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14 JANUARY 2024

Marks: 600   Time: 180 minutes

ROLL NO.:_____	NAME: _____
SIGNATURE: _____	DATE/TIME: _____

	INSTRUCTIONS FOR THE CANDIDATES
1.	The question booklet contains English Section (Q 1-40), Mathematics Section (Q 41-120) and Social Studies (Q 121-150). All questions are compulsory.
2.	Before attempting the paper carefully read the Instructions on the Answer Sheet (OMR Sheet) supplied separately.
3.	At the start of the examination, please ensure that all pages of your Test Booklet are properly printed; your Test Booklet is not damaged in any manner and contains 150 questions. In case of any discrepancy the candidate should immediately report the matter to the invigilator for replacement of the Test Booklet. No claim in this regard will be entertained at a later stage.
4.	An **OMR Answer Sheet** is being provided separately along with this Test Booklet. Please fill up all relevant entries like Roll Number, Test Booklet Serial No., Centre Number, etc. in the spaces provided on the OMR Answer Sheet and put your signature in the box provided for this purpose.
5.	Make sure to fill the correct Test Booklet Code Serial No. on Side 2 of the OMR Answer Sheet. If the space for the Booklet Code is left blank or more than one Booklet Code is indicated therein, it will be deemed to be an incorrect Booklet Code and the Answer Sheet will not be evaluated. The candidate himself will be solely responsible for all the consequences arising out of any error or omission in writing the test Booklet code.
6.	**This Test Booklet consists of ___ pages containing 150 questions & ___ pages for rough work.** Against each question four alternative choices (1), (2), (3), (4) are given, out of which one is correct. Indicate your choice of answer by darkening the suitable circle with **BLACK/BLUE** pen in the OMR Answer Sheet supplied to you separately. **USE OF PENCIL IS STRICTLY PROHIBITED**. More than one answers indicated against a question will be deemed as incorrect response.
7.	The maximum marks are 600. Each question carries four (4) marks. **There will be negative marking of minus one (-1) for each incorrect answer.**
8.	Do not fold or make any stray marks on the OMR Answer Sheet. Any stray mark or smudge on the OMR Answer Sheet may be taken as a wrong answer. Any damage to the OMR Answer Sheet may result in disqualification of the candidate.
9.	**On completion of the test, candidate must hand over the OMR Answer Sheet to the Invigilator on duty in the room/hall. The Question Booklet may be retained.**
10.	**Use of Mobile phones, wrist watches and calculators etc. are not allowed.**
11.	**Keep all your belongings outside the Examination Hall. Do not retain any paper except the ADMIT CARD.**

SECTION-ENGLISH
Directions (Questions 1 to 10). In these questions, you have two brief passages with five questions following each passage. Read the passage carefully and choose the best answer out of the four alternatives

PASSAGE-1

Keep your watch accurate. For some people, moving up the time on their watch will help them get up earlier. For others, they will remember that the time on the watch is wrong and will disregard it altogether. It may be helpful to set your watch just two minutes ahead instead of five or ten. Keep a clock, phone, computer or anything that displays time in each room of your house. One of the easiest ways to run late is simply by not realizing that the time is passing as quickly as it is. Set all your clocks and watches to the same time. Don't be an optimist. Things usually take longer than what you'd expect, even without major delays. If you have a dinner appointment at 7:30 p.m., don't think you can work till 7 p.m., then take a bath, dress and reach on time. Realistically, calculate the time you will take at each step and then add 10 minutes more to allow for unexpected delays, or you cannot get your job done in time.

Wake up when you are supposed to wake up. Don't hit the snooze button, keep on lying in bed, or watch TV at the very start of your day. May be you can try even setting your clock 10 minutes earlier than you need. If you have difficulty with this, move your alarm clock to somewhere away from your bed; that way, you will have to get up to turn it off. Commit yourself to being 15 minutes early for everything. If you have to reach your place of work at 8:00, don't even tell yourself this. Just tell yourself, "I have to be at work at 7:45." If you do this, you will be on time even with little unforeseen delays. You will be on time even with a traffic jam.

1.	The narrator does not deny which of the following activity just after waking up: 1. hitting snooze button 2. keep on lying in bed 3. watching TV 4. wake up when you actually have to
2.	It is good to commit yourself _____ for everything. ` 1. to be late 2. to delay 3. to being 15 minutes early 4. to search the last moment
3.	The passage highlights: 1. the value of time 2. the importance of being ahead of time 3. the value of being up to time 4. the value of calculating time
4.	We should be _____ in approach to time management. 1. optimistic 2. pessimistic 3. realistic 4. utopian
5.	One of the major reasons for being delayed is 1. absence of clock, phone or computer 2. overindulging in work 3. not realising that time passes quickly 4. not keeping a margin in the expected time of work

PASSAGE 2

We give undue importance to our health and the treatment of diseases. A large number of medicines treat only the symptoms of the disease, and not the root cause. In fact, the cause of many chronic ailments is still being researched. It is here that Yoga therapy comes to our assistance. Yoga emphasizes treatment of the root cause of an ailment. It works in a slow, subtle and miraculous manner. Modern medicine can claim to save a life at a critical stage, but, for complete recovery and regaining of normal health, one must believe in the efficiency of Yoga therapy.

