

Opposite letter
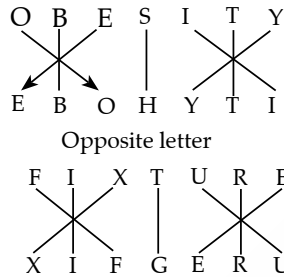
34. Option (3) is correct.
When we place mirror at the right place, then the things which appear on the left side will be changed to right side and the things which appear on the right side will appear on the left side and the position of the object will also change from left to right.
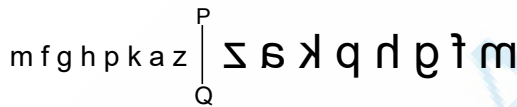
35. Option (3) is correct.
The pattern is

T-------+2--------V   D------+2-------F

F-------+2-------**H**

H-------+2--------J   I--------+2------K

K-------+2-------**M**

C--------+2------E   U-------+2------W,

W-------+2-------**Y**

Hence, HMY is the correct Answer.

36. Option (4) is correct.
The pattern is as follows:

B	L	O	C	K
2	12	15	3	11
2 + 1 = 3	12 + 1 = 13	15 + 1 = 16	3 + 1 = 4	11 + 1 = 12

Similarly,

S	U	P	R	E	M	E
19	21	16	18	5	13	5
19 + 1 = 20	21 + 1 = 22	16 + 1 = 17	18 + 1 = 19,	5 + 1 = 6	13 + 1 = 14	5 + 1 = 6

Hence, the correct answer 202217196146.

37. Option (3) is correct.
According to the weight measurement,

The arrangement sequence is milligram < gram < decigram < kilogram < quintal

Hence, 5, 4, 2, 1, 3 is the correct answer.

38. Option (1) is correct.

$3 \times 3 + 3 = 12$

$12 \times 4 + 4 = 52$

$52 \times 3 + 3 = 159$

$159 \times 4 + 4 = 640$

$640 \times 3 + 3 = 1923$

Hence, 1923 is the correct answer.

39. Option (2) is correct.
Let the number is x.

Next number is $x + 1$.

Given that,

$x + x + 1 + 4 (x + 1) = 95$

$6x + 5 = 95 \Rightarrow x = 15$

Hence, 15 is the correct answer.

40. Option (4) is correct.
Draw Venn Diagram
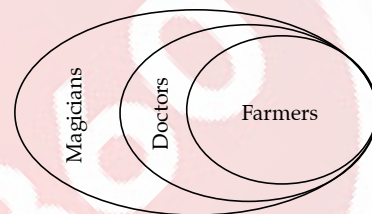
From the above Venn diagram only conclusion I follows.

41. Option (4) is correct.
The pattern is taking it row wise.

Row 1: $14 \times \dfrac{26}{2} = 182$

Row 2: $24 \times \dfrac{16}{2} = 192$

Similarly,

$$x \times \dfrac{22}{2} = 187 \Rightarrow x = \dfrac{187}{11}$$

$$x = 17$$

Hence, 17 is the correct answer.

42. Option (2) is correct.
1. P is the second to the right of S.
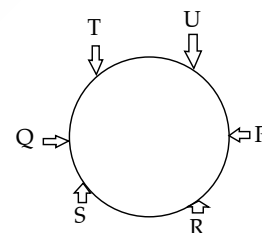
2. S is sitting to the immediate left of R.

3. P is sitting between R and U.

4. Q is sitting to the immediate right of T.

Hence, R is the correct answer.

43. Option (4) is correct.
The process of unfolding is shown below:

44. Option (3) is correct.
The pattern followed is:

B	E	S	T
+3	+3	+3	+3
E	H	V	W

Similarly,

C	R	O	P
+3	+3	+3	+3
F	U	R	S

Hence, SRUF is the correct answer.

45. Option (3) is correct.
We know that 2 and 6 will not be the opposite of 1 because they are adjacent to it.
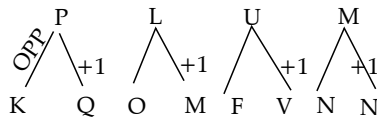Similarly,
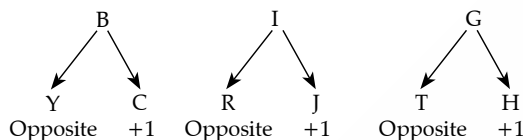In 1st and 3rd dice, 4 and 6 numbers are common
Then, 3 is the opposite face of 2.
Hence, 4 is the correct answer.

46. Option (2) is correct.
The pattern followed is:

Similarly,

Hence, YCRJTH is the correct answer.

47. Option (3) is correct.
$(17 \times 2) + 15 = 49$
$(41 \times 2) + 24 = 106$
Similarly,
$(x \times 2) + 29 = 85$
$\Rightarrow \qquad x = 28$
Hence, 28 is the correct answer.

48. Option (4) is correct.
Members: S, Z, R, K, J, T, N
Let us decode the symbols:
- Husband, @ - Sister, & - Mother, % - Son
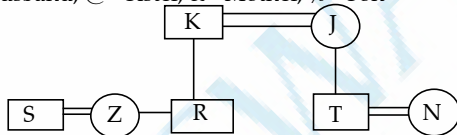
J is the mother-in-law of S.
According to the family tree, J is the mother-in-law of S is not correct.

49. Option (4) is correct.
The pattern is $(n)^2 \times 3$
$214^2 \times 3 = 588$
Option 4
$(18)^2 \times 3 = 972$
Hence, 972 is the correct answer.

50. Option (3) is correct.
$(17 \times 21 + 17 + 21) + 1 = 396$
$(18 \times 22 + 18 + 22) + 11 = 437$
Similarly,
$19 \times x + 19 + x + 1 = 520$
$x = 25$
Hence, 25 is the correct answer.

51. Option (2) is correct.
Sir William Hunter presided over the Hunter Commission of 1882, which was appointed by Lord Ripon, the then Viceroy of India. The hunter commission was formed on April 3, 1882, in response to a request from the General Council of Education to Ripon. Sir William Hunter was an Indian Civil Service officer who served on the Viceroy's Executive Council. The following were the primary goals: Consider various aspects of education in India, with a focus on primary education. Inquire into the execution of Wood's Despatch of 1854 and make recommendations to improve the outcome.

52. Option (4) is correct.
Somadeva's Kathasaritsagara, also known as the Ocean of the Streams of Stories, is a well-known 11th-century collection of Indian legends, fairy tales, and folk tales retold in Sanskrit. While the Kathasaritsagara is a collection of many stories and legends, the story of Udayana and his son is given special attention. Somadeva was a Kashmiri writer who lived in the 11th century CE. He was thought to be King Ananta of Kashmir's court poet.

53. Option (3) is correct.
From 1947 to 1971, Bangladesh (East Pakistan) was a part of Pakistan. On December 3, 1971, the Indian government decided to go to war with Pakistan to save Bengali Muslims and Hindus. On December 16, 1971, the chief of the Pakistani forces surrendered unconditionally to the allied forces of the Indian Army and Mukti Bahini in Dhaka.

54. Option (2) is correct.
For his first play, 'Larins Sahib,' Gurcharan Das received the Sultan Padamsee Playwriting Award. Larins Sahib is a historical play set in the period following Ranjit Singh's death when the British first arrived in Punjab. This play follows the development of hubris, which leads to the hero's demise. Theatre Group Bombay established the Sultan Padamsee Playwriting Award in 1966. It took its name from its founder, Sultan Padamsee. The Playwriting Awards have been among the most prestigious in India for English-language dramatists.

55. Option (2) is correct.
To prevent Silent Valley from being flooded by a hydroelectric project, an NGO led by school teachers and the Kerala Sastra Sahithya Parishad (KSSP) launched the Silent Valley Movement in 1973. The Kerala State Electricity Board (KSEB) proposes a hydroelectric dam across the Kunthipuzha River, which flows through Silent Valley, in 1970, which would submerge 8.3 square kilometers of untouched moist evergreen forest. Silent Valley is an evergreen tropical forest in Kerala's Palakkad district. Silent Valley National Park was established in 1985.

56. Option (1) is correct.
The Index of Economic Freedom is an annual index and ranking that assesses the level of economic freedom in the world's countries. The Heritage Foundation has published the Index of Economic Freedom. The Heritage Foundation, a conservative public policy research organization based in Washington, D.C., was founded in 1973 by Edwin Feulner and Paul Weyrich. India is ranked 120th in the 2020 Index of Economic Freedom.

57. Option (4) is correct.
Viticulture is a branch of science concerned with the study and cultivation of grapes. Viticulture is the cultivation of grapes to make wine. Sericulture is the practice of rearing silkworms to produce raw silk. Olericulture is the science of growing vegetables that deals with the cultivation of non-woody plants for food. Pisciculture is the artificial breeding, rearing, and transplantation of fish.

