# DEFENCE CAREER ACADEMY. <br> AURANGABAD. <br> As an ISO 9001: 2008-Certified 

## ENT : 2019-2020 <br> TIME : 2.00 Hrs. <br> Maths \& GAT

## QUESTION - BOOKLET

## GENERAL INSTRUCTIONS

1. Do not carry any book, paper or any other material with you inside the Examination Hall.
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 Sheetwill include the successful/ qualified candidates ONLY.
5. All successful candidates indicated on the list shall present themselves for the invetview on the same day.
6. This Test Booklet contains 150 items (Questions). Question No. 1 to 150 (MCQ) carry 1 mark 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.
8. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD 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.
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

1. Which of the following are the terms of an (1)P.?
1) $1,3,4,10, \ldots$.
2) $3,6,12,24, \ldots \ldots$
3) $28,26,24,22$, ..
4) $4,2,3,1, .$.
2. What is the third term of the sequence whose nth terms is $\frac{1}{\mathrm{n}^{2}}+1$ ?
1) 2
2) $\frac{5}{4}$
3) $\frac{10}{9}$
4) $\frac{17}{16}$
3. For an (1)P., if $\mathrm{a}=3, \mathrm{~d}=5$, what is the valuie of $\mathrm{t}_{11}$ ?
1) 53
2) 58
3) 85
4) 35
4. Which one of the following formulae is true to find the sum of first $n$ terms of an (1)P.?
1) $S_{n}=\frac{n}{2}[2 a+(n-1) d]$
2) $S_{n}=\frac{n}{2}[2 a+(n+1) d]$
3) $S_{n}=\frac{n}{2}[a+(n-1) d]$
4) $S_{n}=\frac{n}{2}[a+(n+1) d]$
5. What are the roots of the quadratic equation : $2 x^{2}-5 x-3=$ ?
1) $3,-\frac{1}{2}$
2) $-3, \frac{1}{2}$
3) $3, \frac{1}{2}$
4) $-3,-\frac{1}{2}$
6. What is the value of $k$, if one root of the quadratic equation $k x^{2}-7 x+12=0$ is 3 ?
1) 1
2) -1
3) 3
4) -3
7. For drawing the graph of $2 x+5 y=16$, if $x=3$, what is the value of $y$ ?
1) 2
2) -2
3) $\frac{1}{2}$
4) $-\frac{1}{2}$
8. What is the value of $D$ for the simultanenous equations $3 x-2 y=6$ and $2 x+y=11$ ?
1) 1
2) -1
3) 7
4) -7
9. Three conis are tossed simultaneously. P is the event of getting at least two heads. What is Pequal to?
1) $\{\mathrm{HHH}, \mathrm{HHT}, \mathrm{HTH}, \mathrm{THH}\}$
2) $\{\mathrm{HHT}, \mathrm{HTH}, \mathrm{THH}\}$
3) $\{\mathrm{HHT}\}$
4) $\{\mathrm{HTH}, \mathrm{THH}\}$
10. Two coins are tossed simultaneously. What is the probability of getting 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, 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 and mode for a certain frequency distribution are 96 and 93 respectively. What is the value of the median?
1) 92
2) 95
3) 94
4) 97