The Yogic way of life includes a code of ethics, regulations, discipline, combined with prayer and meditation. Even a discussion of these subjects helps one relieve mental tensions and change attitudes. Simple asanas help to stretch and relax the whole body and release tensions. The sincere practice of Yoga postures is beneficial for the mind and body.

The continued practice of Yoga has a profound effect on the inner dimensions of life. Yoga aims at developing the mental, physical, spiritual and emotional faculties. Other forms of physical exercises, like aerobics, assure only physical well-being. They have little to do with the development of the soul and mind.

6.	How does yoga therapy work? 1. helps one relieve mental tensions and change attitudes 2. helps in developing mental, physical, spiritual and emotional faculties 3. has a code of ethics, regulations, discipline, combined with prayer and meditation 4. in a slow, subtle and miraculous manner
7.	How is yoga different from other forms of treatment? 1. It claims to save life at a critical stage. 2. It treats the symptoms of the disease. 3. It treats the root cause of the disease. 4. It assures physical well-being.
8.	What does the phrase 'Chronic ailments' refer to? 1. diseases which affect the mind 2. diseases that are recurrent and last long 3. diseases which affect the body 4. diseases which get cured in a short time
9.	Why is yoga better than physical exercise? 1. it assures physical well-being 2. it aims at developing mental, physical, spiritual & emotional faculties 3. it does not have anything to do with the development of the mind 4. it relaxes the body
10.	How does sincere practice of yoga benefit us? 1. it is beneficial for the mind and body. 2. it is beneficial to cure diseases 3. it assures physical well-being 4. it combines prayer with meditation
Directions (Questions 11 to 15). Find the correctly spelt word out of the four alternatives	
11.	1. acqueisce 2. acquiesce 3. aquiesce 4. acquiesce
12.	1. ingeinous 2. ingenous 3. ingenious 4. inigenious
13.	1. mischievuous 2. mischeivous 3. misichievous 4. mischievous
14.	1. acommodate 2. accomodate 3. accocmodate 4. accommodate
15.	1. sacrilegious 2. sacrelegious 3. sacrilegius 4. sacrilegius

Directions (Questions 21 to 25). Choose the alternative which best expresses the meaning of the idiom/phrase in *italics* in the sentence.

16.	He was not playing as he was ___*under the weather*___. 1.angry 2. studying 3. unwell 4. obstinate
17.	Rohan took the scolding ___*with a pinch of salt*___. 1. seriously 2. to heart 3. casually 4. was very upset
18.	He goes to school come ___*rain or shine*___ 1. once in a while 2. rarely 3. when called 4. regularly
19.	So many people are trying to quit smoking, I might as well ___*jump on the bandwagon*___. 1. follow the trend 2. join the smokers 3. learnt to like smoking 4. liked the band
20.	In the interview he was ___*beating around the bush*___. 1.answering questions 2. doing well 3. very frank 4. avoiding saying something

Directions (Questions 16 to 20). In these questions, out of the four alternatives, choose the one which best expresses the meaning: -

21.	**Clever** 1. Studious 2. Ingenious 3. Accomplished 4. Knowledgeable
22.	**Adjacent** 1.Opposite 2. Amazing 3. Courageous 4. Closest
23.	**Awful** 1. Chilly 2. Contaminated 3. Tedious 4. Abominable
24.	**Comparing** 1.speaking 2. collating 3. castigating 4. refusing
25.	**Likely** 1.earliest 2.quickest 3.probable 4. injurious

Directions (Questions 26 to 30). In these questions, choose the word which is the closest opposite in meaning of the given word.

