DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ASKED TO DO SO



DCA ENTRANCE EXAMINTION - XI

DEFENCE CAREER ACADEMY, **AURANGABAD.**

As an ISO 9001: 2008 - Certified

ENT: 2019-2020 TIME: 2.00 Hrs.

Maths & GAT

Sr. No.

MAXIMUM MARKS: 150

QUESTION - BOOKLET

GENERAL INSTRUCTIONS

- Do not carry any book, paper or any other material with you inside the Examination Hall. 1.
- 2. Use only Black / Blue ball pen.
- 3. Keep the Hall Ticket with you ready for scrutiny.
- 4. Result of this Examination will be displayed on the Notice Board. The Result Sheet will include the successful/ qualified candidates ONLY.
- 5. All successful candidates indicated on the list shall present themselves for the invetview on the same day.
- This Test Booklet contains 150 items (Questions). Question No. 1 to 150 (MCQ) carry 1 mark 6. each You have to select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, Choose Only One response for each item.
- 7. All the answers must be marked on the Answer Sheet only. Do not write anything on this Test Booklet.
- IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD 8. CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR QUESTION ETC. IF SO, GET IT REPLACED BY THE SUPERVISOR.
- 9. Ask for a separate paper for rough work.

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10. Read the questions carefully, Remember, answers are to be indicated in the Answer Sheet Only. Return the Test Booklet, Rough work papers and the Answer Sheet immediately when asked to do so. You are NOT permitted to take away with you any paper concerning the Examination.

ANSWER SHEET

- 11. The Answer Sheet contains 150 counts, each subdivided in four { (1) (2) (3) (4)} subdivisions for indicating the correct choice of answers. After having selected the correct choice from the test Booklet, you should indicate that choice by completely blackening the respective circle, DO NOT merely cross the circle. You should indicate correct answer by blackening ONLY ONE circle in each answer. Any answer having more than ONE blackened circle will be treated as a WRONG answer.
- 12. Before starting the answering ensure that you have filled the complete information at the top of this Answer Sheet. Incomplete Answer Sheet will be regarded as invalid.

THANK YOU AND BEST OF LUCK



Part - I Math

01.	. Which of the following are the terms of an (1)P.?				
	1) 1,3,4,10,	2) 3, 6, 12, 24,	3) 28, 26, 24, 22,	4) 4, 2, 3, 1,	
02.	What is the third term	m of the sequence whose nth	terms is $\frac{1}{n^2} + 1$?		
	1) 2	2) $\frac{5}{4}$	3) $\frac{10}{9}$	4) $\frac{17}{16}$	
03.	For an (1)P., if $a = 3$,	d = 5, what is the value of	t ₁₁ ?		
	1) 53	2) 58	3) 85	4) 35	
04.	Which one of the fol	llowing formulae is true to f	ind the sum of first n	terms of an (1)P.?	
	1) $S_n = \frac{n}{2} [2a + (n -$	1)d]	2) $S_n = \frac{n}{2} [2a + (n +$	-1)d]	
	3) $S_n = \frac{n}{2}[a + (n-1)]$)d]	4) $S_n = \frac{n}{2}[a + (n+1)]$	1)d]	
05.	What are the roots of	f the quadratic equation: 2x	$x^2 - 5x - 3 = ?$		
	1) $3, -\frac{1}{2}$	2) $-3,\frac{1}{2}$	3) $3, \frac{1}{2}$	4) $-3, -\frac{1}{2}$	
06.	What is the value of	k, if one root of the quadrati	c equation $kx^2 - 7x +$	12 = 0 is 3?	
	1) 1	2) -1	3) 3	4) -3	
07.	For drawing the grap	h of $2x + 5y = 16$, if $x = 3$, v	what is the value of y?	?	
	1) 2	2) -2	3) $\frac{1}{2}$	4) $-\frac{1}{2}$	
08.	What is the value of	D for the simultanenous equ	ations $3x - 2y = 6$ and	12x + y = 11?	
	1) 1	2) -1	3) 7	4) -7	
09.	Three conis are tosse	ed simultaneously. P is the ev	vent of getting at least	two heads. What is	
	P equal to ?				
	1) { HHH, HHT, HT	H, THH}	2) {HHT, HTH, THE	H}	
	3) {HHT}		4) {HTH, THH}		
10.	Two coins are tossed	simultaneously. What is the	e probability of getting	g at least one tail?	
	1) $\frac{1}{2}$	2) $\frac{4}{3}$	3) $\frac{3}{4}$	4) $\frac{1}{4}$	
11.	The classes are 11-20	0, 21-30, 31-40, What is	the true lower limit	of class 21 - 30?	
	1) 20	2) 21	3) 20.5	4) 21.5	
12.	The values of mean a	and mode for a certain freque	ency distribution are 90	6 and 93 respectively. What is	

4) 97

3) 94

2) 95

the value of the median?