58. Option (2) is correct.

The World Trade Organization (WTO) is an international organization founded in 1995 to replace the General Agreement on Tariffs and Trade (GATT) under the Marrakesh Agreement. The World Trade Organization (WTO) is the only global international organization that deals with international trade rules. The World Trade Organization (WTO) has 164 members (including the European Union) and 23 observer governments (like Iran, Iraq, Bhutan, Libya etc). Its headquarters are in Geneva, Switzerland. WTO currently has 164 members, with India being a founding member.

59. Option (3) is correct.

Urjit Patel was the Reserve Bank of India's 24th governor. From 2016 to 2018, he was the governor of the Reserve Bank of India. He is the first governor of the RBI to resign for personal reasons. Urjit Patel wrote the book Overdraft: Saving the Indian Saver. The Reserve Bank of India is the country's central bank. The Reserve Bank of India issues all currency notes worth more than one rupee. Sir Osborne Smith was the RBI's first governor. C. D. Deshmukh was the RBI's first Indian governor. Shaktikanta Das is the Reserve Bank of India's 25th governor (incumbent). Bimal Jalan was the Reserve Bank of India's 20th governor. D Subbarao was the Reserve Bank of India's 22nd governor. Raghuram Rajan was the Reserve Bank of India's 23rd governor.

60. Option (2) is correct.

The first lunar phase occurs when the Moon and Sun have the same ecliptic longitude. The time between two consecutive new moons is approximately 29.5 days. The lunar phase when the Moon appears fully illuminated from Earth is known as the full moon. The waxing phase is the lunar phase that occurs between the new and full moons. The waning phase is the lunar phase that occurs between the full and new moons.

61. Option (4) is correct.

There are ten mandalas in Rigveda (books). The first and tenth Mandalas are the youngest and longest, respectively. The Gayatri mantra is taken from Mandala 3 of the Rig Veda. Mandala 9 is entirely dedicated to Soma. The Purusha Sukta is found in the tenth mandala and explains the four Varnas that were born from the Brahma's or Purusha's mouth, arms, thighs, and feet. The 10th Mandala contains the Nasadiya Sukta, which discusses the origin of the Universe.

62. Option (1) is correct.

A solution is a homogeneous mixture of two or more substances with particles smaller than 1 nm in size. Solution Characteristics: A solution is a uniform mixture. The diameter of solute particles in a solution is less than one nanometer. Filtration cannot separate a solution. Solute particles cannot be seen with unaided eyes. When left undisturbed, the solute particles do not settle, indicating that the solution is stable. Because its particles are too small to scatter light, a true solution does not do so. Examples of solutions include salt solutions, sugar solutions, vinegar, and so on.

63. Option (3) is correct.

The tomb of Itimad-ud-Daulah is located in Agra along the banks of the Yamuna. It was constructed by Mughal queen Noor Jahan, the wife of Emperor Jehangir. The tomb of Itimad-ud-Daulah is frequently regarded as a prototype for the Taj Mahal. It is famous for being the first place where the pietra dura was used (floral design made up of semiprecious stone). The Jahangir Tomb in Lahore is said to be the result of Noor Jahan's vision.

64. Option (3) is correct.

The LTTE is an abbreviation for the Liberation Tigers of Tamil Eelam. It is a militant organization that sought to establish Eelam, or an independent Tamil state, in northern and eastern Sri Lanka. Velupillai Prabhakaran founded the LTTE in 1976. Since the early 1980s, the number of civil war-related deaths in Sri Lanka has been estimated to be between 70,000 and 80,000, with tens of thousands more displaced by the fighting.

65. Option (2) is correct.

Gujarat, Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, and Rajasthan are the major groundnut-producing states. Gujarat is the leading producer, accounting for 40% of total groundnut production in the country. According to the 2018 All India crop coverage report, groundnut has been planted on approximately 40.13 lakh hectares. Gujarat has sown 14.67 lakh hectares of it, followed by Andhra Pradesh (6.61 lakh ha) and Rajasthan (6.07 lakh ha).

66. Option (1) is correct.

The Indian National Anthem, 'Jana Gana Mana,' was first sung on December 27, 1911, at the Indian National Congress session in Kolkata. Rabindranath Tagore composed the Indian national anthem Jana-Gana-mana in Bengali. On January 24, 1950, the Constituent Assembly adopted it in its Hindi version as India's National Anthem.

67. Option (4) is correct.

The Ministry of Youth Affairs and Sports bestows the Rajiv Gandhi Khel Ratna Award on an annual basis. The recipient(s) are chosen by a Ministry-appointed committee and are recognized for their "spectacular and most outstanding performance in the field of sports over four years" at the international level. This award was established in 1991-92. The first recipient of this award was chess Grandmaster Viswanathan Anand. The Khel Ratna Award winner receives a prize of 25 lac rupees. This award is given annually to athletes who represent their country well at international competitions.

68. Option (4) is correct.

The 101st Amendment Act of 2016 paved the way for the implementation of the country's goods and services tax - GST. The GST entered into force on July 1, 2017. The GST (Goods and Services Tax) is a value-added tax levied on the majority of goods and services sold for domestic consumption. Consumers pay the GST, but businesses that sell goods and services remit it to the government.

69. Option (2) is correct.

The Tata Iron and Steel Company (TISCO) was founded on August 26, 1907, by Jamsetji Tata and Dorabji Tata. The headquarters of TISCO is in Jamshedpur, Jharkhand. As a subsidiary of Jamsetji's Tata Group, TISCO began producing pig iron in 1911 and steel in 1912. The Bhilai Steel Plant was founded in 1955 with the assistance of the Soviet Union. Durgapur Steel Plant is one of Steel Authority of India Limited's integrated steel plants, located in Durgapur, West Bengal. It was established with the assistance of the United Kingdom. Rourkela Steel Plant (RSP), India's first integrated steel plant in the public sector was built with German assistance and has an installed capacity of 1 million tonnes.

70. Option (1) is correct.

India had two types of political units at the time of independence: The provinces of the United Kingdom (under the direct rule of the British government). The sovereign states (under the rule of native princes but subject to the paramountcy of the British Crown). 549 of the 552 princely states located within India's geographical boundaries joined India, while the remaining three (Hyderabad, Junagarh, and Kashmir) refused to join. However, they were eventually integrated into India—Hyderabad through police action, Junagarh through

a referendum, and Kashmir through the Instrument of Accession. The Indian Army launched a campaign code-named "Operation Polo" on September 13, 1948. Indian troops invaded Hyderabad from all directions. The Nizam's army surrendered on September 17, 1948. Nizam's rule was then ended when India incorporated the state of Hyderabad.

71. Option (3) is correct.
Rana Kumbha ruled over the Mewar kingdom. He was a member of the Sisodia family. He was the 48th Rana of Mewar and succeeded Rana Mokal Singh as ruler of Mewar in 1433 CE. Rao Chanda/Chundarj: Rao Chanda/Chundarj conquered Marwar and established the kingdom of Jodhpur. She was killed in battle by the forces of Multan's Salim Shah. Rao Jodha: He is Rao Chanda's son and the first fully independent Rathore king of Jodhpur and Marwar. During his reign, work on the Mehran Garh (or Mehrangarh) fort began. Rao Maldeva: He expanded the kingdom, gaining control of Ajmer, Merta, and Nagore.

72. Option (2) is correct.
Kailash Satyarthi founded the Global March Against Child Labor in 1998. The Global March Against Child Labor (Global March) is a worldwide network of trade unions, teachers and civil society organizations. It works to achieve the common development goals of eliminating and preventing all forms of child labor, slavery, and trafficking, as well as ensuring that all children have access to free, meaningful, and high-quality public education. Kailash Satyarthi and Malala Yousafzai shared the Nobel Peace Prize in 2014 for their contributions to child education.

73. Option (2) is correct.
Leukemia is a blood-forming tissue cancer that impairs the body's ability to fight infection. Treatment for slow-growing leukemias may include monitoring. Chemotherapy, sometimes followed by radiation and a stem-cell transplant, is used to treat aggressive leukaemias.

74. Option (3) is correct.
Child labor is prohibited under Article 24. It states that no child under the age of 14 shall be employed in any factory or mine or engaged in any other hazardous occupation. Article 31 states that no one shall be deprived of his or her property except by legal authority. It is also stated that a person whose property has been taken for public use will be compensated. Article 31 with the subheading "Right to Property" has been omitted by the Constitution Forty-Fourth Amendment Act 1978. As a new insertion in Chapter IV of Part XII of the constitution, Article 31(1) has been shifted to Article 300A. The practice of untouchability in any form is prohibited by Article 17 of the Indian Constitution. According to Article 17, "enforcement of any disability arising out of untouchability" is a punishable offense under the law. Every individual is guaranteed the right to life and personal liberty under Article 21. It states that "No person shall be deprived of his life and personal liberty except according to the procedure established by law.

75. Option (4) is correct.
On December 7-8, 1985, Dhaka, Bangladesh hosted the first SAARC summit. Bangladesh, the Maldives, Pakistan, Sri Lanka, Bhutan, Nepal, and India all attended. The South Asian Association for Regional Cooperation (SAARC) was founded on December 8, 1985, with the signing of the SAARC Charter in Dhaka. On January 16, 1987, the SAARC Secretariat was established in Kathmandu. SAARC is made up of eight member countries: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lankan.