13. In $\Delta \mathrm{PQR}, \mathrm{XY} \| \mathrm{QR} . \mathrm{P}-\mathrm{X}-\mathrm{Q}, \mathrm{P}-\mathrm{Y}-\mathrm{R}$. Which of the following is equal to $\frac{\mathrm{XY}}{\mathrm{QR}}$ ?
1) $\frac{P X}{X Q}$
2) $\frac{X Q}{P Q}$
3) $\frac{P Y}{Y R}$
4) $\frac{P Y}{P R}$
14. In $\triangle \mathrm{ABC}, \angle \mathrm{B}=90^{\circ}, \angle \mathrm{A}=60^{\circ}$. if $\mathrm{AC}=24 \mathrm{~cm}$, what is the length of side AB ?
1) 12 cm
2) $12 \sqrt{3} \mathrm{~cm}$
3) 16 cm
4) $16 \sqrt{3} \mathrm{~cm}$
15. $\Delta \mathrm{ABC} \sim \Delta \mathrm{PQR} . \mathrm{AB}=6 \mathrm{~cm}, \mathrm{BC}=4 \mathrm{~cm}, \mathrm{AC}=8 \mathrm{~cm}$ and $\mathrm{PQ}=9 \mathrm{~cm}$. What is the perimeter of $\Delta \mathrm{PQR}$ ?
1) 54 cm
2) 27 cm
3) 18 cm
4) 36 cm
16. P is the centre of a circle. $\angle \mathrm{ABC}$ is inscribed in the semicircle. If $\mathrm{AB}=40 \mathrm{~cm}$ and $\mathrm{BC}=42 \mathrm{~cm}$, what is the radius of the circle?
1) 20 cm
2) 21 cm
3) 29 cm
4) 41 cm
17. What is the point of concurrence of the altitudes of a triangle known as ?
1) Circumcentre
2) Incentre
3) Orthocentre
4) Centroid
18. What is the point of concurrence of the bisectors of the angles of a triangle known as ?
1) Circumcentre
2) Incentre
3) Orthocentre
4) Centroid
19. The diameter of a circle is 20 cm . The measure of an arc is $108^{\circ}$. What is the area of the sector ? $(\pi=3.14)$
1) $376.8 \mathrm{~cm}^{2}$
2) $188.4 \mathrm{~cm}^{2}$
3) $94.2 \mathrm{~cm}^{2}$
4) $47.1 \mathrm{~cm}^{2}$
20. What is the ratio of the areas of two similar triangles, if their corresponding altitudes are in theratio $1: \sqrt{2}$ ?
1) $1: \sqrt{2}$
2) $\sqrt{2}: 1$
3) $1: 2$
4) $2: 1$
21. Chrods AB and CD of a circle with centre O interesct each other in the point P in the interior of the circle. If $\mathrm{AP}=18 \mathrm{~cm}, \mathrm{CP}=16 \mathrm{~cm}$ and $\mathrm{BP}=8 \mathrm{~cm}$, then what is the length of DP ?
1) 12 cm
2) 10 cm
3) 9 cm
4) 6 cm
22. What is the curved surface area of a cone having base diameter 14 cm and height 24 cm ?
1) $110 \mathrm{~cm}^{2}$
2) $220 \mathrm{~cm}^{2}$
3) $440 \mathrm{~cm}^{2}$
4) $550 \mathrm{~cm}^{2}$
23. The values of median and mean are 100 and 101 respectively. What is the value of mode ?
1) 98
2) 100
3) 101
4) 104
24. What is the point of concurrence of the perpendicular bisectors of the sides of a triangle known as ?
1) Circumcentre
2) Orthocentre
3) Incentre
4) Centroid
25. In given figure, $\mathrm{DE} \| \mathrm{BC}$, if $\mathrm{AB}=7.6 \mathrm{~cm}, \mathrm{AD}=1.9 \mathrm{~cm}$, then $\mathrm{AE}: \mathrm{EC}$ is :