1) 92

13.	In Δ PQR, XY QR. P-	X - Q, P - Y - R. Which of the	he following is equal to $\frac{2}{6}$	$\frac{XY}{QR}$?
	$1) \frac{PX}{XQ}$	$2) \frac{XQ}{PQ}$	$3) \frac{PY}{YR}$	$4) \frac{PY}{PR}$
14.	In \triangle ABC, \angle B = 90°, \angle	$A = 60^{\circ}$. if AC = 24 cm, wh	at is the length of side Al	3?
	1) 12 cm	2) $12\sqrt{3}$ cm	3) 16 cm	4) $16\sqrt{3}$ cm
15.	Δ ABC ~ Δ PQR. AB = 0	6cm, BC = 4cm, AC = 8 cm	and $PQ = 9$ cm. What is	the perimeter of Δ PQR ?
	1) 54 cm	2) 27 cm	3) 18 cm	4) 36 cm
16.	P is the centre of a circle. radius of the circle?	∠ ABC is inscribed in the se	emicircle. If AB = 40 cm a	and $BC = 42$ cm, what is the
	1) 20 cm	2) 21 cm	3) 29 cm	4) 41 cm
17.	What is the point of concu	rrence of the altitudes of a tr	iangle known as?	
	1) Circumcentre	2) Incentre	3) Orthocentre	4) Centroid
18.	What is the point of concu	arrence of the bisectors of the		vn as?
	1) Circumcentre	2) Incentre	3) Orthocentre	4) Centroid
19.	The diameter of a circle is	3 20 cm. The measure of an a	arc is 108°. What is the are	ea of the sector? $(\pi = 3.14)$
	1) 376.8 cm ²	2) 188.4 cm ²	$3) 94.2 \text{ cm}^2$	4) 47.1 cm ²
20.	What is the ratio of the are	eas of two similar triangles, if	their corresponding altitu	ides are in the ratio $1:\sqrt{2}$?
	1) 1 : $\sqrt{2}$	2) $\sqrt{2}:1$	3) 1:2	4) 2:1
21.		ircle with centre O interesct ϵ and BP = 8cm, then what is	*	n the interior of the circle. If
	1) 12 cm	2) 10 cm	3) 9 cm	4) 6 cm
22.	What is the curved surface	e area of a cone having base	diameter 14 cm and heigh	ht 24 cm?
	1) 110 cm ²	2) 220 cm ²	3) 440 cm ²	4) 550 cm ²
23.	The values of median and	mean are 100 and 101 respe	ctively. What is the value	of mode?
	1) 98	2) 100	3) 101	4) 104
24.	What is the point of concult 1) Circumcentre	urrence of the perpendicular l 2) Orthocentre	oisectors of the sides of a 3) Incentre	triangle known as ? 4) Centroid
25.	In given figure, DE BC, if	fAB = 7.6 cm, AD = 1.9 cm,	then AE : EC is :	
		_		
		Å		
		D B	E	
	1) 1 : 4	2) 1 : 3	3) 4 : 1	4) 3:1
26.	What is the slope of a line	· ·	3) 1.1	?
	1			1
	1) $\frac{1}{2}$	2) 2	3) $\sqrt{3}$	4) $\sqrt{3}$
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27.	The slope of a line is $-\frac{1}{3}$ a	nd the y-intercept is – 4. Wh	at is the equation of this l	ine?
	1) $3y = -x + 12$	2) $3y = x - 12$	3) $3y = x + 12$	4) $3y = -x - 12$
28.	, ·	neasure 120° has length 44 cr	, ·	, ·
	1) 44 cm	2) 66 cm	3) 132 cm	4) 264 cm
29.	The radius of a circle is 7c	m and the area of the sector	is 30.8 cm ² . What is the r	neasure of the arc of the
	sector?			
	1) 144 ⁰	2) 72^{0}	$3) 60^{\circ}$	4) 36°
30.	The curved surface area of	f a cylinder is 440 cm ² . If its	radius is 5 cm, then what	is its height?
	1) 7 cm	2) 14 cm	3) 17.5 cm	4) 21 cm
31.	What is the nature of the r	oots of the quadratic equati		
	1) Real	2) Not real	3) Real & equal	4) Real & unequal
32.		g QS \perp side PR. if SR = 28		
	1) 14	2) 31.5	3) 42	4) 21
33.		rmed from the digits 0,1,2,3,		
2.4	1) 20	2) 16	3) 18	4) 14
34.		which the graphical represent	ation of the simultaneous	equations $5x - 3y = 1$ and py
	2x = 4 are parallel lines?			
	1) $\frac{5}{6}$	2) $\frac{6}{5}$	3) $-\frac{5}{6}$	6
	1) -6	$\frac{2}{5}$	$\frac{3}{6}$	4) $-\frac{6}{5}$
35.	For simultaneous equation	as in x and y, if		
	-	12, then what is the value of	fv?	
	\mathcal{L} \mathcal{L}_{x} \mathcal{L}_{y}			
	1) $-\frac{3}{5}$	2) $\frac{3}{5}$	3) $-\frac{2}{5}$	4) $\frac{2}{5}$
	3	3	3	3
36.	A card is drawn at random	n from a well-shuffled pack o	of 52 cards. What is the pr	obability of getting no heart?
	1	3	1	4
	1) $\frac{1}{4}$	2) $\frac{3}{4}$	3) $\frac{1}{2}$	4) ${13}$
37.	The values of median and	mode are 156 and 180 respe	ectively What is the value	of mean ?
57.	1) 216	2) 144	3) 168	4) 164
20	•	,	,	,
38.		uadratic equation $kx^2 + 2x -$		
20	1) 2	2) 3	3) 1	4) 4
39.	What is the common diffe	rence of the (1)P. 10, 11.5, 1	.3, 14.5,?	
	1) 1.5) -1.5	3) 2.5	4) -2.5
40.	Which of the following is t	he formula for finding mean	$(\frac{1}{2})$ by Shift of Origin Me	thod?
-10.		ne formata for finding mean		mou :
	$\frac{\overline{x}}{1} = \frac{f_i x_i}{f_i}$	2) $\overline{x} = \frac{\sum f_i x_i}{\sum f_i}$	3) $\overline{x} = A + \overline{d}$	4) $\overline{x} = A + h\overline{u}$
	t _i	$\sum f_i$	X = X + U	$\gamma X - A + \Pi u$
41.	for an (1)P., $a = 1$ and $d =$	4. What is the value of n. if	$t_n = 81?$	
	1) 22 2	2) 21	3) 20	4) 19
42.	If \triangle PQR, PS is the bisec	tor of ∠QPR. Q-S-R. If P	Q = 4 cm, $QS = 2$, what i	s the length of SR?
	1) 2cm	2) 2.5 cm	3) 4.5 cm	4) 6 cm