76. Option (2) is correct.
Malala Yousafzai published We Are Displaced: My Journey and Stories from Refugee Girls Around the World in 2019. The book follows Yousafzai's own experience of being displaced in Pakistan and then forced to relocate to England, as well as the stories of nine other displaced people from around the world. Malala Yousafzai is a Pakistani female education activist and the youngest Nobel Prize laureate. She is well-known for her human rights advocacy, particularly for women's and children's education in her native Swat Valley in Khyber Pakhtunkhwa, northwest Pakistan.

77. Option (3) is correct.
Bryophytes are amphibians in the plant kingdom. A bryophyte is a green, seedless nonvascular plant that belongs to the mosses, liverworts, or hornworts family. Bryophytes are the most basic terrestrial plants. There is a lack of xylem and phloem tissue in Bryophyta. They are devoid of true roots, stems, and leaves. Bryophytes are known as the plant kingdom's amphibians because they live in soil but require water to reproduce sexually. They prefer environments that are moist, humid, and shady. They play an important role in plant succession on bare rocks/soil.

78. Option (4) is correct.
According to Section 7 of the RBI Act, the central government may issue such directions to the RBI as it deems necessary in the public interest after consulting with the Governor of the Bank. This implies that the government can use Section 7 to force the central bank to make decisions where it would otherwise be hesitant. The Reserve Bank of India Act 1934 is the legislative act that established the Reserve Bank of India. This act, along with the Companies Act, which was amended in 1936, was intended to provide a framework for banking firm supervision in India. The Reserve Bank of India Act 1934 contains 61 sections in total.

79. Option (4) is correct.
Venus (and Mercury) are the only two planets without a single natural moon orbiting them. Venus is only slightly larger than Earth. Venus is the second closest planet to the sun, at approximately 108 million kilometers (67 million miles) or 0.72 AU. One day on Venus is equivalent to 243 Earth days (the time it takes for Venus to rotate or spin once). Natural satellites that orbit planets and asteroids in our solar system are referred to as moons.

80. Option (3) is correct.
Part IV of the Indian Constitution addresses the State Policy Directive Principles (DPSP). No court has the authority to enforce the provisions of the DPSP. However, it is the responsibility of the state to apply these principles when making laws. The Irish Constitution inspired the concept of Directive Principles of State Policy. While most Fundamental Rights impose negative obligations on the state, DPSPs impose positive obligations on the state, though they are not legally enforceable.

81. Option (2) is correct.
The cerebellum aids in the maintenance of body posture and balance. It also allows us to move with greater precision and accuracy. Walking, dancing, riding a bicycle, picking up a pencil, and other smooth body movements are coordinated by the cerebellum. The brain is the body's highest coordinating center. The brain is divided into three sections: the forebrain, the midbrain, and the hindbrain. The cerebrum is the most important part of the forebrain. There are no more divisions in the midbrain. The hindbrain is divided into three regions known as the pons, cerebellum, and medulla. The cerebrum (or forebrain) is the main

part of the brain that thinks. It is where our faculties like learning, reasoning, intelligence, personality, and memory reside. The cerebrum coordinates all voluntary actions of the body. In response to visual and auditory stimuli, the midbrain controls reflex movements of the head, neck, and trunk. It also regulates eye muscle reflex movements, pupil size, and the shape of the eye lens.

82. Option (4) is correct.
Bathukamma is a Telangana women's festival celebrated with flowers that grow only in that region. The festival begins a week before the grand 'Saddula Bathukamma' (the Bathukamma festival's grand finale), which falls two days before Dussehra. Bathukamma honors the natural bond between the earth, water, and humans. Bonalu is an annual festival celebrated in Hyderabad and Secunderabad, as well as other parts of Telangana state. Bonalu is typically observed during Ashada Masam, which occurs in July/August. The Bonalu festival honors the Goddess Mahakali.

83. Option (4) is correct.
Kalinjar is a fortress city in Uttar Pradesh's Bundelkhand region. Kalinjar is located in Uttar Pradesh's Banda District. It is close to Khajuraho, a temple city and World Heritage Site. The Chandelas built this fort. The Chandela ruler Paramaditya Dev built the Neelkanth Temple near Kalinjar.

84. Option (1) is correct.
Goal 10 of the Sustainable Development Goals aims to reduce inequality within and between countries. This SDG advocates for the reduction of income inequalities as well as those based on age, gender, disability, race, ethnicity, origin, religion, or economic or another status within a country. The United Nations (UN) launched the 2030 Agenda for Sustainable Development and the SDGs to promote sustainable development. By 2030, 17 goals and 169 specific targets must be met. The SDGs are not legally enforceable.

85. Option (2) is correct.
Watt is a small unit of power. Another unit of power is called 'horsepower' (h.p.) which is equal to 746 watts. 1 horsepower = 746 watts 1 h.p. = 746 W. This means that 1 horsepower is equal to about 0.75 kilowatts (0.75 kW) Sometimes bigger units of power called kilowatts (kW) and megawatts (MW) are also used. 1 kilowatt = 1000 watts or 1 kW = 1000 W 1 megawatt = 1000,000 watts.

86. Option (2) is correct.
Sathish Sivalingam is a Tamilnadu weightlifter. At both the 2014 and 2018 Commonwealth Games, he won gold in the men's 77 kg weight category. Sathish also qualified for the 2016 Rio Olympics in the Men's 77 kg category, finishing 11th out of 14 lifters.

87. Option (2) is correct.
Professor Upinder Singh received the Infosys Prize in Social Sciences - History for 2009 in recognition of her contributions as an outstanding historian of ancient and early medieval Indian history. The Infosys Prize is an annual award given by the Infosys Science Foundation to scientists, researchers, engineers, and social scientists of Indian origin (not necessarily born in India). Prachi Deshpande has been awarded the 2020 Infosys Prize in Social Sciences. Amlan Datta was a West Bengal-born economist and educator. Hari Vasudevan was an Indian scholar known for his work on Russian and European history, as well as India-Russia relations.

88. Option (4) is correct.
The aorta is the main artery that connects your heart to the rest of your body. After leaving the heart via the aortic valve, blood flows through the aorta, forming a cane-shaped curve that connects with other major arteries to deliver oxygen-rich blood to the brain, muscles, and other cells.

89. Option (2) is correct.
The meridian 90 degrees east of Greenwich is a longitude line that runs from the North Pole to the South Pole. It travels from the Arctic Ocean to the South Pole via Asia, the Indian Ocean, the Southern Ocean, and Antarctica. It runs through the Indian states of Assam and Meghalaya. It also crosses Bhutan and Bangladesh.

90. Option (4) is correct.
Calcium hydrogen carbonate is another name for calcium bicarbonate. $Ca(HCO_3)_2$ is its chemical formula. Calcium bicarbonate has two hydrogen atoms, according to the above formula. It is a calcium, hydrogen, carbon, and oxygen ionic compound. Although it is not a naturally occurring solid, it forms in rivers, lakes, and streams when carbonate, bicarbonate, and calcium ions dissolve in carbon dioxide.

91. Option (3) is correct.
Igor Stimac is a Croatian football manager and former center-back. He is the current national football coach of India. The 2019 Intercontinental Cup was the second edition of the Hero Intercontinental Cup, held in July 2019 in Ahmedabad. The AIFF organized the tournament. North Korea won the championship with a 1-0 win over Tajikistan in the final. Stephen Constantine is a former player and professional football coach from England. From 2015 to 2019, he was the head coach of the Indian Football team. Bhaichung Bhutia is a former striker in Indian professional football.

92. Option (1) is correct.
Only odd harmonics are produced in a closed pipe. Harmonic frequencies are distributed in the ratio of 1: 3: 5..... Each natural frequency produced by an object or instrument has its distinct vibrational mode or standing wave pattern. An integer (whole number) multiple of the fundamental frequency is referred to as a harmonic. The harmonics produced are determined by the note or chord being played, and each frequency produces a different set of harmonics. The harmonics heard are based on the fundamental frequency being played and the increase in amplitude (or volume) from the first to the eighth harmonic.

93. Option (2) is correct.
In Greek, the word "Elektron" means amber. Amber is the yellow fossilized resin of evergreen trees, a "natural plastic material" that the ancient Greeks were already aware of. Amber was known to attract light objects, such as bits of paper, when rubbed with a dry cloth. The name "electron" was given to the light particle that carried that charge when J.J. Thomson discovered it.

94. Option (4) is correct.
The Tamil poet Kamban wrote the Ramayana, known as Ramavataram, in the 12th century. Gona Budda Reddy adopted the Sri Ranganatha Ramayanam, which is the Telugu version of the Ramayana. The most popular Malayalam version of the Sanskrit epic Ramayana is Adhyathmaramayanam Kilippattu. It is thought to have been written in the early 17th century by Thunchaththu Ramanujan Ezhuthachan. The Kumudendu Ramayana (a Jain version) was written in the 13th century, and the Kumara-Valmiki Torave Ramayana was written in the 16th century.

