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## 22 JANUARY 2023

Marks: 600
Time: 180 minutes


## SECTION-ENGLISH

Directions (Questions 1 to 7). In these questions, out of the four alternatives, choose the one whic best expresses the meaning: -

| 1. | Baffle |  |  |
| :--- | :--- | :--- | :--- |
|  | 1.bewilder | 2.suggest | 3.soothe 4. clear |

2. Deconstruct
1.persuade 2. decipher 3. immensity 4. spiritualize
3. Conspiracy
4. secret plan 2. ignorance 3.honesty 4.sincere
5. Commotion
6. order 2. confusion 3.calm 4. silent
7. Acumen
1.mistake 2. timid 3. ingenuity 4 .denseness
8. Abandon
1.to stay 2. concerned 3.to leave 4.to stick by
9. Contribute
1.refuse 2.misleading 3. to give something 4.receive

Directions (Questions 8 to 11). In these questions, out of the four alternatives, choose the one which can be the appropriate substitute
8 . The highest point or end of something.

1. communication 2. defeat 3.culmination 4. abdication
2. A 14 line poem with variable rhyme scheme, which reflects a single sentiment.
3. allegory 2 . sonnet 3 . limerick 4. elegy
4. The killing of one person by another.
5. procedure 2. homicide 3. chronology 4. detective
6. The stage of human, social, cultural development and organization that is considered most advanced.
1.civilization 2. region 3. settlement 4. utopia

Directions (Questions 12 to 16). Fill in the blanks with a word from amongst the choices given.
12. Owing to certain $\qquad$ the flight to Delhi is cancelled.
$\begin{array}{lll}\text { 1. contrast } & 2 \text {. rigidity } & 3 \text {. circumstances } \\ 4 \text {. regulations }\end{array}$
13. You will find the room along the $\qquad$ down the steps.

1. garden 2. attic 3.hall 4. corridor

| 14. | The instructions were not just _ _ |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | 1.arduous | 2. confusing | 3. demanding | 4. hard |, they were misleading.

Directions (Questions 17 to 18). Find the correctly spelt word out of the four alternatives
17. 1. playrite 2. playwrit 3. playwright 4. Playright
18. 1.neauseous 2. nauseous 3. nouseous 4. Naucous

Directions (Questions 19 to 23). Four alternatives are given for the idiom/phrase in italics in the sentence. Choose the one which best expresses the meaning of the idiom/phrase
19. Sam called it a day after working on the project arduously.

1. tired 2. playful 3. lazy 4.stop working on something
2. They finally saw eye to eye on the business deal.
1.arguing 2. disagree about something 3. agreeing with someone 4. being obstinate
3. Everyone took hours to decode the password but Ajay did it like a cakewalk.
1.simple task 2. fast work 3. good work 4. easy task
4. When pigs fly he will tidy up his room.
5. something that will rarely happen 2 . something that will happen often 3 . something that will happen 4. something
6. I go for a trek once in a blue moon.
7. an event that happens regularly 2. an event that happens often 3 . an event that happens infrequently 4. an event
Directions (Questions 24 to 27). In these questions, there are four alternatives, choose the one which is opposite to the meaning of the given word.
8. Ethics
9. ideals 2. devious 3. mindful 4.immoral
10. Corrupt
11. dishonest 2. regular 3. helpful 4.shrewd
12. Anonymous
1.known 2.signed 3.identified 4. unnamed
13. Warrior
1.coward 2. soldier 3.gentleman 4.starter

Directions (Questions 28 to 29). A part in the following sentences is underlined, which may or may not be correct. Improve the sentence by choosing one of the options. If no improvement is possible choose the option accordingly.

| 28. | The opponents sat next to each other. |
| :--- | :--- |
|  | 1. on 2 . opposite <br> 3. no improvement 4. beside |

29. The scientist looked through the microscope.
30. into 2. from 3. no improvement 4. across

Directions (Questions 30 to 32). Reorder P, Q, R, S to make meaningful sentences.
30. A bird

P : is worth $\quad \mathrm{Q}$ : two in $\quad \mathrm{R}$ : the bush S : in the hand

1. PQRS 2. SPQR 3.SQPR 4. RSPQ
2. The police

P : last night. $\quad \mathrm{Q}$ : are asking $\quad \mathrm{R}$ : about the incident S : that happened

1. QRSP 2. PQRS 3.PSRQ 4. RQPS
2. Ashish,
$P$ : will you get $\quad \mathrm{Q}:$ if you think $\quad \mathrm{R}$ : too hard S : a headache
3. PSRQ 2.QSPR 3. QPRS 4.PSQR

Directions (Questions 33 to 40). In these questions, you have two brief passages with four questions following each passage. Read the passage carefully and choose the best answer out of th four alternatives

## PASSAGE 1

Women empowerment refers to making women powerful to make them capable of deciding for themselves. Women have suffered a lot through the years and were treated as almost non-existent. It was as if all the rights belonged to men even something as basic as voting. As the times evolved, women realized their power. Thereon began the revolution for women empowerment. It made them aware of their rights and how they must make their own place in society rather than depending on a man.
Education for girls must be made compulsory so that women can become literate to make a life for themselves.
Women must be given equal opportunities in every field, irrespective of gender. Moreover, they must also be given equal pay. We can empower women by abolishing child marriage. Various programs must be held where they can be taught skills to fend for themselves in case they face financial crisis.
33. What should be made compulsory for women?