26.	Placid 1. calm 2. sharp 3. adventurous 4.clamorous
27.	Economize 1. save 2. waste 3. hoard 4. Deficient
28.	Abolish 1.establish 2. annul 3. abrogate 4. renounce
29.	Alleviate 1.abate 2.aggravate 3.repungent 4. relieve
30.	Barren 1. sterile 2. desolate 3. coarse 4. fertile

Directions (Questions 31 to 32). In these questions, out of the four alternatives, choose the one whic can be the appropriate substitute	
31.	The lowest moment in a particular situation. 1. zenith 2. nadir 3. apogee 4. Acme
32.	A 5 line poem with a single stanza whose subject is a short tale or description 1. allegory 2. sonnet 3. limerick 4. elegy
Directions (Questions 33 to 34). Fill in the blanks with a word from amongst the choices given	
33.	His mother's health took a _____ for the worse during the winters. 1. beating 2. turn 3. improvement 4. bend
34.	Post elections the Government is _____. 1. constituted 2. declared 3. formed 4. invited
Directions (Questions 35 to 36). Reorder P, Q, R, S to make meaningful sentences.	
35.	P: our gratitude Q: we have R: to them S: to show 1. QPRS 2.QSRP 3. QSPR 4.PSQR
36.	P: had travelled Q: a long way and R: was tired S: last night the old man. 1. SPQR 2. SRPQ 3.SPRQ 4. RQPS
Directions (Questions 37 to 38). Fill the blanks with the appropriate option from the four.	
37.	Time travel _____ become a reality in the near future 1. ought to 2. should 3. could 4. will
38.	However, _____ challenges must be overcome, such as ensuring safety and affordability for all potential time-travellers 1. most 2. much 3. minor 4. many
Directions (Questions 39 to 40). A part in the following sentences is underlined, which may/may not be correct. Improve the sentence by choosing one of the options. If no improvement is possible choose the option accordingly.	
39.	Everyone **remained** silent and no one comes forward for the change. 1. has remained 2. am remained 3. no improvement 4. remains
40.	Rohit and Renu **is planning** to take a vacation after a long time. 1. are planning 2. have planning 3. am planning 4. no improvement

	SECTION-MATHEMATICS
41.	In an examination, a candidate must get 80% marks to pass. If a candidate, who gets 210 marks, fails by 50 marks, find the maximum marks. 1.400 2. 425 3. 325 4. 321
42.	If $\frac{20 + 8 \times 0.05}{40 - y} = 16$, where $y \neq 40$, what is y ? 1. 38.725 2. 38.275 3. 38.425 4.38.575
43.	$3.79 \times 31 + 3.79 \times 37 + 3.79 \times 32$ is equal to 1. 739 2. 379 3. 179 4. 171
44.	If $13324 \div 145 = 91.9$, then what is the value of $133.24 \div 9.19$? 1. 12.5 2. 1.5 3. 4.5 4. 14.5
45.	If $\sqrt{2916} = 54,$ then what is the value of $\sqrt{29.16} + \sqrt{0.2916} + \sqrt{0.002916} + \sqrt{0.00002916}$? 1. 0.594 2. 5.9994 3. 5.994 4. 5.004
46.	If $1.5x = 0.05y$, then what is the value of $\frac{y - x}{y + x}$? 1. 0.935 2.1.935 3.0.995 4. 1.995
47.	The traffic lights at three different road crossings change after every 48 sec., 72 sec., and 108 sec. respectively. If they all change simultaneously at 8:20:00 hrs, then in how much time will they again change simultaneously? 1. 212 sec 2. 232 sec 3. 432 sec 4. 302 sec
48.	In a school, 391 boys and 323 girls have been divided into the largest possible equal classes, so that each class of boys numbers the same as each class of girls. What is the number of classes? 1. 19 2. 23 3. 17 4. 7429
49.	A sum of Rs. 3115 is divided among A, B and C such that if Rs. 25, Rs. 28 and Rs. 52 be diminished from their shares respectively, the remainders shall be in the ratio of 8 : 15 : 20, then A's share is 1. Rs 585 2. Rs 675 3. Rs 545 4. Rs 785
50.	The value of k for which - 4 is a zero of the polynomial $p(x) = x^2 - x - (2k + 2)$ is 1. 6 2. -6 3. -9 4. 9
51.	The tops of two poles of heights 20 m and 14 m are connected by a wire. If the wire makes an angle of $30°$ with the horizontal, then the length of the wire is 1. $6\,m$ 2. $8\,m$ 3. $10\,m$ 4. $12\,m$
52.	If $x = \dfrac{\sqrt{(m+n)} + \sqrt{(m-n)}}{\sqrt{(m+n)} - \sqrt{(m-n)}}$, n in terms of x and m is equal to 1. $\dfrac{2mx}{x^2+1}$ 2. $\dfrac{2mn}{x^2+1}$ 3. $\dfrac{mx}{x^2+1}$ 4. $\dfrac{2mx}{x+1}$