95. Option (4) is correct.
The pigments found in algae allow them to be classified. Chlorophyceae is a family of green algae.

Chlorophyceae – green algae

Phaeophyceae – brown algae

Rhodophyceae – red algae

Brown algae are a group of about 1,500 species of algae in the Chromophyta division that are found in

cold waters along continental coasts. Brown algae are a good source of algin, a colloidal gel that is used as a stabilizer in the baking and ice cream industries. Further Information Red algae are red due to the presence of the pigment phycoerythrin, which reflects red light while absorbing blue light. They are found in bodies of water. Green algae have chloroplasts that contain chlorophyll a and b, which gives them their vibrant green color. Green algae's cell walls are typically composed of cellulose, and they store carbohydrates in the form of starch.

96. Option (2) is correct.
In Nagapattinam, Tamilnadu, Velankanni has one of the country's largest Catholic pilgrimage centers. The Basilica of Our Lady of Good Health is known as the "Lourdes of the East" by locals. Its roots can be traced back to the sixteenth century. Three miracles are credited with the establishment of the church: the appearance of Mary and Jesus to a sleeping shepherd boy, the healing of a lame buttermilk vendor, and the survival of Portuguese sailors attacked by a violent sea storm. It was constructed in the Gothic style, was modified by the Portuguese, and was later expanded due to the influx of pilgrims. Pope John XXIII elevated the church to the status of a basilica in 1962.

97. Option (2) is correct.
The Summer Olympics 2000 was an international multi-sport event held in Sydney, New South Wales, Australia, from September 15 to October 1, 2000. The Summer Olympics were held for the second time in Australia and the Southern Hemisphere. The United States took first place in the medal count, followed by Russia and China. The Olympic Games were born in ancient Greece as an integral part of a religious festival. Pierre, baron de Coubertin, designed the modern Olympic Games. Since 1948, the Olympics have been held every four years. The honor of hosting the Olympic Games is bestowed upon a city rather than a country. The International Olympic Committee makes the final decision on the city (IOC).

98. Option (1) is correct.
Govardhan Math is in the Indian state of Odisha. It was founded by philosopher-saint Adi Shankara to preserve and spread Sanatana Dharma and Advaita Vedanta. The Sringeri Sarada Pitham (Karnataka) is located in the south. In the west, Dwarka Sarada Pitham (Gujarat). In the north, Badari Jyotirmaha Pitham (Uttarakhand).

99. Option (4) is correct.
PV Sindhu became the first Indian shuttler to win an Olympic silver medal on August 19, 2016. In the final, she was defeated by Carolina Marin. Since the first Olympic Games in 1900, India has won 28 medals. Vijender Singh became the first Indian boxer to win an Olympic medal in 2008. Saina Nehwal was the first Indian badminton player to win an Olympic medal in 2012.

100. Option (3) is correct.
The sun traces an arc across the sky from sunrise to sunset, reaching its highest point at local noon. The length of a shadow cast by an object changes as the sun moves through the sky. The sun casts the shortest shadow at local noon when it is at its highest point. When the sun is low in the sky, shadows are the longest in the early morning and late afternoon/early evening. Because the Earth rotates on its axis, the sun strikes each location at a different angle in the morning. As a result, the shadow appears to be long.

101. Option (1) is correct.
Given that $\triangle ABC \sim \triangle RPQ$

Then area of $\dfrac{\triangle ABC}{\triangle PQR} = \dfrac{AB^2}{RP^2} = \dfrac{4}{9}$

$$RP^2 = \dfrac{3^2}{PR^2} = \dfrac{4}{9}$$

$$RP^2 = \dfrac{9 \times 9}{4} \Rightarrow RP = \dfrac{9}{2}$$

$\Rightarrow \qquad RP = 4.5$

Hence, 4.5 is the correct answer.

102. Option (4) is correct.
The percentage increase in the salary is

$\dfrac{5000}{7000} \times 100 = \dfrac{500}{7} = 71\dfrac{3}{7}\%.$

(Note: Something is always increased from lower value to higher value. So, when increase write lower value in the denominator).

Hence, $71\dfrac{3}{7}\%$ is the correct Answer.

103. Option (4) is correct.
$$A + B = 25$$

$$B = \dfrac{2}{3} \to 30$$

So Total work done by B in days $= \dfrac{3}{2} \times 30 = 45$ Days.

$A + B \to 25 \qquad\qquad 9$ (Efficiency)
$\qquad 225 \qquad\qquad\qquad$ (Total Work)
$B \to 45 \qquad\qquad\quad 5$ (Efficiency)
Now efficiency of $A = 9 - 5 = 4$

Now A has to do $\dfrac{4}{15} \times 225 = 60$ unit work

So, A can do 60 unit of work in $= \dfrac{60}{4} = 15$ days

Hence, 15 is the correct Answer.

104. Option (2) is correct.
$x^2 + 8y^2 + 12y - 4xy + 9 = 0$
$\Rightarrow x^2 + 4y^2 + 12y + 4y^2 - 4xy + 9 = 0$
$\quad x^2 + 4y^2 + 4y^2 + 12y - 4xy + 9 = 0$
$\quad (x^2 + 4y^2 - 4xy) + (4y^2 + 12y + 9) = 0$
$\Rightarrow (x - 2y)^2 + (2y + 3)^2 = 0$
$\quad$ Either $(2y - 3)^2 = 0$
$\Rightarrow \qquad\qquad 2y + 3 = 0$
$\Rightarrow \qquad\qquad\qquad y = -\dfrac{3}{2}$
$\Rightarrow \qquad\qquad (x - 2y)^2 = 0$
$\Rightarrow \qquad\qquad (x - 2y) = 0$
$\Rightarrow \qquad\qquad\qquad x = 2y$
$\Rightarrow \qquad\qquad\qquad x = 2 \times -\dfrac{3}{2} \Rightarrow x = -3$
$\quad$ Now $(7x + 8y) = 7 \times -3 + 8 \times -\dfrac{3}{2} = -21 - 12 = -33$

Hence, –33 is the correct answer.

105. Option (2) is correct.
We know that area of trapezium

$= \left(\dfrac{\text{Sum of parralel sides}}{2}\right) \times \text{Height}$

$\Rightarrow \text{Area} = \left(\dfrac{17 + 15}{2}\right) \times 6 \Rightarrow \text{Area} = 96 \text{ cm}^2$

$\Rightarrow \text{Area} = 0.0096 \text{ m}^2 \ (1 \text{ m} = 100 \text{ cm})$

Hence, 0.0096 is the correct answer.

106. Option (3) is correct.

Given, $x^2 - 3x + 1 = 0$

Dividing both sides by x, we get

$$\frac{x^2 - 3x + 1}{x} = 0 \Rightarrow x + \frac{1}{x} = 3$$

Now $\left(x + \frac{1}{x}\right)^3 = 27$

$$x^3 + \frac{1}{x^3} + 9 = 27 \Rightarrow x^3 + \frac{1}{x^3} = 18$$

Then, value of $\dfrac{x^4 + \dfrac{1}{x^2}}{x^2 + 1}$

Divide both numerator and denominator by x, we get

$$\frac{\dfrac{x^4 + \dfrac{1}{x^2}}{x}}{\dfrac{x^2 + 1}{x}} = \frac{x^3 + \dfrac{1}{x^3}}{x + \dfrac{1}{x}} = \frac{18}{3} = 6$$

Hence, 6 is the correct answer.

107. Option (3) is correct.

Either we can say divisible by 7, 11 and 13 or a multiple of 7, 11 and 13.

$7 \times 11 \times 13 = 1001$.

The number is $5x2y6z$.

Let the number is pqr.

Then we have $pqr \times 1001 = 5x2y6z$

$\Rightarrow pqr \times pqr = 5x2y6z$

Comparing both sides we get,

$P = 5$, $q = 6$ and $r = 2$

Therefore $5x2y6z$ is 562562.

Now $(x - y + 3z) = (6 - 5 + 2 \times 3) = 7$

Hence, 7 is the correct answer.

108. Option (2) is correct.

The increase in the rate $= 17.5 - 11 = 6.5\%$

The increase in the amount $= 1071.20$

Therefore, $6.5\% \to 1071.20$

$1\% \to 168.4$

$100\% \to 16480$

Now we need 10% for 5 years which is $5 \times 10\% = 50\%$

$$50\% = \frac{16480}{2} = 8240$$

Hence, 8240 is the correct Answer.

109. Option (1) is correct.

The simple interest at 17% for 2 years = 34% and the compound interest for two years $= 17 + 17 + \dfrac{17 \times 17}{100}$

$= 34 + 2.89 = 36.89\%$

Now, difference is $36.89\% - 34\% = 2.89$

Now, $2.89\% \to 433.5$

$36.89\% \to \dfrac{433.5}{2.89} \times 36.89\% = 5533.5$

Hence, 5533.5 is the correct answer.