1. exercise 2.sports 3. house hold chores 4. education

| 34. | Meaning of literate <br> 1. able to write 2.able to read$\quad$ 3. able to read and write $\quad$ 4. able to see |
| :---: | :--- | :--- | :--- |
| 35. | How were women treated? <br> 1. as if they were non-existent $\quad$ 2. like doormats $\quad$ 3. like queens 4.like children |
| 36. | Women empowerment is <br> 1. making women fearful <br> themselves 3. making women strong $\quad$ 2. making women powerful to make them capable of deciding fc <br> 4.making women meek |

## PASSAGE-2

Mithila painting (or Madhubani art) is a style of painting practiced in the Mithila region of India and Nepal. Artists create these paintings using a variety of mediums, including their own fingers, or twigs, brushes, nib-pens, and matchsticks. The paint is created using natural dyes and pigments. The paintings are characterised by their eye-catching geometrical patterns. There is ritual content for particular occasions, such as birth or marriage, and festivals.
37. Mithila painting is a style of painting practiced in

1. India and Nepal.
2. India and Bhutan
3. Sri Lanka, India and Nepal.
4. India and Bangladesh.
5. The paintings are characterized by their eye-catching
6. geographical patterns.
7. hexagonal patterns.
8. geometrical patterns.
9. mathematical patterns.
10. The paint is created using $\qquad$
1.natural dye and pigments 2.arcylic paints 3. stone powder 4. water colour
11. Mithila paimting is also known as $\qquad$
1.warali art 2. madhubani 3. tanjore 4. lepakshi

## SECTION-MATHEMATICS

| SECTION-MATHEMATICS |  |
| :---: | :---: |
| 41. | Arun scores $70 \%$ in English and $80 \%$ in Mathematics. What should he score in Science to get an overall percentage of $78 \%$ ? <br> $1.78 \%$ <br> 2. $80 \%$ <br> 3. $82 \%$ <br> 4. $84 \%$ |
| 42. | If $\frac{x}{y}=4$, where $y \neq 0$, what percent of $x$ is $2 x-y$ ? <br> 1. $125 \%$ <br> 2. $160 \%$ <br> 3. $175 \%$ <br> $4.200 \%$ |
| 43. | If $2494 \div 14.5=172$, then $24.94 \div 1.45$ is <br> 1. 0.172 <br> 2. 1.72 <br> 3. 17.2 <br> 4. 172 |
| 44. | For what value of $x$ will $(11.98 \times 11.98+11.98 \times x+0.02 \times 0.02)$ be a perfect square? <br> 1. 0.02 <br> 2. 0.2 <br> 3. 0.04 <br> 4. 0.4 |
| 45. | $\frac{4.2 \times 4.2-1.9 \times 1.9}{2.3 \times 6.1}$ equals <br> 1. 0.5 <br> 2. 1 <br> 3. 20 <br> 4. 22 |
| 46. | If the HCF of two numbers is 16 , then their LCM could be <br> 1. 162 <br> 2.167 <br> 3.192 <br> 4. 197 |
| 47. | A boy saves Rs 4.65 every day. The least number of days in which he will be able to save an exact number of rupees (whole number) is <br> 1. 20 <br> 2. 24 <br> 3. 28 <br> 4.30 |
| 48. | A and B together have Rs 1210. If $\frac{4}{15}$ of A's share is equal to $\frac{2}{5}$ of B's share, how much does B have? $\begin{array}{llll} \text { 1. Rs } 460 & \text { 2. Rs } 484 & \text { 3. Rs } 550 & \text { 4. Rs } 664 \\ \hline \end{array}$ |
| 49. | If $\frac{a^{3}+3 a b^{2}}{b^{3}+3 a^{2} b}=\frac{63}{62}, a: b$ equals <br> 1. 2: 3 <br> 2. 1: 3 <br> 3. 3: 2 <br> 4. $3: 1$ |
| 50. | The value of $k$ for which 2 is a zero of the polynomial $p(x)=5 x^{2}+3 x-4 k$ is <br> 1. $\frac{15}{2}$ <br> 2. $\frac{13}{2}$ <br> 3. $\frac{11}{2}$ <br> 4. None of these |
| 51. | If $\frac{x}{b-c}=\frac{y}{c-a}=\frac{z}{a-b}$, then the value of $a x+b y+c z$ is <br> 1. 0 <br> 2. -1 <br> 3. 1 <br> 4. $x y z$ |
| 52. | A quadratic polynomial whose zeroes are 3 and $\frac{1}{4}$ is <br> 1. $2 x^{2}+13 x-3$ <br> 2. $4 x^{2}+13 x-3$ <br> 3. $4 x^{2}-13 x-3$ 4. $4 x^{2}-13 x+3$ |