43.	O is the centre of a circle with radius 12 cm. T is a point on the circle. AT is a tangent to the circle. \angle AOT = 60°. What is length AO?				
	1) 24 cm	2) $24\sqrt{3}$ cm	3) 6 cm	4) $6\sqrt{3}$ cm	
44.	What is the number of com	mon tangents that can be dra	awn to two circles touchir	ng internally ?	
	1) 3	2) 2	3) 1	4) no common tangent	
45.	Where does the circumcen	tre of an obtuse angled trian	gle lie ?		
	1) In the interior of the trian	ngle	2) In the exterior of the	triangle	
	3) On the side of the triang		4) At the vertex of the o	<u> </u>	
46.	For the angle in standard powill the terminal arm be?	osition, if the initial arm rotat	tes 300° in clockwise direc	ction, then in which quadrant	
	1) Quadrant I	2) Quadrant II	3) Quadrant III	4) Quadrant IV	
47.	For the angle θ in standard	position, if the terminal arm	passes through the point	(6, -8), then what is the value	
	of cot θ ?				
	1) $-\frac{4}{3}$	2) $\frac{4}{3}$	3) $-\frac{3}{4}$	4) $\frac{3}{4}$	
	3	3	3) - 4	4 4	
48.	A(-2,3), B(4,-3), C(4,2)), $D(3, k)$. If line AB is paral	llel to line CD, then what	is the value of k?	
	1) 3	2) –3	3) 1	4) –1	
49.	Arc of a circle subtends an radius of circle is :	d angle of 189° at the centre	of the circle if the length	of the arc is 33 cm, then the	
	1) 3 cm	2) 7 cm	3) 10 cm	4) 14 cm	
50.		ine passing through $(2, -1)$ a			
	•	$2) \ 3x + 4y - 2 = 0$	•	•	
51.		ne of the roots of the quadra	_		
50	1) 4	2) –4	3) 8	4) –8	
52.	What is the class mark of t		2) 4.5	4) 0	
52	1) 14.5	2) 29	3) 4.5	4) 9	
53.	1) Mean	ot a measure of the central to 2) Median	3) Mode	1) Standard deviation	
54.	<i>'</i>	es. What is the probability of	,	4) Standard deviation	
J 4 .		•			
	1) $\frac{1}{2}$	2) $\frac{3}{8}$	3) $\frac{2}{3}$	4) $\frac{1}{8}$	
	2	· ·	3	' 8	
55.		line $2y = mx + 5$, then what	is the value of m?	_	
	1) $\frac{11}{2}$	2) $-\frac{11}{2}$	3) $\frac{2}{11}$	4) $-\frac{2}{11}$	
	2	<u> </u>	11	11	
56.		a circle of radius 25 is 48. The			
	1) 3	2) 5	3) 7	4) 10	
57.	A chord subtending an ang	ale of 120° at the centre of the	e circle of radius 10 cm is	cm.long.	
	1) $10 \sqrt{3}$	2) 12 $\sqrt{3}$	3) $5\sqrt{3}$	4) $25\sqrt{3}$	
58.	What is the value of $\frac{1}{x} + \frac{1}{y}$	$\frac{5}{x}$, if $\frac{5}{x} + \frac{9}{y} = 6$ and $\frac{1}{x} + \frac{5}{y} = \frac{1}{x}$	= 30 ?		
	1) 6	2) -6	3) 4	4) – 4	
59.	The coordinates of the cir	cumcenter of $\triangle ABC$ if $A = \frac{1}{2} (2 - 2)$			
	1) (-2, 3)	2) (3, -2)	3) (-2, -3)	4) (-3, 2)	