110. Option (3) is correct.

We know that area of rectangle $= L \times B$ and area of semi-circle $= \dfrac{\pi r^2}{2}$.

We also know that four semi circles are constructed on the four sides of the rectangle.

$L \times B + 2$ (Small Semi circle Area) $+ 2$ (large Semi circle Area)

$\Rightarrow 12 \times 24 + 2\left(\dfrac{3.14 \times 36}{2}\right) + (3.14 \times 144)$

$\Rightarrow 288 + (3.14 \times 36) + (3.14 \times 144)$

$\Rightarrow 288 + (3.14 \times 180) = 288 + 565.2 = 853.2$ m²

Hence, Total area of Lawn is 853.2 m².

111. Option (2) is correct.

We know that average $= \dfrac{\text{Sum of observations}}{\text{Total Number}}$.

Total number of boys and girls in all schools

$A + B + C + D + E = (600 + 500) + (450 + 550) + (750 + 650) + (700 + 600) + (800 + 650)$

$= 1100 + 1000 + 1400 + 1300 + 1450$

$= \dfrac{6250}{5} = 1250$

Hence, 1250 is the correct answer.

112. Option (1) is correct.

We know that angle $\angle BOC = 90° - \dfrac{\angle BAC}{2}$

$\dfrac{\angle BAC}{2} = 90° - 57°$

$\Rightarrow \angle BAC = 66°$.

Hence, 66° is correct answer.

113. Option (4) is correct.

The single discount for 6% and 15% will be $-6\% -15\% + \dfrac{-6 \times -15}{100} = -20.1$

The single discount for 20.1 and 14 will be $-14\% -20.1\% + \dfrac{-14\% \times -20.1\%}{100} = 34.1\% + 2.814\% = 31.286\%$

Hence, 31.286% is the correct answer.

(Shortcut: add them all which is $6 + 15 + 14 = 35\%$ look for options which is less than 35 but near to 35.

114. Option (2) is correct.

Given $x + y + z = 17$, $xyz = 171$ and $xy + yz + zx = 111$.

We know that $(x + y + z)^2 = 17^2 = 289$

$x^2 + y^2 + z^2 + 2(xy + yz + zx) = 361$

$\Rightarrow x^2 + y^2 + z^2 = 289 - 2(111)$

$\Rightarrow x^2 + y^2 + z^2 = 67$

We know $x^3 + y^3 + z^3 - 3xyz = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$

$x^3 + y^3 + z^3 - 3 \times 171 = 17 \times [67 - 111]$

$x^3 + y^3 + z^3 - 513 = -748$

Taking square root on both sides,

$x^3 + y^3 + z^3 = -235$

$\sqrt[3]{x^3 + y^3 + z^3 + xyz} = \sqrt[3]{-235 + 171} = -4$.

Hence, -4 is the correct Answer.

115. Option (4) is correct.

Girls in $A + B + C = 500 + 650 + 550$ and Boys $= A + B + C = 600 + 450 + 750 + 700 + 800$
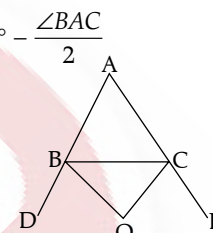
Girls = 1700 and Boys = 3300

Therefore, Ratio of Girls : Boys = $1700 : 3300 = 17 : 33$

Hence, 17 : 33 is the correct Answer.

116. Option (2) is correct.

We know that Volume of sphere $= \dfrac{4}{3}\pi r^3$

Number of small spheres

$= \dfrac{\text{Volume of solid sphere}}{\text{Volume of Small Sphere}}$

Volume of solid sphere = $\frac{4}{3}\pi 11^3$

Volume of small sphere = $\frac{4}{3}\pi 2^3$

Now Number of small solid sphere

$= \dfrac{\frac{4}{3}\pi 11^3}{\frac{4}{3}\pi 2^3} = \frac{1331}{8} = 166.375$

Hence, 166 is the correct Answer.

117. Option (2) is correct.
We know that Sum = Average × No.
A + B + C = 70 × 3 = 210
A + B + C + D = 60 × 4 = 240
D = 30 and E = 30 + 5 = 35
B + C + D + E = 59 × 4 = 236
B + C = 236 – (30 + 35) = 236 – 65 = 171
A = 210 – 171 = 39
Therefore A + D + E = 39 + 30 + 35 = 104

Average of A, D and E = $\frac{104}{3}$ = 34.66

Hence, 35 is the correct Answer.

118. Option (2) is correct.
Given, Side = 9 cm and Length = 5 cm, Breadth = 13 cm, height = 31 cm
 Volume of a cube = (side)³
 Volume of cuboid = Length × Breadth × Height.
Total surface area of cube = 6 × side²
Volume of solid metallic cube = 9³ = 729 cm³.
Volume of solid metallic cuboid = 5 × 13 × 31 = 2015 cm³.
Volume of recast single cube = Volume of solid metallic cube + Volume of Solid metallic cuboid
= 729 + 2015 = 2744 cm³.
(side)² = 2744
Side = 14
Total surface area of cube = 6 × 14 × 14 = 1176 cm³.
The total surface area of recast cube is 1176 cm².
Therefore, the cost = 1176 × 10 = 11760
Hence, 11760 is the correct Answer.

119. Option (1) is correct.
The least number of 4, 5, 8, 10, 12 will be the LCM.

5	5, 6, 8, 10, 12
6	1, 6, 8, 2, 12
4	1, 1, 8, 2, 2
2	2, 2, 2
	1, 1, 1

So, the LCM = 5 × 6 × 2 × 2 = 120
Hence, 120 is the correct Answer.

120. Option (1) is correct.
We know that Male + Female = 100%
Now Male = 75% then female will be 25% in D department.

Therefore, Female = $\frac{25}{100} \times \frac{8}{100} \times 450 = \frac{2}{100} \times 450$.
= 9

Hence, 9 is the correct Answer.

121. Option (4) is correct.
Let 0.325 = a and 0.175 = b then we have
$\dfrac{a \times a + b \times b + 25 \times 0.00455}{5 \times 0.0065 \times 3.25 - 7 \times 0.175 \times 0.025} + \dfrac{0.5}{1.5}$

$= \dfrac{a^2 + b^2 + 2 \times ab}{0.325 \times 0.325 - 0.175 \times 0.175} + \dfrac{0.5}{1.5}$

$= \dfrac{a^2 + b^2 + 2 \times ab}{a^2 - b^2} + \dfrac{0.5}{1.5} = \dfrac{a + b}{a - b} + \dfrac{0.5}{1.5}$

$= \dfrac{0.5}{0.15} + \dfrac{0.5}{1.5} = \dfrac{50}{15} + \dfrac{1}{3} = \dfrac{10 + 1}{3} = \dfrac{11}{3}$

Hence, $\frac{11}{3}$ is the correct Answer.

122. Option (4) is correct.
The total price = 3 + 4 + 7 = 14

Average = $\frac{14}{3} \rightarrow 14014$

$1 \rightarrow \dfrac{14014 \times 3}{14}$

Then Highest = $\dfrac{14014 \times 3}{14} \times 7 = 7007$

Hence, 7007 is the correct answer.

123. Option (3) is correct.
Given 72 × 73 × 78 × 76

$\Rightarrow \dfrac{72 \times 73 \times 78 \times 76}{35}$

$\Rightarrow 2 \times 3 \times 8 \times 6 \left(\dfrac{72}{35} \text{ the remainder is } 2\right)$

$\Rightarrow \dfrac{6 \times 48}{35} = 8$

Hence, 8 is the correct answer.

124. Option (2) is correct.
$\dfrac{\sin^2 30° + \cos^2 60° + \sec 45° \cdot \sin 45°}{\sec 60° + \csc 30°}$

$= \dfrac{\left(\frac{1}{2}\right)^2 + \left(\frac{1}{2}\right)^2 + \sqrt{2} \times \frac{1}{\sqrt{2}}}{2 + 2}$

$= \dfrac{\frac{1}{2} + 1}{4} = \dfrac{\frac{1 + 2}{2}}{4} = \dfrac{3}{8}$

Hence, $\frac{3}{8}$ is the correct Answer.

125. Option (1) is correct.
The number of cars with speed 60 – 70 is 85 and the number of cars with speed 70 – 80 is 90.

Now percentage = $\dfrac{90 - 85}{90} \times 100 = 5.56\%$

Hence, 5.56 is the correct answer.

126. Option (2) is correct.
Let Number of students = x
The amount donated by each student = x.
Therefore, $x \times x = 2809$
$\Rightarrow x^2 = 2809 \Rightarrow x = 53$
Hence 53 is the correct answer.

127. Option (4) is correct.
Let total income = 100.
Expenditure = 75.
Saving = 25.
Now new income = 128
And expenditure = 90
Now, saving = 128 – 90 = 38

Thus, increase in the saving is 38 – 25 = 13

Percentage increase = $\frac{13}{25} \times 100 = 52\%$

Hence, 52% is the correct Answer.