| 53. | The pair of linear equations $x=0$ and $x=4$ has <br> 1. No solution 2. One solution <br> 3. Two solutions <br> 4. Infinitely many solutions |
| :---: | :---: |
| 54. | A father's age is six times his son's age. Four years hence, the age of the father will be four times the son's age. The present age of the son and the father respectively are <br> 1.4 years \& 24 years 2.5 years \& 30 years 3.6 years \& 36 years 4.3 years \& 24 years |
| 55. | Rajesh can row a boat 4 km upstream in 2 hours and 20 km downstream in 2 hours. The speed of boat in still water and the speed of stream respectively are <br> 1. $10 \mathrm{~km} / \mathrm{hr} ; 2 \mathrm{~km} / \mathrm{hr}$ <br> $2.6 \mathrm{~km} / \mathrm{hr} ; 4 \mathrm{~km} / \mathrm{hr}$ <br> $3.6 \mathrm{~km} / \mathrm{hr} ; 2 \mathrm{~km} / \mathrm{hr}$ <br> 4. $10 \mathrm{~km} / \mathrm{hr} ; 4 \mathrm{~km} / \mathrm{hr}$ |
| 56. | The values of $k$ for which the equation $2 x^{2}-k x+k=0$ has equal roots is/are <br> 1. 0 <br> 2. 2,4 <br> 3.8 <br> $4.0,8$ |
| 57. | A bus takes three hours less for a journey of 360 km if its speed is increased by $10 \mathrm{~km} / \mathrm{hr}$ from its original speed. Its original speed is <br> $1.50 \mathrm{~km} / \mathrm{hr}$ <br> 2. $30 \mathrm{~km} / \mathrm{hr}$ <br> 3. $20 \mathrm{~km} / \mathrm{hr}$ <br> $4.70 \mathrm{~km} / \mathrm{hr}$ |
| 58. | If $\tan (A+B)=\sqrt{3}$ and $\sin (A-B)=\frac{1}{2}, 0^{\circ} \leq A, B \leq 90^{\circ}$, then A and B are respectively equal to <br> 1. $30^{\circ}$ and $30^{\circ}$ <br> 2. $45^{\circ}$ and $30^{\circ}$ <br> 3. $45^{\circ}$ and $15^{\circ}$ <br> 4. $45^{\circ}$ and $60^{\circ}$ |
| 59. | If $\frac{\tan ^{3} \theta-1}{\tan \theta-1}=A \sec ^{2} \theta+B \tan \theta$, then $A+B$ is equal to <br> 1. 1 <br> 2. -1 <br> 3. 2 <br> 4.- 2 |
| 60. | If $\sin A-\cos A=0$, then, the value of $\sin ^{4} A-\cos ^{4} A$ is <br> 1. 2 <br> 2. 1 <br> 3. $\frac{3}{4}$ <br> 4. 0 |
| 61. | From a point on the ground at an airport, an observer sees an aeroplane at a distance of 12 km making an angle of elevation of $60^{\circ}$. The height of the plane above the ground is <br> 1. $6 \sqrt{3} \mathrm{~km}$ <br> 2. $4 \sqrt{3} \mathrm{~km}$ <br> 3. $3 \sqrt{3} \mathrm{~km}$ <br> 4. $2 \sqrt{3} \mathrm{~km}$ |
| 62. | In what ratio must a shopkeeper mix two varieties of rice costing Rs 15 and Rs 20 per kilogram respectively, so as to get a mixture worth Rs 16.50 per kilogram? <br> 1. 3:7 <br> 2. 5:7 <br> 3. 7:3 <br> 4. 7:5 |


| 63. | 48 men, by doing 8 hours of work every day, can dig a tunnel 200metre long, 3 metres wide \& 2 metres deep in 10 days. Then, 10 men, by doing 6 hours of work every day can dig a tunnel 100 metres long, 4 metres wide \& 3 metres deep in <br> 1. 100 days <br> 2. 60 days <br> 3. 120 days <br> 4. 64 days |
| :---: | :---: |
| 64. | If $p=\frac{4 x y}{x+y}$, then the value of $\frac{p+2 x}{p-2 x}+\frac{p+2 y}{p-2 y}$ is <br> 1. 0 <br> 2. -1 <br> 3. 2 <br> 4. 3 |
| 65. | If $\frac{a}{b+c}=\frac{b}{c+a}=\frac{c}{a+b}$ and $a+b+c=0$, then each ratio is equal to <br> 1. 0 <br> 2. 1 <br> 3. -1 <br> 4. 2 |
| 66. | The positive square root of $\sqrt{\left(3 x^{2}+6\right)}=9$ is <br> 1. 3 <br> 2. 4 <br> 3. 5 <br> 4. 6 |
| 67. | The $17^{\text {th }}$ term of am A.P exceeds its $10^{\text {th }}$ term by 14 . Then, the common difference is <br> 1. 1 <br> 2. 2 <br> 3. 3 <br> 4. 4 |
| 68. | If $\triangle A B C \sim \triangle P Q R$ and the perimeter of $\triangle A B C$ is 32 cm , perimeter of $\triangle P Q R$ is 48 cm and $P R=6 \mathrm{~cm}$, then, length of $A C$ is <br> 1.9 cm <br> 2. 4 cm <br> 3. 6 cm <br> 4. 8 cm |
| 69. | A shopkeeper marks his goods $25 \%$ above the cost price and allows his customers a discount of $\frac{25}{2} \%$. His profit, then, is <br> 1. $8 \%$ <br> 2. $8.5 \%$ <br> 3. $9.625 \%$ <br> 4. $9.375 \%$ |
| 70. | A building casts a shadow 50 m long at a time when a tree which is 6 m tall casts a shadow 4 m long. The height of the building is <br> 1. 75 m <br> 2. 100 m <br> 3. 150 m <br> 4. 50 m |
| 71. | The number of three-digit numbers divisible by 7 are <br> 1. 100 <br> 2. 128 <br> 3. 127 <br> 4. 125 |
| 72. | The radii of two circles are 13 cm and 6 cm . The radius of a circle whose circumference is equal to the sum of the circumferences of the above two circles is <br> 1.9 cm <br> 2. 19 cm <br> 3. 25 cm <br> 4.32 cm |