53.	A contractor undertakes to dig a canal 12 km long in 350 days and employs 45 men. After 200 days he finds that only 4.5 km of the canal has been completed. Find the number of extra men he must employ to finish the work in time. 1. 55 2. 60 3. 54 4. 64 days
54.	If $\dfrac{x^2 + y^2}{x^2 - y^2} = 2\dfrac{1}{8}$, then $\dfrac{x^3 + y^3}{x^3 - y^3}$ is 1. $\dfrac{5}{9}$ 2. $\dfrac{5}{3}$ 3. $\dfrac{25}{9}$ 4. $\dfrac{125}{27}$
55.	If $\dfrac{\sqrt{3x+4} + \sqrt{3x-5}}{\sqrt{3x+4} - \sqrt{3x-5}} = 9$, then the value of x is equal to 1. 0 2. 11 3. 7 4. 10
56.	If $x + y = 2z$, then the value of $\dfrac{x}{x-z} + \dfrac{z}{y-z}$ is 1. 3 2. 4 3. 2 4. 1
57.	If the 3rd and the 9th terms of an AP are 4 and –8, respectively, then which term of this AP is zero? 1. 7th term 2. 6th term 3. 5th term 4. 4th term
58.	If $\triangle ABC \sim \triangle RPQ$, AB = 3 cm, BC = 5 cm, AC = 6 cm, RP = 6 cm and PQ = 10 cm, then QR is 1. 9 cm 2. 10 cm 3. 6 cm 4. 12 cm
59.	A trader bought a car at 20% discount on its original price. He sold it at a 40% increase on the price he bought it. What percentage of profit did he make on the original price? 1. 8 % 2. 10 % 3. 12 % 4. 5 %
60.	A vertical stick 20 m long casts a shadow 10 m long on the ground, at the same time a tower casts a shadow 50 m long on the ground, the height of the tower is 1. 75 m 2. 100 m 3. 150 m 4. 50 m
61.	If a + b + c = 10 and ab + bc + ac = 31, then the value of $a^2 + b^2 + c^2$ is 1. 69 2. 162 3. 131 4. 38
62.	A quadratic polynomial whose zeroes are -3 and 4 is 1. $x^2 - x + 12$ 2. $\dfrac{x^2}{2} - \dfrac{x}{2} - 6$ 3. $x^2 + x + 12$ 4. $2x^2 + 2x - 24$
63.	The pair of linear equations $2x + 3y = 4$ and $3x + 4y = 9$ has 1. No solution 2. One solution 3. Two solutions 4. Infinitely many solutions
64.	Father's age is six times the son's age. Four years hence, the age of father will be four times his son. The present age of father is 1. 34 years 2. 35 years 3. 36 years 4. 37 years

65.	Rahul can row a boat 4 km upstream in 1 hour and 32 km downstream in 4 hours. The speed of boat in still water and the speed of stream respectively are 1. 10 km/hr&2 km/hr 2. 6 km/hr&4 km/hr 3. 6 km/hr&2 km/hr 4. 10 km/hr&4 km/hr
66.	For what value of k, the roots of the equation $x^2 + 4x + k = 0$ are real? 1. $k \leq 4$　　　　　　2. $k \geq 4$　　　　　　3. $k < 4$　　　　　　4. $k > 4$
67.	A plane left 30 minutes late than its scheduled time and in order to reach the destination 1500 km away in time, it had to increase its speed by 100 km/h from the usual speed, then its usual speed is 1.　700 km/hr　　　　2. 300 km/hr　　　　3. 200 km/hr　　　　4.500 km/hr
68.	If sin (A + 2B) = $\dfrac{\sqrt{3}}{2}$ and cos (A + 4B) = 0, A > B, and A + 4B ≤ 90°, then A and B are respectively equal to 1. 30° and 15°　　　2. 45° and 30°　　　3.　45° and 15°　　　4. 45° and 60°
69.	If tan A + cot A = 4, then $\tan^4 A + \cot^4 A$ is equal to 1. - 194　　　　　　2. 194　　　　　　3. 234　　　　　　4.- 234
70.	If $x \sin^3 \theta + y \cos^3 \theta = \sin \theta \cos \theta$ and $x \sin \theta = y \cos \theta$, then $x^2 + y^2$ is equal to 1. 2　　　　　2. 1　　　　　3. $\dfrac{3}{4}$　　　　　4. 0
71.	The number of three-digit numbers not divisible by 5 are 1. 720　　　　　2. 700　　　　　3. 180　　　　　4. 120
72.	The area of the largest circle that can be drawn in a square of side 14 cm is 1. 145 cm^2　　　2. 154 cm^2　　　3. 125 cm^2　　　4.130 cm^2
73.	The number of lead balls of diameter 1 cm each that can be made from a sphere of diameter 16 cm is 1. 7200　　　　　2. 4000　　　　　3. 4096　　　　　4. 4200
74.	Rs 1320 is to be divided among 7 men, 11 women and 5 boys such that each woman may have 3 times as much as a boy, and a man as much as a woman and a boy together. The amount of money a man receives is 1. Rs 80　　　　　2.Rs 60　　　　　3. Rs 100　　　　　4. Rs 560
75.	A mixture contains milk and water in the ratio of 3 : 2. If 4 litres of water is added to the mixture, milk and water in the mixture become equal. The quantity of water in the mixture is 1. 12 litres　　　　2. 10 litres　　　　3. 8 litres　　　　4. 9 litres
76.	The least number that must be subtracted from each of 14, 17, 34 and 42 so that the remainders are in proportion is 1. 2　　　　　2. 3　　　　　3. 5　　　　　4. 6
77.	If x, y and z are in continued proportion then $z : x :: z^2 : \square$, then $\square$ is 1. y　　　　　2. z^2　　　　　3. y^2　　　　　4. x^2