1) $1: 4$
2) $1: 3$
3) $4: 1$
4) $3: 1$
26. What is the slope of a line having inclination $30^{\circ}$ ?
?
1) $\frac{1}{2}$
2) 2
3) $\sqrt{3}$
4) $\frac{1}{\sqrt{3}}$
27. The slope of a line is $-\frac{1}{3}$ and the $y$-intercept is -4 . What is the equation of this line ?
1) $3 y=-x+12$
2) $3 y=x-12$
3) $3 y=x+12$
4) $3 y=-x-12$
28. An arc of a circle having measure $120^{\circ}$ has length 44 cm . What is the circumference of the circle ?
1) 44 cm
2) 66 cm
3) 132 cm
4) 264 cm
29. The radius of a circle is 7 cm and the area of the sector is $30.8 \mathrm{~cm}^{2}$. What is the measure of the arc of the sector?
1) $144^{0}$
2) $72^{0}$
3) $60^{\circ}$
4) $36^{\circ}$
30. The curved surface area of a cylinder is $440 \mathrm{~cm}^{2}$. 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 roots of the quadratic equation $4 x^{2}-8 x+9=0$ ?
1) Real
2) Not real
3) Real \& equal
4) Real \& unequal
32. In $\triangle \mathrm{PQR}, \angle \mathrm{Q}=90^{\circ}$. Seg $\mathrm{QS} \perp$ side PR . if $\mathrm{SR}=28$ and $\mathrm{PS}=63$, what is the length of QS ?
1) 14
2) 31.5
3) 42
4) 21
33. Two-digit numbers are formed from the digits $0,1,2,3,4$ where digits are not repeated. what is $n(S)$ ?
1) 20
2) 16
3) 18
4) 14
34. What is the value of $p$ for which the graphical representation of the simultaneous equations $5 x-3 y=1$ and $p y-$ $2 \mathrm{x}=4$ are parallel lines?
1) $\frac{5}{6}$
2) $\frac{6}{5}$
3) $-\frac{5}{6}$
4) $-\frac{6}{5}$
35. For simultaneous equations in x and y , if $D=30, D_{x}=-18, D_{y}=-12$, then what is the value of $y$ ?
1) $-\frac{3}{5}$
2) $\frac{3}{5}$
3) $-\frac{2}{5}$
4) $\frac{2}{5}$
36. A card is drawn at random from a well-shuffled pack of 52 cards. What is the probability of getting no heart?
1) $\frac{1}{4}$
2) $\frac{3}{4}$
3) $\frac{1}{2}$
4) $\frac{4}{13}$
37. The values of median and mode are 156 and 180 respectively. What is the value of mean ?
1) 216
2) 144
3) 168
4) 164
38. If one of the roots of the quadratic equation $k x^{2}+2 x-8=0$ is -2 , then what is the value of $k$ ?
1) 2
2) 3
3) 1
4) 4
39. What is the common difference of the (1)P. $10,11.5,13,14.5, \ldots .$. ?
1) 1.5
2) -1.5
3) 2.5
4) -2.5
40. Which of the following is the formula for finding mean $(\overline{\mathrm{x}})$ by Shift of Origin Method ?
1) $\bar{x}=\frac{f_{i} x_{i}}{f_{i}}$
2) $\bar{x}=\frac{\sum f_{i} x_{i}}{\sum f_{i}}$
3) $\bar{x}=A+\bar{d}$
4) $\bar{x}=A+h \bar{u}$
41. for an (1)P., $a=1$ and $d=4$. What is the value of $n$. if $t_{n}=81$ ?
1) 22
2) 21
3) 20
4) 19
42. If $\triangle \mathrm{PQR}, \mathrm{PS}$ is the bisector of $\angle \mathrm{QPR}$. $\mathrm{Q}-\mathrm{S}-\mathrm{R}$. If $\mathrm{PQ}=4 \mathrm{~cm}, \mathrm{QS}=2$, what is the length of SR ?
1) 2 cm
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. $\angle \mathrm{AOT}=$ $60^{\circ}$. What is length AO ?
1) 24 cm
2) $24 \sqrt{3} \mathrm{~cm}$
3) 6 cm
4) $6 \sqrt{3} \mathrm{~cm}$
44. What is the number of common tangents that can be drawn to two circles touching internally ?
1) 3
2) 2
3) 1
4) no common tangent
45. Where does the circumcentre of an obtuse angled triangle lie ?
1) In the interior of the triangle
2) In the exterior of the triangle
3) On the side of the triangle.
4) At the vertex of the obtuse angle
46. For the angle in standard position, if the initial arm rotates $300^{\circ}$ in clockwise direction, then in which quadrant will the terminal arm be ?
1) Quadrant I
2) Quadrant II
3) Quadrant III
4) Quadrant IV