| 73. | A cylindrical pencil sharpened at one end is a combination of <br> 1. A cone and a cylinder <br> 2. A frustum of a cone and a cylinder <br> 3.A hemisphere and a cylinder <br> 4. Two cylinders |
| :---: | :---: |
| 74. | Rs 366 is to be divided among A, B and C in such a way that three times A's share is equal to four times B's share and seven times C's share. Then B's share is <br> 1. Rs 168 <br> 2.Rs 366 <br> 3. Rs 126 <br> 4. Rs 72 |
| 75. | A mixture of 150 litres of milk and water contains $20 \%$ water. The amount of water that must be added to dilute the mixture to $25 \%$ water is <br> 1. 7 litres <br> 2. 10 litres <br> 3. 15 litres <br> 4. 9 litres |
| 76. | The number that must be subtracted from each of $23,30,57$ and 78 so that the remainders are in proportion is <br> 1. 3 <br> 2. 4 <br> 3. 5 <br> 4. 6 |
| 77. | If y is the mean proportional between x and z , then the mean proportional between $\left(x^{2}+\right.$ $\left.y^{2}\right)$ and $\left(y^{2}+z^{2}\right)$ is <br> 1. $x z+z y$ <br> 2. $x y-z y$ <br> 3. $x+z$ <br> 4. $x y+z y$ |
| 78. | The probability of getting a rotten apple from a lot of 800 apples is 0.035 . Find the number of rotten apples in the lot. <br> 1. 14 <br> 2. 18 <br> 3. 20 <br> 4. 28 |
| 79. | The distance between points whose coordinates are $P(\cos \alpha,-\sin \alpha)$ and Q $(-\cos \alpha, \sin \alpha)$ is <br> 1. 1 unit <br> 2. 2 units <br> 3. 4 units <br> 4. 8 units |
| 80. | An athlete runs on a circular track of radius 49 m and covers a distance of 6160 m . The number of rounds he has had to take along the track to cover the distance is <br> 1. 5 <br> 2. 10 <br> 3. 15 <br> 4. 20 |
| 81. | If the diameter of a sphere is doubled, then the surface area of the resultant sphere with respect to the original sphere is <br> 1. same <br> 2. doubled <br> 3. tripled <br> 4. four times |


| 82. | If the mean of the following distribution is 6, find the value of $p$ |
| :---: | :---: |
|  | x 2 4 6 10 $\mathrm{p}+5$ <br> f      |
|  | f 3 2 3 1 2 |
|  | $\begin{array}{llll}1.7 & 2.6 & 3.5 & 4.4\end{array}$ |
| 83. | A solid iron cuboid of dimension $49 \mathrm{~cm} \times 33 \mathrm{~cm} \times 24 \mathrm{~cm}$ is melted and recast to form a solid sphere. The radius of the sphere is <br> 1. 19 cm <br> 2. 21 cm <br> 3. 23 cm <br> 4. 25 cm |
| 84. | The tops of two poles of height 25 m and 15 m are connected by a wire. If the wire makes an angle of $30^{\circ}$ with the horizontal, the length of the wire is <br> 1. 10 m <br> 2. 15 m <br> 3. 20 m <br> 4. 25 m |
| 85. | If the discriminant of $3 x^{2}+2 x+a=0$ is double of the discriminant of $x^{2}-4 x+2=$ 0 , then the value of $a$ is <br> 1. 2 <br> 2. -2 <br> 3. 1 <br> 4. -1 |
| 86. | A and B can together complete a piece of work in 6 days. A takes 5 days less than B to finish the work alone. Then the number of days taken by $B$ to complete the work alone is <br> 1. 5 days <br> 2. 10 days <br> 3. 15 days <br> 4. 20 days |
| 87. | Which term of the A.P $24,21,18, \ldots \ldots \ldots$...is the first negative term? <br> $1.7^{\text {th }}$ <br> 2. $8^{\text {th }}$ <br> 3. $9^{\text {th }}$ <br> 4. $10^{\text {th }}$ |
| 88. | Two tangents XA and XB drawn from an external point X to a circle with centre O , are inclined to each other at $120^{\circ}$. Then, the measure of $\angle O A B$ is <br> 1. $30^{\circ}$ <br> 2. $60^{\circ}$ <br> 3. $90^{\circ}$ <br> 4. $45^{\circ}$ |
| 89. | In a family of three children, the probability of having at least one boy is <br> 1. $\frac{1}{8}$ <br> 2. $\frac{3}{4}$ <br> 3. $\frac{7}{8}$ <br> 4. $\frac{1}{2}$ |
| 90. | Three horses are tied to three posts placed at the vertices of an equilateral triangular field. The edges of the field measure 10 m each and the length of the rope tied to each horse measures 5 m . The area of the field that cannot be grazed by the horses is (take $\sqrt{3}=1.73$ ) <br> 1. $3.96 \mathrm{~m}^{2}$ <br> 2. $3.54 \mathrm{~m}^{2}$ <br> 3. $3.25 \mathrm{~m}^{2}$ <br> 4. $3.69 \mathrm{~m}^{2}$ |