78.	The distance between the points ($a \cos \theta + b \sin \theta, 0$) and ($0, a \sin \theta - b \cos \theta$), is: 1. $a^2 + b^2$ 2. $\sqrt{a^2 + b^2}$ 3. $a^2 - b^2$ 4. $\sqrt{a^2 - b^2}$
79.	A bag contains 6 black balls and some white balls. If the probability of drawing a white ball from the bag is double that of a black ball, then the number of white balls in the bag is 1. 10 2. 12 3. 14 4.18
80.	The radius of a circular wheel is $1\frac{3}{4}$ m. How many revolutions will it make in travelling 11 km? 1. 500 2. 1000 3. 1500 4. 200
81.	Find the coordinates of a point A, where AB is the diameter of circle whose centre is O (2, –3) and B(1, 4). 1. (-2, 10) 2. (3, -12) 3. (-2, 8) 4. (3, -10)
82.	If $\tan x + \sin x = m$ and $\tan x - \sin x = n$ then $m^2 - n^2$ is equal to 1. $4\sqrt{mn}$ 2. $\sqrt{mn}$ 3. $2\sqrt{mn}$ 4. $3\sqrt{mn}$
83.	Yash scored 40 marks in a test, getting 3 marks for each right answer and losing 1 mark for each wrong answer. Had 4 marks been awarded for each correct answer and 2 marks been deduced for each incorrect answer, then Yash would have scored 50 marks. How many questions were there in the test? 1. 40 2. 10 3. 20 4. 23
84.	The sum of the digits of a two – digit number is 9. If 27 is subtracted from the number, its digits are interchanged. Which of these is the product of the digits of the number? 1.8 2. 10 3. 12 4. 18
85.	If areas of two similar triangles, ΔABC and ΔXYZ are 1089 cm^2 and 1225 cm^2 respectively. The length of side XZ is 70 cm. What is the length of side AC? 1. 72 cm 2. 66 cm 3. 60 cm 4. 64 cm
86.	The population of a town is 8000. If the males increase by 6% and the females by 10%, the population will be 8600. Find the number of females in the town. 1. 3000 2. 4000 3. 5000 4. 5100
87.	The area of the sector of a circle of radius 6 cm whose central angle is $30°$. (Take π =3.14) 1. 9.42 cm^2 2. 8.42 cm^2 3. 7.42 cm^2 4. 8.42 cm^2
88.	If 3 is a root of the equation $kx^2 - kx - 3 = 0$, then the value of k is 1. 3 2. 4 3. $\frac{1}{2}$ 4. 2
89.	If the first three terms of A.P. are ($3y - 1$), ($3y + 5$) and ($5y + 1$), then the value of y is 1. - 3 2. 4 3. 5 4. 2