60.	The points $A(2,3) Q(5,k)$) and $R(6,7)$ are collinear, the	e value of K is	
	1) 3	2) 6	3) -3	4) -6
61.		line segment joining the poin		-
	1) 4:7	2) 7:4	3) 5:7	4) 7:5
62.	If $7 \cos A - 24 \sin A = 0$, t	hen the value of tan A is:		
	1) $\frac{7}{24}$	2) $\frac{24}{7}$	3) $\frac{25}{7}$	4) $\frac{24}{25}$
	$\frac{1}{24}$	$\frac{2}{7}$	$\frac{3}{7}$	$\frac{4}{25}$
63.	If sec $\theta = \sqrt{\frac{13}{12}}$, then the	value of $\sin \theta$ - $\cos \theta$ is		
	1	$1 - \sqrt{12}$	$1 + \sqrt{12}$	1
	1) $\frac{1}{\sqrt{12}}$	2) $\frac{1-\sqrt{12}}{\sqrt{13}}$	3) $\frac{1+\sqrt{12}}{\sqrt{13}}$	4) $\frac{1}{\sqrt{13}}$
	10	VIS	VIE	•
64.	If $\sin \theta = \frac{12}{37}$, then the va	alue of cot θ is:		
	1) $\frac{37}{35}$	2) $\frac{35}{37}$	3) $\frac{12}{35}$	4) $\frac{35}{12}$
	35	2) 37	35	4) 12
65.		is twice its breadth. If its leng		-
		gle is increased by 75 cm ² . The	_	_
66	1) 20 cm	2) 30 cm	3) 40 cm	4) 50 cm
66.	-	ngle and a square each is equ	ial to 80 cm, and the diffe	rence of their areas is 100
	sq.cm, the sides of the rec 1) 35 cm, 15 cm	2) 30 cm, 10 cm	3) 25 cm, 15 cm	4) 28 cm, 12 cm
				,
67.	Two similar right triangles	s ABC and PQR are as show	n in the figure. If $AB = $	$\overline{3}$, PQ = $\frac{\sqrt{3}}{2}$,BC=1.Find
	PR=?			
		A	P	
			<u> </u>	
		ВС	Q R	
	1) 2	2) 1	3) ₂ √3	4) 4
60	,	,	SECTION 1	4) 4
68.	1) 55 ⁰	lementary angle of measure 3 2) 90°	3) 35° 18	4) 450
69.			· /	their measures is 18°. Then the
0).	measure of the bigger acu		a the anterence between t	then measures is 10. Then the
	1) 35 ⁰	2) 43°	3) 45 ⁰	4) 53 ⁰
70.	·	ntary angle and complement	ary angle is 13:4. Then th	·
	1) 40°	2) 50°	3) 650	4) 850
71.	The value of $\sin 75^{\circ} + \cos 90^{\circ}$	s 75° is:		
	_	$\sqrt{6}$	_	_
		A) Y =	2) /-	4\ /
	1) $\sqrt{3}$	$(2) {2}$	3) $-\sqrt{3}$	4) $\sqrt{3} + 1$