| 91. | The volumes of two cubes are in the ratio $8: 125$. The ratio of their surface areas is <br> 1. $4: 25$ <br> 2. $2: 5$ <br> 3. 8:125 <br> 4. $16: 25$ |
| :---: | :---: |
| 92. | The marked price of a dress is Rs 1000. After getting two successive discounts, Sheetal buys the dress for Rs 714. If the second discount is $15 \%$, what is the first discount? <br> 1. $12.5 \%$ <br> 2. $15 \%$ <br> 3. $16 \%$ <br> 4. $20 \%$ |
| 93. | The quadratic equation whose roots are real and equal is <br> 1. $2 x^{2}-4 x+3=0$ <br> 2. $x^{2}-4 x+4=0$ <br> 3. $3 x^{2}-5 x+2=0$ <br> 4. $x^{2}-2 \sqrt{2} x+6=0$ |
| 94. | The fourth term from the end of the A.P $-11,-8,-5, \ldots \ldots \ldots .49$, is <br> 1. 23 <br> 2. 43 <br> 3. 40 <br> 4. 58 |
| 95. | The sum of the first 100 natural numbers is <br> 1. 4050 <br> 2. 5050 <br> 3. 5500 <br> 4. 6050 |
| 96. | The remainder when the polynomial $p(x)=2 x^{3}+x^{2}-7 x+4$ is divided by $(x-2)$ is <br> 1.10 <br> 2. 7 <br> 3. 4 <br> 4. -2 |
| 97. | The mean weight of 9 students is 25 kg . If one more student joins the group, the mean weight of the group changes to 27 kg . The weight of the $10^{\text {th }}$ student is <br> 1. 25 kg <br> 2. 35 kg <br> 3.45 kg <br> 4. 55 kg |
| 98. | If $\triangle A B C \sim \triangle D E F$ and $\angle A=32^{\circ}, \angle F=65^{\circ}$, then $\angle B$ is equal to <br> 1. $83^{\circ}$ <br> 2. $62^{\circ}$ <br> 3. $35^{\circ}$ <br> 4. $97^{\circ}$ |
| 99. | The discriminant of the quadratic equation $3 \sqrt{2} x^{2}-\sqrt{3} x-\sqrt{18}=0$ is <br> 1. 50 <br> 2. 75 <br> 3. 60 <br> 4.25 |
| 100. | ABCD is a trapezium with AB 11 DC . The diagonals AC and BD meet at O . If $A O=$ $3 x-19, O C=x-5, B O=x-3$ and $O D=3$, then the value of $x$ is <br> 1. 4 <br> 2. 8 <br> 3. 6 <br> 4. 12 |
| 101. | The coordinates of one end of the diameter of a circle with centre $(3,-1)$ when the other end has coordinates $(4,-8)$ are <br> 1. $(2,6)$ <br> 2. $(6,2)$ <br> 3. $(-2,6)$ <br> 4. $(3,-6)$ |


| 102. | If $\tan \theta+\frac{1}{\tan \theta}=2$, the value of $\cot ^{2} \theta+\frac{1}{\cot ^{2} \theta}$ is <br> 1. 1 <br> 2. 2 <br> 3. 4 <br> 4. 6 |
| :---: | :---: |
| 103. | In a two-digit number, the tens digit is three times the unit's digit. When the number is decreased by 54 , the digits are reversed. The original number is <br> 1. 36 <br> 2. 93 <br> 3. 81 <br> 4. 73 |
| 104. | A shopkeeper buys some books for Rs 80 . If he had bought 4 more books for the same amount, each book would have costed Re 1 less. Then, the number of books he bought is <br> 1.20 <br> 2. 80 <br> 3. 10 <br> 4. 16 |
| 105. | The sides of two similar triangles are in the ratio $4: 9$. The ratio of their areas is <br> 1. 2:3 <br> 2. 3:2 <br> 3.4:9 <br> 4. $16: 81$ |
| 106. | The cost price of a table and a chair together is Rs 880 . If the table costs $20 \%$ more than the chair, then the cost price of the table and chair respectively are <br> 1. Rs 460 and Rs 420 <br> 2. Rs 440 and Rs 400 <br> 3. Rs 520 and Rs 360 <br> 4. Rs 480 and Rs 400 |
| 107. | The area of a sector of a circle of radius 14 cm subtending an angle of $45^{\circ}$ at the centre is <br> $1.71 \mathrm{~cm}^{2}$ <br> 2. $75 \mathrm{~cm}^{2}$ <br> 3. $77 \mathrm{~cm}^{2}$ <br> 4. $154 \mathrm{~cm}^{2}$ |
| 108. | If one zero of the quadratic polynomial $x^{2}+3 x+k$ is 2 , then $k$ is equal to <br> 1. 10 <br> 2. -10 <br> 3. -7 <br> 4. -2 |
| 109. | The value of $p$ for which $2 p,(p+10),(3 p+2)$ are the three consecutive terms of an arithmetic progression is <br> 1.6 <br> 2. -6 <br> 3. 18 <br> 4. -18 |
| 110. | If the common difference of an arithmetic progression is 5 , then the value of $\mathrm{a}_{20}-\mathrm{a}_{15}$ is <br> 1. 15 <br> 2. 20 <br> 3. 25 <br> 4. 30 |
| 111. | The sum of the exponents of the prime factors of 429 is <br> 1. 1 <br> 2. 2 <br> 3. 3 <br> 4. 4 |