90.	In an A.P., if $a_{18} - a_{14} = 32$, then the common difference is 1. 8　　　　　　　2. - 4　　　　　　　3. - 8　　　　　　　4. 5
91.	The angle of elevation of the sun if the length of the shadow of a tower is $\sqrt{3}$ times that of its height is 1. 30°　　　　　　　2. 45°　　　　　　　3. 60°　　　　　　　4. 90°
92.	A chord of a circle of radius 10cm subtends a right angle at the centre. Find the area of the corresponding minor segment. (use $\pi = 3.14$) 1. 20.5 cm^2　　　　2. 30 cm^2　　　　3. 28.5 cm^2　　　　4. 25.5 cm^2
93.	If a rectangular piece of paper of dimensions 60cm x 88cm is rolled to form a hollow circular cylinder of height 60 cm, then find the radius of the cylinder. 1. 16 cm　　　　　　2. 14 cm　　　　　　3. 4 cm　　　　　　4. 25 cm
94.	504 cones, each of diameter 3.5 cm and height 3 cm, are melted and recast into a metallic sphere, then the diameter of the sphere is 1. 18 cm　　　　　　2. 12 cm　　　　　　3. 14 cm　　　　　　4. 21 cm
95.	The average score of boys in the examination of a school is 71 and that of the girls is 73. The average score of all students of the school in the examination is 71.8, then the ratio of number of boys to the number of girls who appeared in the examination. 1. 3 : 2　　　　　　2. 1 : 2　　　　　　3. 2 : 3　　　　　　4. 2 : 1
96.	A number x is selected at random from the numbers 1,2,3 and 4. Another number y is selected at random from the numbers 1,4,9,16, then the probability that product of x and y is less than16 is 1. 0.75　　　　　　2. 0.5　　　　　　3. 0.25　　　　　　4. 0.02
97.	Three cards of spades are lost from a pack of 52 playing cards. The remaining cards are well shuffled and then a card was drawn at random from them. What is the probability that the drawn card is of clubs? 1. $\dfrac{23}{49}$　　　　2. $\dfrac{1}{4}$　　　　3. $\dfrac{10}{49}$　　　　4. $\dfrac{13}{49}$
98.	If the lines $3x + 2ky = -3$ and $2x + 5y + 2 = 0$ are coincident, then k is 1. $\dfrac{15}{4}$　　　　2. $\dfrac{1}{4}$　　　　3. $\dfrac{2}{5}$　　　　4. $\dfrac{7}{5}$
99.	AOBC is a Rectangle whose three vertices are A(0, 3), O(0, 0) and B(5, 0). The length of the diagonal is 1. 34 cm　　　　2. $\sqrt{34}$ cm　　　　3. $\sqrt{24}$ cm　　　　4. 24 cm
100.	4 men and 6 boys can together finish a piece of work in 5 days while 3 men and 4 boys can finish it in 7 days. Find the time taken by 1 man alone to finish the work. 1. 20 days　　　　2. 35 days　　　　3. 25 days　　　　4. 70 days

101.	A quadratic equation whose sum and product of roots are $\frac{5}{6}$ and -1 respectively, is 1. $6x^2 - 5x - 6 = 0$ 2. $6x^2 + 5x - 6 = 0$ 3. $6x^2 + 5x + 6 = 0$ 4. $6x^2 - 5x + 6 = 0$
102	If the nth term of an AP is $7 - 4n$, then its common difference is 1. 4 2. -4 3. 7 4. -7
103	The number of multiples of 4 between 10 and 250 is 1. 50 2. 40 3. 60 4. 30
104	The sum of first n terms of an AP is $3n^2 + 5n$, then 164 is its 1. 24th term 2. 27th term 3. 26th term 4. 25th term
105	The product of a man's age 5 years ago and 5 years from now is 600. His present age is 1. 20 years 2. 25 years 3. 30 years 4. 35 years
106	The sum of the powers of the prime factors in 108×192 is 1. 5 2. 7 3. 8 4. 12
107	If the area of a sector is one twelfth that of the complete circle, then the central angle of the circle is 1. 30° 2. 25° 3. 45° 4.60°
108.	If $\tan \theta + \cot \theta = 2$, then the value of $\tan^2\theta + \cot^2\theta$ is 1. - 2 2. 1 3. - 1 4. 2
109.	If $7 \sin^2\theta + 3 \cos^2\theta = 4$, then $\tan \theta$ is equal to 1. $\frac{1}{\sqrt{3}}$ 2. $\frac{1}{\sqrt{2}}$ 3. $\frac{1}{2}$ 4. $\frac{1}{4}$
110.	A card is drawn from a well shuffled deck of cards. What is the probability that the card drawn is neither a king nor a queen? 1. $\frac{11}{26}$ 2. $\frac{11}{13}$ 3. $\frac{12}{13}$ 4. $\frac{11}{52}$
111.	The ratio of the volumes of a cube to that of the sphere which will fit inside the cube is 1. $6 : \pi$ 2. $4 : \pi$ 3. $5 : \pi$ 4. $3 : \pi$
112.	The marks attained by 40 students in a short assessment is given below where a and b are missing. If the mean of the distribution is 7.2, then the values a and b respectively are <table><tr><td>Marks</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>No. of students</td><td>6</td><td>a</td><td>16</td><td>13</td><td>b</td></tr></table> 1. 2, 3 2.1, 6 3. 2, 5 4. 1, 4