72. Two congruent triangle when joined each other form an equilateral triangle. Then the ratio of the measures of the angles of each of them is 1) 1:3:4 2) 1:2:3 3) 1: 1: 2 4)2:3:573. In two sides of a triangle are congruent then the angles oppsite to theam are..... 1) Complementary 2) Supplementary 3) Of equal measure 4) None of these 74. At leastone -one correspondence between the vertices of two triangles is necessary to make the triangles congruent. 1) 1 2) 2 3)3 4)4 The figure of two coplaner congruent isosceles right angled triangles, when their hypotenuses are joined is.... 75. 1) Rectangle 2) Parallelogram 3) Rhombus 4) Square

Part - II GAT

COMPREHENSION

Direction. Q. 76-78 In this section you have a short passage. After the passage you will find several question based on the passage. First, read the Passage and answer the questions based on it.

Today, most of the information on migration has come from ringing young and adult birds. Ringing is done by capturing a bird and puling on to its leg a light band of metal or plastic. The band bears a number, date, identification mark, and the address to which the finder is requested to return the where such a bird is shot, captured or found dead gives a clue to the direction and locality to which the bird has migrated.

- 76. In the passage, the word 'migration' has refers to the (1) direction in which birds fly.
 - (2) height to which an adult bird can fly
 - (3) flight of birds from one place of anther. (4) young birds flying to a distant place in search of food.
- "Ringing" is used to collect information about 77.
 - (1) the flight pattern of migratory birds. (2) the life span of migratory bird
 - (3) the food habits of migratory birds. (4) None of the above.
- Which is assumed to be? 78.
 - (1) Ringing is not a complicated process. (2) Birds can be ringed at any time of the year.
 - (3) All varieties of birds can be ringed. (4) only some birds in a flock are ringed.

SPOTTING ERRORS

Directions: Q.79-84: in this section, six sentences are given. Each sentence has three parts indicated by a, b and c. Read each sentence to find out whether there is an error in one of the parts. If you find an error in any on of the parts [a, b, c,] indicate your response by blackening the letter related to that part in the Answer Sheet provided, If a sentence has no error, indicate this by blackening [d] which stand for "No error".

- 79. On hearing the news over the radio that (1)/India won the hockey match, (2) /I jumped with joy(3)/No error(4)
- 80. My uncle frequently goes to abroad(1)/on business(2)/by air(3)/ No error(4)
- 81. Mr. Sunil Pawar, our representative(1)/he will attend the meeting(2)/ on our behalf.(3)/No error(4)
- 82. The manager called the clerk and said whether (1)/he was in the habit of (2)/sleeping at home as well. (3)/No error(4)
- 83. "I'm the last person(1)/ to dream of causing him any harm",(2)/said an agitated Armstrong to the inspector(3)/No error(4)

84. Merrabai was sent away from her home (1)/ because she spend most of the time (2)/in the company of holy men. (3)/No error (4)