| 112. | If the area of a sector of a circle is $5 / 36$ times the area of the circle, the angle of the sector is <br> 1. $50^{\circ}$ <br> 2. $100^{\circ}$ <br> 3. $120^{\circ}$ <br> $4.360^{\circ}$ |
| :---: | :---: |
| 113. | The value of $\cot ^{2} \theta-\frac{1}{\sin ^{2} \theta}$ is <br> 1. 0 <br> 2. 1 <br> 3. -1 <br> 4. 2 |
| 114. | ABC is a right-angled triangle, right angled at C. If $a, b$ and $c$ are the length of the sides opposite $\angle A, \angle B$ and $\angle C$, and $p$ is the length of the perpendicular from C to AB , then the value of $\frac{1}{a^{2}}+\frac{1}{b^{2}}$ is equal to <br> 1. $p^{2}$ <br> 2. $\frac{2 a b}{p}$ <br> 3. $\frac{p}{a b}$ <br> 4. $\frac{1}{p^{2}}$ |
| 115. | When three coins are tossed simultaneously, the probability of getting at most 2 heads is <br> 1. $\frac{3}{4}$ <br> 2. $\frac{1}{4}$ <br> 3. $\frac{7}{8}$ <br> 4. $\frac{1}{8}$ |
| 116. | Marks obtained $>0$ $>10$ $>20$ $>30$ $>40$ $>50$ <br> Number of students 63 58 55 51 48 42 <br> The frequency of the class $30-40$ is <br> 1. 51 <br> 2. 15 <br> 3. 5 <br> 4. 3 |
| 117. | A tent is in the form of a cylinder up to a height of 4 m and then conical above it. If its diameter is 105 m and the slant height of the conical part is 40 m , the total area of canvas required to make the tent is <br> 1. $7920 \mathrm{~m}^{2}$ <br> 2. $7820 \mathrm{~m}^{2}$ <br> 3. $7620 \mathrm{~m}^{2}$ <br> 4. $7290 \mathrm{~m}^{2}$ |
| 118. | The area of the largest triangle that can be inscribed in a semicircle of radius ' $a$ ' cm is <br> 1. $2 \mathrm{a} \mathrm{cm}^{2}$ <br> 2. $\mathrm{a}^{2} \mathrm{~cm}^{2}$ <br> 3. $\pi \mathrm{a} \mathrm{cm}^{2}$ <br> 4. $2 \pi \mathrm{a} \mathrm{cm}^{2}$ |
| 119. | If $57 x+73 y=260$ and $73 x+57 y=130$, then $(x+y)$ is equal to <br> 1. 1 <br> 2. 3 <br> 3.7 <br> 4. 10 |
| 120. | The ratio in which the $y$ axis divides the join of the points $A(-2,1)$ and $B(7,4)$ is <br> 1. 2:7 <br> 2. 7:2 <br> 3. 2:5 <br> 4. 3:2 |

## SECTION-SOCIAL STUDIES

| 121. | Consider the following statements. <br> (a) The Election commission is an independent and powerful body. <br> (b) Chief Election Commissioner is appointed by the President of India. <br> (c) Once appointed, the Chief Election Commissioner is answerable to the President. <br> (d) When on election duty, government officers work under the control of the government. <br> Which of the statement(s) given above is/are CORRECT? <br> 1. a \& b <br> 2. b \& c only <br> 3. a \& d only <br> 4. b only |
| :---: | :---: |
| 122. | Which of the following statement about the accommodation of social diversity is INCORRECT? <br> 1. Rule by majority means that in case of every election, different persons can form a majority. <br> 2. Majority and minority opinions are permanent. <br> 3. Democracy works only if every citizen has a chance of being in majority at some point in time. <br> 4. The majority needs to work with the minority so governments function to represent the general view. |
| 123. | Which one of the following characteristics does NOT describe the Khilafat Movement? <br> (a) Mahatma Gandhi sought to link it to the Non-Cooperation movement <br> (b) It was not supported by the Congress <br> (c) It demanded that the Turkish Sultan must retain control over Muslim sacred spaces in the erstwhile Ottoman empire <br> (d) It was led by Muhammad Ali Jinnah. <br> Select the correct answer using the codes below <br> 1. a only <br> 2. b and c only <br> 3. b and d only <br> 4. c and d only |
| 124. | The Badampahar mines in the Mayurbhanj and Kendujhar districts is situated in which of the following states <br> 1. Jharkhand <br> 2. Karnataka <br> 3.Chhattisgarh <br> 4.Odisha |
| 125. | Which of the following is NOT a characteristic of a federal system? <br> 1. There are two distinct levels of government. <br> 2. There is no separation of powers between the legislative and executive branches of government <br> 3. The responsibilities and powers of each level of government are clearly defined in the written Constitution <br> 4. The Supreme Court is entrusted with the responsibility of interpreting these provisions and arbitrating in matters of dispute. |