128. Option (2) is correct.

Number of Employee working in department F = 22% of 450

So, Number of Employee working in department F

$\frac{22}{100} \times 450 = 99$

Hence, 99 is the correct Answer.

129. Option (2) is correct.

Given, sec θ = 13/12

We know that $\tan^2 \theta + 1 = \sec^2 \theta$

$\Rightarrow \left(\frac{13}{12}\right)^2 = \tan^2 \theta + 1$

$\Rightarrow \tan^2 \theta = 1 - \frac{169}{144} = \frac{25}{144}$

$\Rightarrow \tan \theta = \frac{5}{12}$

$\Rightarrow \tan \theta = \frac{P}{B}$

$\Rightarrow \tan \theta = \frac{x}{36}$

$\Rightarrow x = 36 \times \frac{5}{12} \Rightarrow x = 15$

Hence, 15 is the correct Answer.
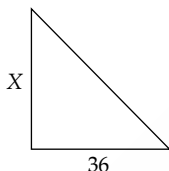
130. Option (2) is correct.

We know that the radius of a circle is always perpendicular to the tangent of the circle.

Given ∠APB = 130°.

∠OAP = ∠OBP = 90°

In Rectangle OAPB,

$\Rightarrow$ ∠OAP + ∠APB + ∠PBO + ∠BOA = 360°.

$\Rightarrow$ 90° + 130° + 90° + ∠BOA° = 360°

$\Rightarrow$ 310° + ∠BOA° = 360°

$\Rightarrow$ ∠BOA° = 360° – 310° $\Rightarrow$ ∠BOA° = 50°

In triangle OAB,

OA = OB   (Radius of circle)
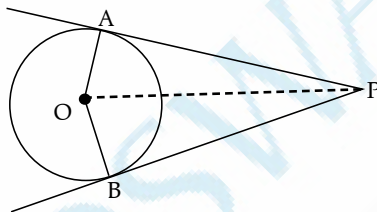
∠OAB = ∠OBA(Opposite angles of triangle are equal of two equal sided triangle).

$\Rightarrow$ ∠OAB + ∠ABO + ∠BOA = 180°

$\Rightarrow$ 2∠OAB = 130° $\Rightarrow$ ∠OAB = 65°

Shortcut-: ∠OAB = ∠OBA = $\frac{1}{2} \times$ ∠APB

$\Rightarrow$ ∠OAB= $\frac{1}{2} \times 130°$ $\Rightarrow$ ∠OAB = 65°

Hence, 65° is the correct Answer.

131. Option (2) is correct.

Let B = x then A = $x + 500$, C = $x + 500 + 300 = x + 800$.

$\Rightarrow x + x + x + 500 + 800 = 8200$

$\Rightarrow$ 3x + 1300 = 8200

$\Rightarrow$ 3x = 6900

$\Rightarrow$ $x = \frac{6900}{3} = 2300$

$\Rightarrow$ x = 2300

Now,   C = x + 800 $\Rightarrow$ C = 3100

Hence, 3100 is the correct Answer.

132. Option (4) is correct.

We know that 100% → 360°.

Now E = 20% = $\frac{360}{100} \times 20 = 72°$

Hence, 72° is the correct answer.

133. Option (3) is correct.

Monthly salary = ₹ 75000

E = 60%, T = 20% of E, C = 15% of T

After increment it was raised by 40%.

E = 60% of income

T = 30% E

C = 20% T

Now Let Salary = 100

Then E = 60

T = 20% of 60 = 12

C = 15% of 12 = 1.8

Total expenses = 60 + 12 + 1.8 = 73.8

Now Initial saving = 100 – 73.8 = 26.2

After increment new salary is 140.

E = 60% of 140 = 84

T = 30% of 84 = 25.2

C = 20% of 25.2 = 5.04

Now total expenses = 84 + 25.2 + 5.04 = 114.24

New saving = 25.76

Old Saving = 26.2

The ratio is 26.2 : 25.76 = 2620 : 2576 = 655 : 644

Hence, 655 : 644 is the correct Answer.

134. Option (3) is correct.

Total cars with less than speed 60 are 70 + 50 = 120 and total cars having speed more than 70 are 90 + 60 + 45 = 195

Therefore, the ratio is 120 : 195 = 24 : 39

Hence, the ratio is 8 : 13.

135. Option (2) is correct.

$2\frac{1}{3} \div 2\frac{1}{2} \times \frac{8}{5} + \left(\frac{3}{8} + \frac{1}{7} \times \frac{7}{4}\right)$

$= \frac{7}{3} \times \frac{2}{5} \times \frac{5}{8} + \left(\frac{3}{8} + \frac{1}{4}\right) = \frac{7}{12} + \left(\frac{12+8}{32}\right) = \frac{7}{12} + \frac{5}{8}$

$\frac{7 \times 8 + 12 \times 5}{96} = \frac{56 + 60}{96} = \frac{116}{96} = \frac{29}{24}$

Hence, $\frac{29}{24}$ is the correct Answer.

136. Option (2) is correct.

We know that average speed is Total distance = travelled/total time

Distance = 300

Let speed of the outward journey is = S km/h Then speed of the retuning journey is (S + 10) km/h.

We know, Time = $\frac{\text{Distance}}{\text{Speed}} = \frac{300}{S}$.

Time taken by returning journey = $\frac{300}{S + 10}$

Now, it takes 5 hours more in outward journey than returning then we have

$\Rightarrow \dfrac{300}{S} = \dfrac{300}{S+10} + 5$

$\Rightarrow \dfrac{300}{S} - \dfrac{300}{S+10} = 5$

$\Rightarrow 3000 = 5S^2 + 50$

$\Rightarrow S^2 + 10S - 600$

$\Rightarrow S^2 + 30S - 20S - 600 = 0$

$\Rightarrow S = -30, S = 20$

Therefore, $S = 20$.

Hence, 20 is the correct Answer.

Alternate Method: use option assume speed=20 then,

$\dfrac{300}{20} = 15$ hours

Now return speed = 30 km

$\Rightarrow \dfrac{300}{30} = 10$ hours

Therefore, difference in time = 15 – 10 = 5 and is the correct Answer.

137. Option (2) is correct.

Given ABCD is cyclic quadrilateral and AB is diameter of the circle.

We know that sum opposite side of cyclic quadrilateral is 180°.

In quadrilateral ABCD.

$\angle ADC + \angle CBA = 180°$

$\angle CBA = 62°$

In Triangle ABC we know that sum of angles of triangles is 180°.

Then $\angle BAC + 90° + \angle CBA = 180°$.

$\Rightarrow \angle BAC + 90° + 62° = 180°$

$\Rightarrow \angle BAC + 152° = 180° \Rightarrow \angle BAC = 28°$

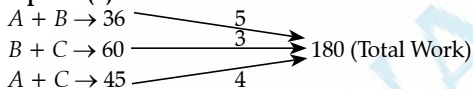Hence, 28° is the correct Answer.
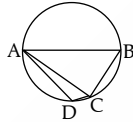
138. Option (3) is correct.

Total speed = 50 + 70 + 85 + 90 + 60 + 45 = 400.

Speed 90 and above = 45.

Percentage = $\dfrac{45}{400} \times 100 = 11.25\%$

Hence, 11.25% is the correct answer.

139. Option (4) is correct.

$A + B \to 36 \qquad 5$

$B + C \to 60 \qquad 3 \quad \to 180 \text{ (Total Work)}$

$A + C \to 45 \qquad 4$

Efficiency of $A + B + B + C + A + C = 5 + 3 + 4 = 12$

$2(A + B + C) = 12$

$A + B + C = \dfrac{12}{2} = 6$

We have $A + C = 4$

$A + B + C = 6$

Therefore, the efficiency of B is 2 and the time taken by B to finish work alone = $\dfrac{180}{2} = 90$

Hence, 90 is the correct answer.

140. Option (3) is correct.

Let CP = 100 then SP = 110

Now, new CP = 80

New SP = $80 \times \dfrac{140}{100} = 112$

Now $110 - 112 \Rightarrow 1000$

So, $2 - 1000$

$1\% = 500$

Then, $110\% = 110 \times 500 = 55000$

Hence, 55,000 is the correct answer.

141. Option (4) is correct.

Given $\sin 3x = \cos(3x - 45°)$

$\cos(90 - \theta) = \sin \theta$

$\Rightarrow 90 - 3x = 3x - 45°$

$\Rightarrow 6x = 135° \Rightarrow x = \dfrac{135}{6} \Rightarrow x = 22.5°$

Hence, 22.5° is the correct answer.

142. Option (4) is correct.

DE = CD + CE

$\Rightarrow$ DE = AB + CE

$\Rightarrow$ CE = DE – AB

$\Rightarrow$ CE = 16 – 9 = 7

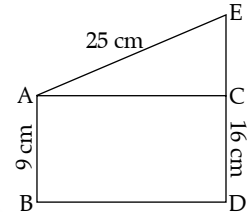$\Rightarrow$ In Triangle ACE by using Pythagoras theorem we get,

$\Rightarrow (AE)^2 = (AC)^2 + (CE)^2$

$\Rightarrow (25)^2 = (AC)^2 - (7)^2$

$\Rightarrow (AC)^2 = 625 - 49$

$\Rightarrow (AC)^2 = 576 \Rightarrow AC = 24$ cm

Hence, 24 cm is the correct answer.