SENTENCE IMPROVEMENT

Directions: Q. 85-90: In this section, you find a number of sentences, parts of which are printed in bold. You may also find a group of words which is printed in bold. For each bold part, four words/ phrase are listed below. Choose the word nearest in meaning to the bold part and blacken the corresponding space in the Answer Sheet.

word	l nearest in meaning to th	ne bold part and blacken th	ne corresponding space in the	Answer Sheet.
85.	You ought not to have	gone there, but you did.		
	(1) go	(2) have been	(3) be going	(4) No improvement
86.	Mary met with an accid	dent. She didn't just twist	her leg, she has broken it.	
	(1) had broken it.	(2) breaks it	(3) broke it too	(4) No improvement
87.	What are needed are no	ot large houses but small c	ottages.	
	(1) was	(2) were	(3) is	(4) No improvement
88.	It was hard to believe t	hat he was dead for two y	ears.	
	(1) hass been dead	(2) is dead	(3) had been dead	(4) No improvement
89.	Would you find me abs	sent, please don't forget to	leave a message behind.	
	(1) Should	(2) Unless	(3) As	(4) No improvement
90.	•	aults with the maid servan		
	(1) is finding faults	(2) finds fault	(3) find faults	(4) No improvement
		SENTENCI	E COMPLETION	
	ction (Q.91 to 96): Pick ingfully complete.	out the most effective wor	rd from the given words to fill	in the blank to make the sentence
91.	People who have an	reputation are often a	voided by the rest.	
	(1) unsteady	(2) unsavory	(3) unsafe	(4) unsatisfied
92.	My father was too	to push open the heavy	door.	
	(1) timid	(2) faint	(3) feeble	(4) faltering
93.	He does not suffer from	n any disease at all		
	(1) acute	(2) honest	(3) judicious	(4) irregular
94.	We are not sure if their	business is strictly		
	(1) prudent	(2) honest	(3) judicious	(4) legitimate
95.	The claims made by the face value.	e manufacture of the prod	uct are so extravagant that or	nly the will ac cept them on
	(1) cynical	(2) gullible	(3) rich	(4) indifferent
96.	Justice should be	even- handedly.		
	(1) discharged	(2) performed	(3) declared	(4) administered
		SYN	NONYMS	
only	a group of words which /phrase nearest in meani	is italicised. For each ital ng to the italicised word o	icized part, four words phra r phrase.	are italicised. You may also find ses are listed below. Choose the
97.	• •	monstrators turned agains		
	(1) acrimony	(2) rage	(3) passion	(4) asperity

98.	He gave much a viv	id description of the house	we wanted to rent that we di	id not have to look at it.
	(1) confused	(2) detailed	(3) simple	(4) clear
		AN	NTONYMS	
sente		four words or phrases. Sele		ase which is underlined in the given is closet to the opposite in meaning
99 .	The new disciplinar	y measures strengthened th	ne economy of the country.	
	(1) Destroyed	(2) Changed	(3) Crippled	(4) Constrained
100.	There are people w	ho always deprecate the <u>ac</u>	hievements of others.	
	(1) Exaggerate	(2) Appreciate	(3) Approve	(4) Encourage
101.	The image formed b	y a slide projector is Usually	y	
	(1) real, inverted and	d diminished	(2) real, inverted and	d magnified
	(3) virtual, upright a	nd magnified	(4) virtual, inverted	and diminished
102.	White light is disper	rsed using a prism by means	of	
	(1) reflection	(2) refraction	(3) diffraction	(4) interference
103.	The focus of a conc	ave mirror is		
	(1) real	(2) virtual	(3) undefined	(4) at the pole
104.	Which of the follow	ing statements is not true, re	garding the electrical setup f	or the verification of Ohms law?
		connected in parallel with the		
		connected in series circuit.		
	(3) The rheostat ca	n only increase the resistance	e in electric circuit.	
	(4) The single key i	s used to switch on/off the e	lectric circuit	
105.	Two electric bulbs h	nave resistances in the ratio	1:2. If they are joined in ser	ies, the energy consumed in them
	are in the ratio			-
	(1) 1 : 2	(2) 2: 1	(3) 4 : 1	(4) 1 : 1
106.		e modern periodic table con	tains alkaline earth metals.	
	(1) one	(2) two	(3) zero	(4) seventeen
107.	When two or more	substances combine to form	a single product, then the re	eaction is known as
	(1) pale yellow	(2) grey	(3) white	(4) red
108.	pH scale helps in m	easuring ionic concentr	ration in solutions.	
	(1) hydrogen	(2) hydroxyl	(3) oxygen	(4) nitrogen
109.	is the only nor	n-metallic element which is n	not a solid at room Temperat	•
	(1) bromine	(2) Sulphur	(3) Carbon	(4) Mercury
110.	is known as	marsh gas		
	(1) Methane	(2) Ethane	(3) Propane	(4) Ethene
111.	Which of the follow	ring is a large blood vessel th	nat carries blood away from t	the heart?
	(1) Vein	(2) Artery	(3) Capillary	(4) Nerve
112.	Which of the follow	ing is not a member of the vi	tamin B complex?	
	(1) Thiamine	(2) Riboflavin	(3) Folic acid	(4) Ascorbic acid