| 126. | While watching the news, you hear about a place, of which you had never heard earlier. You want to know more about the place and you want to locate it on the map. <br> Which of the following is/are required for you to be able to locate the place on the map? <br> 1. Only the latitude of the place <br> 2. Only the longitude of the place <br> 3. Both the latitude and longitude of a place 4.Latitude, longitude and altitude of a place |
| :---: | :---: |
| 127. | When and where was the demand for Poorna Swaraj made by the Indian National Congress? <br> 1. Bombay, 1885 <br> 2. Lahore, 1929 <br> 3. Kheda, 1917 <br> 4. Bombay, 1942 |
| 128. | Which of the following aptly defines Zilla Parishad? <br> 1. All the panchayat samitis or mandals in a district together constitute Zilla Parishad. <br> 2. All the panchayat samitis or mandals in a constituency together constitute Zilla Parishad. <br> 3. All the panchayat samitis or mandals in a country together constitute Zilla Parishad. <br> 4. All the panchayat samitis or mandals in a state together constitute Zilla Parishad. |
| 129. | Which one of the following is NOT correctly matched |
| 130. | Which of the following is not a step towards 1992 decentralization? <br> 1.It is constitutionally mandated to hold regular elections of local government bodies. <br> 2.Two Third of all positions are reserved for women. <br> 3.Seats are reserved in elected bodies and the executive heads of these institutions for SC, ST and OBCs <br> 4. State governments are required to share some powers and revenue with local government bodies |
| 131. | Which one of the following statements is not an argument in favour of multipurpose river projects? <br> 1. Multipurpose projects bring water to those areas which suffer from water scarcity. <br> 2. Multipurpose projects by regulating water flow help to control floods. <br> 3. Multipurpose projects lead to large-scale displacements and loss of livelihood. <br> 4. Multipurpose projects generate electricity for our industries and our homes. |


| 132. | Arrange the following in the CORRECT sequence: - <br> i Transporting cloth to the workshops <br> ii Sale in shops and showrooms <br> iii Spinning the yarn <br> iv Weaving of the fabric <br> Options: - <br> 1. i-iv-iii-ii <br> 2. iii-iv-i-ii <br> 3. iv-i-ii-iii <br> 4. iii-iv-ii-i |
| :---: | :---: |
| 133. | Match the following parties with their ideologies |
|  | Political Parties |
|  | A $\quad$ Bhartiya Janata Party $\quad$ i $\quad$ Uniform Civil Code |
|  | B $\quad$ Bahujan Samaj Party $\quad$ ii ${ }^{\text {a }}$ Support new Economic reforms |
|  | C |
|  | D Communist Party of India iv Represents and secures powers for the Dalits |
|  | 1. A-ii B-i C-iii D-iv <br> 2. A-i B-iv C-ii D-iii <br> 3. A-i B-iv C-iii D-ii <br> 4. A-i B-ii C-iv D-iii |
| 134. | Which one of the following is INCORRECT about the Parliament of India? <br> 1. Parliament consists of President, Lok Sabha, \& Rajya Sabha. <br> 2. All bills originate in the Rajya Sabha. <br> 3. Rajya Sabha cannot be dissolved. <br> 4.Parliament controlS all the money that governments have. |
| 135. | Which of the following options proves that India is a quasi-federal state? <br> I. More powers with Centre <br> III. Equal subjects with Centre and State <br> Options: <br> 1. I, III \& IV <br> 2. I, II \& IV <br> II. Residuary subjects with Centre <br> IV. Currency and Railways with Centre <br> 3.II \& IV <br> 4. III, \& IV |
| 136. | Which of the following statements is CORRECT? <br> 1.Democracies can fully and permanently resolve conflicts among different groups <br> 2.Dictatorships can fully and permanently resolve conflicts among different group <br> 3.No regime can fully and permanently resolve conflicts among different groups <br> 4. Both (1) and (2) |