143. Option (3) is correct.

We know that area of hexagon = $3\sqrt{3} \times \dfrac{a^2}{2}$

The perimeter = $6a$.

$\Rightarrow 3\sqrt{3} \times \dfrac{a^2}{2} = 1944\sqrt{3}$

$\Rightarrow 3\dfrac{a^2}{2} = 19443$

$\Rightarrow a^2 = \dfrac{1944}{3} \times 2 = 1296$

$\Rightarrow a = 36$

$\Rightarrow 6a = 36 \times 6 = 216$ \qquad (Perimeter of hexagon $6a$)

Cost of fencing = 216×11.50 = Rs 2484

Hence, 2484 is the correct Answer.

144. Option (3) is correct.

In school A percentage of Boys = $\dfrac{600}{1100} \times 100 = 54.54\%$

In school B percentage of Boys= $\dfrac{450}{1000} \times 100 = 45\%$.

In school C percentage of Boys= $\dfrac{750}{1400} \times 100 = 53.57\%$.

In school E percentage of Boys= $\dfrac{800}{1450} \times 100 = 55.17\%$.

Hence, E is the correct Answer.

145. Option (3) is correct.

Percentage reduction on the amount of bill if paid before due date = 12%.

Reduction amount = 2100

Total tax amount = $\dfrac{100}{\text{reduction}\%} \times$ reduction amount.

Tax paid = Total tax amount – reduced amount.

Total tax amount = $\dfrac{100}{12} \times 2100 = 17500$

Therefore, the amount of tax paid is 17500 – 2100 = 15400

Hence, 15400 is the correct answer.

146. Option (4) is correct.

Using BODMAS we get

$$= 5 + \left(\frac{21}{4} \div \frac{3}{14}\right) \div \left(\frac{46}{9} - \frac{63}{8} \div \frac{189}{20}\right) \times \frac{11}{21}$$

$$= 5 + \left(\frac{21}{4} \div \frac{3}{14}\right) \div \left(\frac{46}{9} - \frac{63}{8} \times \frac{20}{189}\right) \times \frac{11}{21}$$

$$= 5 + \left(\frac{21}{4} \times \frac{14}{3}\right) \div \left(\frac{46}{9} - \frac{63}{8} \times \frac{20}{189}\right) \times \frac{11}{21}$$

$$= 5 + \left(\frac{147}{6}\right) \div \left(\frac{46}{9} - \frac{7}{2} \times \frac{5}{21}\right) \times \frac{11}{21}$$

$$= 5 + \left(\frac{147}{6}\right) \div \left(\frac{46}{9} - \frac{5}{6}\right) \times \frac{11}{21}$$

$$= 5 + \left(\frac{147}{6}\right) \div \left(\frac{276 - 45}{54}\right) \times \frac{11}{21}$$

$$= 5 + \left(\frac{147}{6}\right) \div \left(\frac{77}{18}\right) \times \frac{11}{21}$$

$$= 5 + \left(\frac{147}{6}\right) \times \frac{18}{77} \times \frac{11}{21}$$

$$= 5 + \frac{147}{6} \times \frac{18}{77} \times \frac{11}{21} = 5 + 3 = 8$$

Hence, 8 is the correct Answer.

147. Option (3) is correct.

We know that speed is inversely proportional to time.

The ratio of time taken by Bus : Car = 90 : 45

The ratio of speeds of Bus : Car = is 45 : 90 = 1 : 2

Therefore, ratio of Car to Bus is 2:1.

Hence, 2 : 1 is the correct Answer.

148. Option (3) is correct.

We know that profit = Investment × Time

A = 92500 and B = 112500.

Since time is same. So investment will be ratio of Profits.

A : B = 92500 : 112500

A : B = 185 : 225

A : B = 37 : 45

Now 45 → 9000

1 → 200

Then, 37 × 200 = 7400

Hence, 7400 is the correct answer.

149. Option (3) is correct.

$$A + B + C \to \frac{30}{7} \quad\quad 14$$
$$A \to 15 \quad\quad\quad\quad 4$$
$$\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad 60 \text{ (Total work)}$$
$$C \to 12 \quad\quad\quad\quad -5$$

Efficiency of $A + B + C = 14$

Efficiency $A + C = -1$

$B = A + B + C - (A + C) = 14 - (-1) = 15$

Work done by B alone $= \frac{60}{15} = 4\text{h}$

Hence, 4 is the correct Answer.

150. Option (2) is correct.

Let time taken by $A = x$

Then time taken by $B = x + 5$

Then $\frac{1}{x} + \frac{1}{x + 5} = \frac{1}{6}$

$$\Rightarrow \frac{x + 5 + x}{x(x + 5)} = \frac{1}{6}$$

$$\Rightarrow \frac{2x + 5}{x^2 + 5x} = \frac{1}{6}$$

$\Rightarrow 12x + 30 = x^2 + 5x$

$\Rightarrow x^2 + 5x - 12x - 30 = 0$

$\Rightarrow x^2 - 7x - 30 = 0$

$\Rightarrow x^2 - 10x + 3x - 30 = 0$

$\Rightarrow x(x - 10) + 3(x - 10) = 0$

$\Rightarrow (x - 10)(x + 3) = 0$

$\Rightarrow x = 10 \quad \text{or} \quad x + 3 = 0 \Rightarrow x = -3$

Therefore, $x = 10$

Hence, 10 is the correct Answer.

Hence 10 is the correct Answer.

151. Option (1) is correct.

This question tests a student's knowledge of vocabulary. "Muster" means to collect or assemble (a number or amount). Example: "The city council was unable to muster enough votes to pass the measure." "Disperse" means to distribute or spread over a wide area. Example: "Storms can disperse seeds via high altitudes." "Assemble" means (of people) gather together in one place for a common purpose, or fit together the separate component parts of (a machine or other object). Example: "My new machine is being assembled and my old one dismantled." "Convene" means come or bring together for a meeting or activity; assemble. Example: "He had convened a secret meeting of military personnel." Assemble and convene are close meaning words of muster. The antonym of muster is to disperse.

152. Option (2) is correct.

The sentence has an error of conjunction. The sentence is expressing a condition that wants to say if X is not done, Y can't be achieved. To show condition the correct conjunction will be "unless/until." The clause followed by unless/until is always positive as unless/until are negative conjunctions. 'Although/though' clause comes after the main clause, it can also mean 'but it is also true that'. In the given scenario, the conjunction 'until' would serve the intended meaning better than the conjunction 'Although'. Thus, the correct sentence is: You cannot lead a healthy life until you stop smoking.

153. Option (3) is correct.

The underlined part of the sentence has an error of preposition. Generally, we use 'on a pilgrimage' to express that someone goes on a journey to a sacred place. The correct sentence will be: The family goes on a pilgrimage to the temple at Tirupathi.

154. Option (3) is correct.

This question tests a student's knowledge of vocabulary. "Revive" means regain life, consciousness, or strength. Example: "She was beginning to revive from her faint." "Arouse" means to evoke or awaken (a feeling, emotion, or response). Example: "Something about the man aroused the guard's suspicions." "Console" means to comfort (someone) at a time of grief or disappointment. Example: "You can console yourself with the thought that you did your best." "Renew" means to increase the life of or replace something old. Example: "Every year I renew my membership of the sports club." Renew, is close meaning word of revive. "Ruin" means to reduce (a building or place) to a state of decay, collapse, or disintegration. Example: "A large white house falling into gentle ruin." The antonym of revive is to ruin.

155. Option (4) is correct.

This question tests a student's knowledge of vocabulary. "Sumptuous" means "splendid and expensive-

looking." Example: "The banquet was a sumptuous, luxurious meal." "Bereft" means deprived of or lacking (something). Example: "Her room was stark and bereft of colour." "Meager" means lacking in quantity or quality. Example: "They were forced to supplement their meager earnings." "Stingy" means mean; ungenerous. Example: "His boss is stingy and idle." "Opulent" means ostentatiously costly and luxurious. Example: "The opulent comfort of a limousine." Sumptuous and opulent are synonyms.

156. Option (4) is correct.
The sentence is grammatically correct. Hence, no correction is required.

157. Option (3) is correct.
The correctly spelled word is "vengeance."

158. Option (3) is correct.
The sentence has an error of reflexive pronoun. For people we don't use the reflexive pronoun "itself", it should be "myself" because the subject is "I."

159. Option (3) is correct.
The sentence has an error of preposition. "Since" is used to refer to a specific point of time and "for" is used with a period of time. In the above sentence "since" will be replaced with "for" as "hours" represent a period of time.

160. Option (4) is correct.
The given sentence is in passive voice as the subject is furniture. Furniture is a singular uncountable noun so it will be followed by a singular verb. Since, the sentence talks about factual statement, use of simple present tense is required.