113.	A cylinder of radius 2 cm and height 12 cm is melted and converted into a sphere. The radius of the sphere so formed is 1. 3 cm 2.4 cm 3. 6 cm 4. 8 cm
114.	The shadow of a tower standing on a level plane is found to be 50 m longer when the Sun's elevation is $30°$, than when it was $60°$. The height of the tower is 1. $25\sqrt{3}$ m 2. 20 m 3. $20\sqrt{3}$ m 4. 25 m
115.	Find the value of k for which the roots of the equation $3x^2 - 10x + k = 0$ are reciprocal of each other. 1. 2 2. 3 3. 1 4. -1
116.	Consider the following frequency distribution: <table><tr><td>Class</td><td>0 – 5</td><td>6 – 11</td><td>12 – 17</td><td>18 – 23</td><td>24 – 29</td></tr><tr><td>Frequency</td><td>13</td><td>10</td><td>15</td><td>8</td><td>11</td></tr></table> The upper limit of the median class is 1. 17 2. 17.5 3. 18 4. 18.5
117.	Which term of the A.P. 3, 15, 27, 39, …… will be 120 more than its 21st term ? 1. 28th 2. 29th 3. 30th 4. 31st
118.	A circular brooch is made of silver wire and consists of 5 diameters of 35 mm each forming sectors of equal dimensions. The total length of silver wire required is 1. 396 mm 2. 285 mm 3. 325 mm 4. 258 mm
119.	If the sum of the roots of an equation is 6 and one root is $3 - \sqrt{5}$, then the equation is: 1. $2x^2 - 4x + 3 = 0$ 2. $x^2 - 4x + 4 = 0$ 3. $3x^2 - 5x + 2 = 0$ 4. $x^2 - 6x + 4 = 0$
120.	The value of x for the quadratic equation $\sqrt{6x+7} - (2x-7) = 0$ is 1. 5 2. 7 3. 6 4. 3

	SECTION-SOCIAL STUDIES
121.	**Who amongst the following cannot chair the joint session of Parliament: -** 1. The Deputy Chairperson of the Rajya Sabha. 2. The Deputy speaker of the Lok Sabha. 3. The Vice President of India. 4. Any MP of either house who is present in Parliament on the day of the joint session.
122.	**Which of the following statements are true of the 104 Constitutional Amendment Act 2019: -** A. Nominating members of Anglo-Indian community by the President was abolished B. Time limit for reservations of SCs & STs in Lok Sabha & State Legislative Assemblies was extended indefinitely. C. The Bill sought to amend Article 224 of the Constitution. D. It came into effect on 26 Jan 2020. 1. All the above 2. A, B & C 3. A, C & D 4. A, B & D.
123.	**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 _____ in the Lok Sabha is recognized as a national party.** 1. One seat 2. Two seats 3. Three seats 4. Four seats
124.	**The Union Territory of Puducherry comprises of _____ parts.** 1. Four 2. Three 3. Two 4. One
125.	**The State Animal of Punjab is** 1. Horse 2. Sambar Deer 3. Black Buck 4. Spotted Deer
126.	**_____ is the first state in India which has made rooftop rainwater harvesting structures compulsory for all houses across the state.** 1. Karnataka 2. Tamil Nadu 3. Maharashtra 4. Andhra Pradesh
127.	**Koyna Dam is one of the largest dams located in _____.** 1. Uttar Pradesh 2. Himachal Pradesh 3. Rajasthan 4. Maharashtra
128.	**In 1987, a movement called Kittiko-Hachchiko (meaning pluck and plant) started a non-violent protest, where people plucked the eucalyptus plants and planted saplings of trees that were useful to them. This movement took place in the state of _____.** 1. Maharashtra 2. Andhra Pradesh 3. Karnataka 4. Gujarat
129.	**The RTI Act of _____ is a landmark legislation passed by our Parliament. Under this Act, citizens can seek information from Government offices pertaining to different activities.** 1. 2001 2. 2005 3. 2007 4. 2000
130.	**Which of the following country is an example of a multi-party system?** 1. India 2. New Zealand 3. Canada 4. All of them
131.	**Name the Multipurpose project built on Chenab River in Jammu and Kashmir.** 1. Bhakra Nangal 2. Tehri Project 3. Sardar Sarovar 4. Salal Project