47. For the angle $\theta$ in standard position, if the terminal arm passes through the point $(6,-8)$, then what is the value of $\cot \theta$ ?
1) $-\frac{4}{3}$
2) $\frac{4}{3}$
3) $-\frac{3}{4}$
4) $\frac{3}{4}$
48. $A(-2,3), B(4,-3), C(4,2), D(3, k)$. If line $A B$ is parallel to line $C D$, then what is the value ofk ?
1) 3
2) -3
3) 1
4) -1
49. Arc of a circle subtends and angle of $189^{\circ}$ at the centre of the circle if the length of the arc is 33 cm , then the radius of circle is :
1) 3 cm
2) 7 cm
3) 10 cm
4) 14 cm
50. What is the equation of a line passing through $(2,-1)$ and parallel to the line $3 x+4 y=10$ ?
1) $3 x+4 y+2=0$
2) $3 x+4 y-2=0$
3) $3 x-4 y-2=0$
4) $-3 x+4 y-2=0$
51. What is the value of $k$, if one of the roots of the quadratic equation $x^{2}+k x+12=0$ is 2 ?
1) 4
2) -4
3) 8
4) -8
52. What is the class mark of the class $10-19$ ?
1) 14.5
2) 29
3) 4.5
4) 9
53. Which of the following is not a measure of the central tendency?
1) Mean
2) Median
3) Mode
4) Standard deviation
54. A conin is tossed three times. What is the probability of getting no tail ?
1) $\frac{1}{2}$
2) $\frac{3}{8}$
3) $\frac{2}{3}$
4) $\frac{1}{8}$
55. If $(-2,-3)$ is a point on the line $2 y=m x+5$, then what is the value of $m$ ?
1) $\frac{11}{2}$
2) $-\frac{11}{2}$
3) $\frac{2}{11}$
4) $-\frac{2}{11}$
56. The length of the chord of a circle of radius 25 is 48 . Then the distance of the chord from the centre is....
1) 3
2) 5
3) 7
4) 10
57. A chord subtending an angle of $120^{\circ}$ at the centre of the circle of radius 10 cm is $\qquad$
1) $10 \sqrt{3}$
2) $12 \sqrt{3}$
3) $5 \sqrt{3}$
4) $25 \sqrt{3}$
58. What is the value of $\frac{1}{x}+\frac{1}{y}$, if $\frac{5}{x}+\frac{9}{y}=6$ and $\frac{1}{x}+\frac{5}{y}=30$ ?
1) 6
2) -6
3) 4
4) -4
59. The coordinates of the circumcenter of $\triangle A B C$ if $\mathrm{A}=(-5,4), \mathrm{B}=(9,-10)$ and $\mathrm{C}=(-3,6)$ are
1) $(-2,3)$
2) $(3,-2)$
3) $(-2,-3)$
4) $(-3,2)$
60. The points $\mathrm{A}(2,3) \mathrm{Q}(5, \mathrm{k})$ and $\mathrm{R}(6,7)$ are collinear, the value of K is
1) 3
2) 6
3) -3
4) -6
61. Find the ratio in which the line segment joining the points $(6,4)$ and $(1,-7)$ is divided by the $x$-axis.
1) $4: 7$
2) $7: 4$
3) $5: 7$
4) $7: 5$
62. If $7 \cos \mathrm{~A}-24 \sin \mathrm{~A}=0$, then the value of $\tan \mathrm{A}$ is :
1) $\frac{7}{24}$
2) $\frac{24}{7}$
3) $\frac{25}{7}$
4) $\frac{24}{25}$
63. If $\sec \theta=\sqrt{\frac{13}{12}}$, then the value of $\sin \theta-\cos \theta$ is
1) $\frac{1}{\sqrt{12}}$
2) $\frac{1-\sqrt{12}}{\sqrt{13}}$
3) $\frac{1+\sqrt{12}}{\sqrt{13}}$
4) $\frac{1}{\sqrt{13}}$
64. If $\sin \theta=\frac{12}{37}$, then the value of $\cot \theta$ is :
1) $\frac{37}{35}$
2) $\frac{35}{37}$
3) $\frac{12}{35}$
4) $\frac{35}{12}$
65. The length of a rectangle is twice its breadth. If its length is decreased by 5 cm and breadth is increased by 5 cm , the area of the rectangle is increased by $75 \mathrm{~cm}^{2}$. Then the length of the rectangle is :
1) 20 cm
2) 30 cm
3) 40 cm
4) 50 cm
66. If the perimeter of a rectangle and a square each is equal to 80 cm , and the difference of their areas is 100 sq.cm, the sides of the rectangle are
1) $35 \mathrm{~cm}, 15 \mathrm{~cm}$
2) $30 \mathrm{~cm}, 10 \mathrm{~cm}$
3) $25 \mathrm{~cm}, 15 \mathrm{~cm}$
4) $28 \mathrm{~cm}, 12 \mathrm{~cm}$
67. Two similar right triangles ABC and PQR are as shown in the figure. If $\mathrm{AB}=\sqrt{\mathbf{3}}, \mathrm{PQ}=\frac{\sqrt{\mathbf{3}}}{2}, \mathrm{BC}=1$. Find $\mathrm{PR}=$ ?