161. Option (4) is correct.
Success is an uncountable noun, and our success depends on our efforts to a larger extent. Few and many are used for countable nouns. Thus, "success" cannot be preceded by "few, and many." "Less" means to smaller extent. Hence, "success" will not be preceded by "less." "Much" means "to great extent."

162. Option (1) is correct.
This question tests a student's understanding of idiomatic expression. "To pocket an insult" means "to bear insult." Example: When her friend made fun of her before the entire class, she simply decided to pocket the insult.

163. Option (2) is correct.
This question tests a student's understanding of idiomatic expression. "To make one's mark" means to attain recognition or distinction. Example: "It took four years of struggle before we managed to make our mark."

164. Option (4) is correct.
The sentence has an error of word usage. Hear is a stative verb and can't be used in progressive (verb +ing) form. In the given sentence "Be hearing" will be replaced with "hear".

165. Option (2) is correct.
The correctly spelled word is "momentary."

166. Option (2) is correct.
The given passage is about Dr. Banaji and his contribution in Lasik surgery. The passage states that Dr. Banaji is pioneer of Lasik surgery in Indian. The first line says that Necessity is the mother of invention. From both statements it is clear that the blank will be filled with word "Invention."

167. Option (2) is correct.
The blank needs a determiner to point out the particular eye surgeon. These, those, and they are used with plural nouns. Since the eye surgeon is singular and specific, we will use the definite article "the" in the given blank.

168. Option (4) is correct.
The blank requires a quantifier to indicate the number of surgeons. Little is used with an uncountable noun. Any is used in interrogative and negative sentences.

More is used in the comparative degree. As the blank is succeeded by countable noun we will use "Few" in the given blank.

169. Option (1) is correct.
Different types of surgery involve different types of instruments that are designed for use in those surgeries. Similarly, Lasik surgery also needs a particular kind of instruments. But the sentence in the passage intends to say no particular instrument was available for Lasik surgery. Thus, we will use "specific" in the given blank.

170. Option (4) is correct.
The sentence in the passage intends to say no particular instrument was available for Lasik surgery. So, Dr. Banaji designed a series of instruments to make his surgery efficient or we can say to do things without mistakes which means he wanted things perfect. Thus, the blank requires an adjective like "perfect."

171. Option (3) is correct.
"In" is used to indicate a location (enclosed space). "At" is used to indicate a point of a place. "To" is used to indicate a direction. We use by to talk about measurements, and increase and decrease in amounts. Dozen is a unit of measure and to represent selling in terms of unit of measure we use preposition "by".

172. Option (4) is correct.
"Gaudy" means extravagantly bright or showy, typically so as to be tasteless. Example: "Silver bows and gaudy ribbons." Flashy is the synonym of gaudy.

173. Option (3) is correct.
"Despise" means to feel contempt or a deep repugnance for someone or something. Example: "he despised himself for being selfish." Adore and admire means to appreciate or like someone or something. Abhor means dislike or hate. Abhor is the synonym of despise.

174. Option (4) is correct.
"Wrench" means a sudden violent twist or pull or a feeling of sadness or distress caused by one's own or another's departure. Example: "It will be a real wrench to leave after eight years." "Reject" means to disapprove. "Deter" means to stop. "Wrest" means to forcibly pull (something) from a person's grasp. Wrest and wrench are synonyms.

175. Option (4) is correct.
A person who is trained for travelling into space is called "astronaut." A physicist is an expert in or student of physics. A pilot is a person who operates the flying controls of an aircraft. A scientist is a person who is studying or has expert knowledge of one or more of the natural or physical sciences.

176. Option (3) is correct.
"Depredation" means an act of attacking or plundering. Example: "They were protecting grain from the depredations of rats and mice." Plunder, devastation, and pillage are close meaning words of depredation. "Construction" is the antonym to depredation.

177. Option (3) is correct.
Harsh or discordant sound is known as "cacophony." "Monotony" means lack of variety and interest; tedious repetition and routine. Harmony means the quality of forming a pleasing and consistent whole. Symphony means an elaborate musical composition for full orchestra, typically in four movements, at least one of which is traditionally in sonata form.

178. Option (1) is correct.
The dates when days and nights are of equal length are called "equinoxes." "Solstice" means the time or date (twice each year) at which the sun reaches its maximum or minimum declination, marked by the longest and shortest days. "Eclipse" means an obscuring of the light from one celestial body by the passage of another

between it and the observer or between it and its source of illumination. "Stellar" means relating to a star or stars.

179. Option (4) is correct.
The incorrectly spelled word is "beseige." It should be "besiege."

180. Option (1) is correct.
A large bedroom for a number of people in an institution is known as "dormitory". "Auditorium" means a room, hall, or building used for public gatherings.

181. Option (3) is correct.
The misspelled word is "tyrrany." It should be "tyranny."

182. Option (2) is correct.
"Fasten" means to attach especially by pinning, tying, or nailing. The synonym of fasten is to fix.

183. Option (3) is correct.
"None but" means only. "Such that" is used to express result, effect or consequence. "No less" is used to emphasize how surprising or unexpected something is. "Only if" emphasizes that the given one condition must be met for the result to happen. The given sentence expresses no condition, not surprising and shows no result. We can say "only you deserve the credit."

184. Option (2) is correct.
Arrangement of events according to the dates of occurrence is known as "chronology." "Analogy" means a comparison between one thing and another, typically for the purpose of explanation or clarification. Example: "An analogy between the workings of nature and those of human societies." "Trilogy" means a group of three related novels, plays, films, etc. Example: In all three parts of the trilogy, the performers are resisting acting but are representing and not merely presenting. "Theology" means the study of the nature of God and religious belief.

185. Option (1) is correct.
The correctly spelled word is "commotion."

186. Option (3) is correct.
"Menace" means a person or thing that is likely to cause harm; a threat or danger. Example: "A new initiative aimed at beating the menace of drugs." Peril or threat are synonyms of menace. The antonym of "menace" is "comfort."

187. Option (1) is correct.
The sentence uses "swarm" to represent a group of dogs. This is incorrect. A group of dogs is known as "a pack." Thus, "swarm" should be replaced by "pack."

188. Option (1) is correct.
The given sentence has an error of subject-verb agreement. "One of the" is followed by a plural noun and a singular verb. The verb "seem" is a plural verb, the singular form of it will "seems."

189. Option (2) is correct.
The given sentence has an error of subject-verb agreement. Each, every, anyone, someone, no one, somebody, everybody, either, and neither are considered singular and they are followed by a singular verb. Thus, in the given sentence, have will be replaced with has.

190. Option (3) is correct.
Rise to the occasion means to perform better than usual in response to a special situation or event. Example: "When it comes to the finals, they can rise to the occasion."

191. Option (1) is correct.
We use when to connect two single actions occurring at the same time/ one immediately after another. To emphasize (focus) that an action was in progress at a specific time, use while + a progressive tense. Here in this context usage of "while" is correct.

192. Option (2) is correct.
The sentence intends to say that the person wants to live on his own terms. Hence, the blank needs an adjective. Desirous (adjective) is the only word from the given options that fits the structure of the given sentence. The other options cannot be followed by "of + gerund."

193. Option (1) is correct.
The meaning of Kith and kin is friends and relatives. Example: They invited all their kith and kin to their new home.

194. Option (3) is correct.
'Strike while the iron is hot' is a figurative phrase used to mean that someone should consider time crucial to something, or act while there is still time and opportunity to do so.

195. Option (3) is correct.
The question tests your vocabulary. "Distract" means to prevent (someone) from concentrating on something. Example: "Don't allow noise to distract you from your work." Divert is a synonym of distract. Beguile means charm or enchant (someone), often in a deceptive way. Example: "He beguiled the voters with his good looks." Perplex means to make (someone) feel completely baffled. Example: "She was perplexed by her husband's mood swings."

196. Option (3) is correct.
Refer to the lines, "Kronos heard a prophecy that his son would overthrow him as he did to Uranus. In an effort to avert fate, he ordered Rhea to allow him to devour each of the children upon their birth".

197. Option (2) is correct.
Refer to the line "Kronos eventually overthrew Uranus and ruled during a mythological Golden Age. Over time, he and Rhea had twelve children who would become the Olympian Gods". From these lines, we can derive option (2).

198. Option (1) is correct.
Refer to the line, "Once he became a man, he challenged his father's rule, forcing Kronos to regurgitate the rest of his swallowed children." From this line, we can understand that Zeus, the youngest and hidden son of Kronos, challenged his father as he grew up and forced him to vomit (regurgitate) his siblings.

199. Option (2) is correct.
The passage mentions that "Greek gods were immortal beings." As a result, the statement that Greek gods were mortal is incorrect.

200. Option (1) is correct.
It is mentioned in the passage, "Religious festivals and ceremonies were held throughout the year, and animal sacrifices and votive offering were popular ways to appease and worship the God." The passage is about the Greek religious tradition. Thus, it is clear that animal sacrifices were made in Greece to worship the God.

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