| 137. | Identify from the following states of India through which the Tropic of Cancer passes and arrange them from East to West: <br> 1. Gujarat 2. West Bengal 3. Uttar Pradesh 4. Jharkhand 5.Madhya Pradesh 6. Bihar 7. Chhattisgarh <br> Select the correct answer using the codes given below: <br> 1. 2-5-7-4-1 <br> 2. 2-4-7-5-1 <br> 3. 3-2-6-7-5 <br> 4.3-7-4-6-2 |
| :---: | :---: |
| 138. | Which of the following statements is INCORRECT about soldiers in World War I? <br> 1.The soldiers led miserable lives in trenches and survived by feeding on the corpse. <br> 2. They faced poisonous gas and enemy shelling and the loss of comrades. <br> 3. All soldiers were ready to die for their country's honour and personal glory. <br> 4. Aggressive propaganda glorified war. |
| 139. | Which of the following sector does not comes under the service sector in India? <br> 1. Real estate 2. Transport 3. Restaurants \& hotels 4.Formation of electronic television |
| 140. | Consider the following statements about Salt Satyagraha: <br> (i) It was a mass Civil disobedience movement. <br> (ii) It saw large-scale participation of women. <br> (iii) Poona pact was signed after Gandhiji called off the movement. <br> (iv) Gandhiji first experimented with satyagraha in South Africa. <br> Which of the statement given above is/are CORRECT <br> 1.i only <br> 2. ii only <br> 3. i, ii \& iii only <br> 4.i, ii \& iv only |
| 141. | Which among the following is NOT a basic structure of the Constitution of India? <br> 1. Independence of Judiciary 2. Fundamental Rights 3. Federalism <br> 4. Right of the Parliament to amend any part of the Constitution |
| 142. | Identify the structure with the help of information given in the box <br> (a) Well-developed rooftop rainwater harvesting system <br> (b) Built underground inside the main house or the courtyard. <br> (c)Connected to the sloping roofs of the houses through a pipe. <br> 1. Baoli <br> 2. Johad <br> 3. Khadins <br> 4. Tankas |
| 143. | Human Development Index (HDI) is constructed with reference to <br> 1. Life expectancy at birth, Gross National Income per capita and infant mortality rate <br> 2. Gross National Income per capita, gross enrolment ratio, and infant mortality rate <br> 3. Life expectancy at birth, Gross National Income per capita, mean years of schooling. <br> 4. Gross National Income per capita, infant mortality rate, literacy rate |


| 144. | Mahatma Gandhi National Rural Employment Guarantee Act 2005 states a guarantee of minimum of $\mathbf{1 0 0}$ days of employment per year. If the government is unable to fulfil these $\mathbf{1 0 0}$ days of employment, the government would have to- $\qquad$ <br> Choose the CORRECT option: <br> 1. Pay the compensation in lieu of these days 2 . Provide another scheme for the same <br> 3. Pay at least $1 / 3$ per cent allowance <br> 4. Provide health care as compensation |
| :---: | :---: |
| 145. | Choose the CORRECT statement regarding National Parties <br> A. A party that secures at least six per cent of the total votes in an election to the Legislative Assembly of a State and wins at least two seats is recognized as a state party. <br> B. A party that secures at least six per cent of the total votes in Lok Sabha elections or Assembly elections in six States and wins at least six seats in the Lok Sabha is recognized as a national party. <br> C. A party that secures at least six per cent of the total votes in an election to the Legislative Assembly of a State and wins at least four seats is recognized as a state party. <br> D. A party that secures at least six per cent of the total votes in Lok Sabha elections or Assembly elections in four States and wins at least four seats in the Lok Sabha is recognised as a national party. <br> Options <br> 1. A \& B <br> 2. A \& D <br> 3. $B \& C$ <br> 4. C \& D |
| 146. | Consider the following statements regarding reserved constituencies <br> (a) Some constituencies are reserved for people who belong to the Scheduled Castes [SC] and Scheduled Tribes [ST]. <br> (b) In the Lok Sabha, 89 seats are reserved for the SC and 59 for the ST. <br> (c) In SC reserved constituency, anyone can stand for election. <br> (d) Only those belonging to the Scheduled Tribes can contest an election from a constituency reserved for ST. <br> Which of the statement given above is/are INCORRECT? <br> 1. a \& b only. <br> 2. b \& c only <br> 3. c \& d only <br> 4. b only |


| 147. | Match the following and select the CORRECT answer using the codes below in the lists: <br> Options <br> 1.1(b), 2(c), 3 (a), 4 (d) <br> 2. 1(b), 2(a), 3 (c) , 4 (d) <br> 3.1(b), 2(a), 3 (d), 4 (c) <br> 4. 1 (a) , 2(c), 3 (d), 4 (b) |
| :---: | :---: |
| 148. | Identify the correct chronological sequence of the following: <br> (i) Round Table Conferences <br> (ii) Quit India Movement <br> (iii) Formation of Indian National Congress <br> (iv) Simon Commission <br> Select the correct answer from the codes given below: <br> 1. (iii), (ii), (iv), (i) <br> 2. (iii), (iv), (i), (ii) <br> 3. (iii), (iv), (ii), (i) <br> 4. (i), (iv), (ii), (iii) |
| 149. | Which of the following statements are CORRECT about Indian Government? <br> (i) The Rajya Sabha is a permanent house and cannot be dissolved. <br> (ii) Lok Sabha controls the Council of Ministers <br> (iii) The President of India is not a part of the Parliament, as she is not a member of either House. <br> (iv)The President of India is same as that of Queen/King of Britain whose functions are mostly ceremonial. <br> Options <br> 1. (i), (ii) and (iv) 2.(i), (ii) and (iii) 3.(i), (iii) and (iv) 4. (i) and (ii) |
| 150. | Which among the following is not a suitable measure of soil conservation? <br> 1. Terrace farming <br> 2. Contour ploughing <br> 3. Ploughing up \& down the slopes <br> 4. Strip cropping |

## END OF PAPER