113.	Fungi are plants that lack:			
	(1) Oxygen	(2) Carbon dioxide	(3) Chlorophyll	(4) None of these
114.	What makes a reptile a re-	ptile?		
	(1) Cold blooded	(2) Warm Blooded	(3) Non-Hearing	(4) Egg-laying
115.	Which blood vessels have	the smallest diameter?		
	(1) Capillaries	(2) Arterioles	(3) Venules	(4) Lymphatic
116.	Which of the following is t	the heaviest metal?		
	1)osmium	2) mercury	3) iron	4) nickel
117.	Consider following statem	ents:		
	I. Green chemistry focuse	s on effects of chemical pollu	tants on nature.	
	II. Environmental chemist	ry focuses on technological a	pproach to prevent pollution	on.
	1) Only I	2) Only II	3) Both I & II	4) Neither I nor II
118.	Which one of the followin	ng received the Greener Reac	tion Conditions Award in	1996?
	1) Dow Chemical	2) Exon Chemicals	3) US EPA	4) None of these
119.	Which of the following is	used for clean oxidation?		
	1) Supercritical carbon die	oxide	2) Supercritical hydrogen	n
	3) Aqueous hydrogen pero	oxide	4) All of these	
120.	Green solvents are derive	d from		
	1) Renewable resources		2) Carbon resources	
	3) Non-renewable resour	ces	4) All of these	
121.	Which of the following is a	not true?		
	(1) Nirbhay is a missile of	f 1000 km	(2) Brahmos missile is de	eveloped by DRDO
	(3) Astra is an Air to Surfa	ace missile.	(4) The range of Agni iii	is between 3000 to 5000 kms
122.	Druva is a			
	(1) Tank		(2) Advanced light helic	opter
	(3) A multi barrel rocket s	ystem	(4) Missile	
123.	Which country is the bigge	est importer of arms and amn	nunition in the world?	
	(1) Iran	(2) Afghanistan	(3) Pakistan	(4) India
124.	From which country India	purchases its maximum defe	nce equipment?	
	(1) Russia	(2) USA	(3) Israel	(4) China
125.	What is NOT true about F	Brahmos missile?		
	(1) It was developed by the	he DRDO with the help of U	S	
	(2) It's a supersonic cruise	e missile that can be launched	from submarines, ships, a	nircrafts or lan
	(3) It can hit at the maxim	um range of 290 kms.		
	(4) It has the capability to	hit the surface targets as low	as 10 meters of altitude.	
126.	Where is the Headquarter	of Mazgaon Dockyard Limi	ted?	
	(1) Vishakhapatnam	(2) Kolkata	(3) Mumbai	(4) Kandla
127.	When is army day observe	ed in India?		
	(1) 4 dec	(2) 15 jan.	(3) 28 feb	(4) 1 dec