132.	**The retreating monsoon withdraws itself from** 1. The West Coast to the East Coast 2. North-East India to the West Coast 3. The north to the south 4. North-West India to Bengal and then to Kerala
133.	**Choose the INCORRECT pair from the following** <table><tr><td></td><td>Place</td><td>Leader</td></tr><tr><td>1.</td><td>Delhi</td><td>Bahadur Shah Zafar</td></tr><tr><td>2.</td><td>Kanpur</td><td>Peshwa Baji Rao I</td></tr><tr><td>3.</td><td>Lucknow</td><td>Begum Hazrat Mahal</td></tr><tr><td>4.</td><td>Jhansi</td><td>Rani Laxmi Bai</td></tr></table>
134.	**The rise of political parties is directly linked to the emergence of _____.** 1. Monitory democracies 2. Direct democracies 3. Representative democracies 4. Constitutional democracies.
135.	**Consider the following statements and see which all are true: -** A. The President of India is a part of the Parliament of India. B. The President of India is not a member of either of the houses of Parliament. C. The President of India relinquishes the membership of any house of which he/she was member before taking over as President. D. The President is not part of the Parliament. 1. All of the above 2. Only A & B 3. Only A, B & C. 4. Only A, B & D.
136.	**Which one of the following is a major benefit of a joint production between a local company and a Multi-National Company?** 1. MNC can bring the latest technology in the production. 2. MNC can control the increase in the price. 3. MNC can buy the local company. 4. MNC can sell the products under their brand name.
137.	**National Manufacturing Competitiveness Council (NMCC) has been set up to** 1. Make use of the advantages offered by the urban centres known as agglomeration economies. 2. To enhance productivity and improve the rate of growth in the manufacturing industry. 3. Providing employment in all sectors of the economy 4. Industrially develop rural centres surrounded by a huge agricultural rural hinterland.
138.	**A man is employed on a food processing farm where he has to do a lot of manual work. His wife and daughter also help him in his work on the farm every day. Which type of employment is this an example?** 1. Under employment 2. Seasonal employment 3. Over employment 4. Cyclical employment

139.	**Which of the following statements is TRUE for Gross Domestic Product?** 1. It is the value of all goods and services produced in the country. 2. It is the value of all goods and services produced by the residents of the country. 3. It is the value of final goods and services produced by residents of a country. 4. It is the value of final goods and services produced in the country.
140.	**Which of the following statements are true about political parties?** 1. The proportion of those who said they were members of some political party was lower in India than in many advanced countries like Canada and Japan. 2. Over the last three decades, the proportion of those who report to be members of political parties in India has gone down steadily. 3. The proportion of those who say they feel 'close to a political party' has also gone down in India. 4. None of the above.
141.	**Which of the following statements is true?** 1. A legitimate government is one where citizens, through participation, acquire a stake in the system. 2. Prudential reasons stress that power-sharing will bring out better outcomes; moral reasons emphasise the very act of power sharing as valuable. 3. A democratic rule involves sharing power with those affected by its exercise and who have to live with its effects. 4. All of the above.
142.	**_____ is a violent conflict between opposing groups within a country that becomes so intense that it appears like a war.** 1. Civil war 2. Proxy war 3. Colonial war 4. None of the above
143.	**Which of these statements about the service sector in India is INCORRECT?** (a) Service sector in India employs many different kinds of people. (b) The service sector has become the most important in terms of Employment. (c) As economies grow, first the service sector grows, followed by the primary and secondary sectors, respectively. (d) Many workers in the country are working in the primary sector, producing only about one-sixth of the GDP. 1. a, b, d 2. b, c & d 3. a & d 4. b & c
144.	**Which one of the following is an example of a Cultivable Wasteland?** 1. Gross cropped area 2. Uncultivable land 3. Barren wasteland 4. Current fallow land
145.	**Identify the soil with the help of clues given below: –** • develops in areas with high temperatures and heavy rainfall • is low in humus content • found in the hilly areas of Karnataka, Kerala and Tamil Nadu 1. Forest soil 2. Yellow soil 3. Black soil 4. Laterite soil

146.	**Choose the non-market economic activities from the options given below:** - (a) Vilas sells fish in the village market (b) Vilas cooks' food for his family (c) Sakal works in a private firm (d) Sakal looks after his younger brother and sister 1. (a) & (b) 2. (c) & (d) 3. (a) & (c) 4. (b) & (d)
147.	**In the Upper and Middle Ganga plains, two different types of alluvial soils have developed, viz, Khadar and Bhangar.** Consider the following statements about these soil types and choose the correct ones. A. Khadar is the new alluvium while Bhangar represents a system of older alluvium. B. Khadar soil contains calcareous concretions while Bhangar soil completely lacks it. C. The sand content in this soil decreases from west to east. 1. A, B and C 2. A and B 3. B and C 4. A and C
148.	**_____ is a group of people who come together to contest elections and hold power in the government.** 1. Pressure group 2. Political party 3. Interest group 4. Business lobby
149.	**Which one of the following type of resource is iron ore?** 1. Renewable 2. Biotic 3. Flow 4. Non-renewable
150.	**Consider the following statements:** - A. The President under Article 118 (3) of the Constitution makes rules to regulate the procedure of the Joint Sitting of the two houses of Parliament. B. The hour upon which a joint session may be adjourned is determined by the President. C. The quorum to constitute a joint session shall be one-tenth of the total numbers of members of both houses of Parliament. How many of the above statements are true? 1. Only one 2. Only two. 3. All three 4. None

END OF PAPER

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