128.	Which of the following i	is the oldest paramilitary in the	e country?			
	(1) CRPF	(2) BSF	(3) ITBP	(4) Assam rifles		
129.	Which of the following of	does not different from others	3?			
	(1) Vijayanta	(2) T-55	(3) Arjun	(4) Agni		
130.	Bhabha Atomic Research	ch Centre is situated in				
	(1) Karnataka	(2) Maharashtra	(3) Uttrakhand	(4) Delhi		
131.	The Paithan (Jayakwad	i) Hydro-electric project, cor	npleted with the help of Ja	pan, is on the river		
	(1) Ganga	(2) Cauvery	(3) Narmada	(4) Godavari		
132.	The percentage of irriga	ated land in India is about				
	(1) 45	(2) 65	(3) 35	(4) 25		
133.	The southernmost point	of peninsular India, that is, K	Canyakumari, is			
	(1) north of Tropic of C	Cancer	(2) south of the Equator	or		
	(3) south of the Caprico	orn	(4) north of the Equator	or		
134.	The pass located at the s	southern end of the Nilgiri Hi	lls in south India is called			
	(1) the Palghat gap	(2) the Bhorghat pass	(3) the Thalgat pass	(4) the Bolan pass		
135.	Which of the following factors are responsible for the rapid growth of sugar production in south India as compared to north India?					
	I) Higher per acre field of sugarcane		II) Higher sucrose con	tent of sugarcane		
	III) Lower labour cost		IV) Longer crushing pe	eriod		
	(1) I and II	(2) I, II and III	(3) I, III and IV	(4) I, II and IV		
136.	The Parliament of India	cannot be regarded as a sov	ereign body because			
	(1) it can legislate only of	on subjects entrusted to the C	entre by the Constitution			
	(2) it has to operate within the limits prescribed by the Constitution					
	(3) the Supreme Court of the Constitution	an declare laws passed by par	liament as unconstitutional	if they contravene the provisions		
	(4) All of the above					
137.	The name of the Laccad in	ive, Minicoy and Amindivi isl	ands was changed to Laks	hadweep by an Act of Parliament		
	(1) 1970	(2) 1971	(3) 1972	(4) 1973		
138.	The members of the Rajya Sabha are elected by					
	(1) the people		(2) Lok Sabha			
	(3) elected members of	the legislative assembly	(4) elected members of	f the legislative council		
139.	The members of the par	nchayat are				
	(1) nominated by the dis	etrict officer				
	(2) the electorates of the	e respective territorial constitu	uencies			
	(3) nominated by local s	elf-government minister of th	e state			
	(4) nominated by the blo	(4) nominated by the block development organization				

140.	. The power to decide an election petition is vested in the				
	(1) Parliament	(2) Supreme Court	(3) High courts	(4) Election Commission	
141.	Which of the following sig	gned MoU with the Maharash	tra Government to promo	te Fintech?	
	(1) Ministry of Manpower	r	(2) Ministry of Trade and	l Industry	
	(3) Economic Developme	nt Board	(4) Monetary Authority	of Singapore	
142.	This government launche senior citizens.	d a scheme 'Mukhyamantri	Firth Yatra Yojana' which	offers free travel packages for	
	(1) Delhi	(2) Himachala Pradesh	(3) Punjab	(4) Kerala	
143.	Which state government Transparency and Team V		eme which is a part of the	e 3T initiative of Technology,	
	(1) Bihar	(2) Odisha	(3) Andra Pradesh	(4) Tamil Nadu	
144.	Prime Minister Narendra? the state of;	Modi will inaugurate India's l	ongest rail-cum-road brid	ge "Bogibeel Bridg" located in	
	(1) Jharkhand	(2) Gujarat	(3) Haryana	(4) Assam	
145.	Which of the following sta	ate is the second state in the co	ountry to launch the emerg	gency mobile number?	
	(1) Manipur	(2) Nagaland	(3) Maharashtra	(4) Madhya Pradesh	
146.	Which country to Chair K	Kimberley Process From Janu	ary 2019?		
	(1) India	(2) Pakistan	(3) Saudi Arabia	(4) Indonesia	
147.	According to the report by market?	y Bain & Company, which of	the following country is th	e fastest growing e-commerce	
	(1) Saudi Arabia	(2) Malaysia	(3) India	(4) Argentina	
148.	Which IIT researchers de	veloped smartphone-based sy	ystem to detect adulteration	on in milk?	
	(1) IIT Roorkee	(2) IIT Kanpur	(3) IIT Chennai	(4) IIT Hyderabad	
149.	2019 Union World Confe	rence on Lung Health wil be	hosted by		
	(1) India	(2) Poland	(3) Spain	(4) Morocco	
150.	This country conferred with	h the Asia Environment Enforc	ement Awards, 2018, recen	tly United Nation Environment.	
	(1) Denmark	(2) Iceland	(3) China	(4) India	