1) 2
2) 1
3) $2 \sqrt{3}$
4) 4
68. The measure of the complementary angle of measure $35^{\circ}$ is .....
1) $55^{\circ}$
2) $90^{\circ}$
3) $35^{\circ}$
4) $45^{\circ}$
69. The sum of the measures of two acute angles is $88^{\circ}$ and the difference between their measures is $18^{\circ}$. Then the measure of the bigger acute angle is .....
1) $35^{\circ}$
2) $43^{\circ}$
3) $45^{0}$
4) $53^{\circ}$
70. The ratio of the supplementary angle and complementary angle is $13: 4$. Then the measure of the angle is ....
1) $40^{\circ}$
2) $50^{\circ}$
3) $65^{\circ}$
4) $85^{\circ}$
71. The value of $\sin 75^{\circ}+\cos 75^{\circ}$ is :
1) $\sqrt{3}$
2) $\frac{\sqrt{6}}{2}$
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) $2: 3: 5$
73. 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 least .....one -one correspondence between the vertices of two triangles is necessary to make the triangles congruent.
1) 1
2) 2
3) 3
4) 4
75. The figure of two coplaner congruent isosceles right angled triangles, when their hypotenuses are joined is....
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.
77. "Ringing" is used to collect information about
(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.
78. Which is assumed to be?
(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 $\mathrm{a}, \mathrm{b}$ 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 $[\mathrm{a}, \mathrm{b}, \mathrm{c}$,$] indicate your response by blackening the letter related to that part in the Answer Sheet provided, If a sentence$ 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.
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 accident. 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 not large houses but small cottages.
(1) was
(2) were
(3) is
(4) No improvement
88. It was hard to believe that he was dead for two years.
(1) hass been dead
(2) is dead
(3) had been dead
(4) No improvement
89. Would you find me absent, please don't forget to leave a message behind.
(1) Should
(2) Unless
(3) As
(4) No improvement
90. Mother always finds faults with the maid servant.
(1) is finding faults
(2) finds fault
(3) find faults
(4) No improvement

## SENTENCE COMPLETION

Direction (Q.91 to 96) : Pick out the most effective word from the given words to fill in the blank to make the sentence meaningfully complete.
91. People who have an $\qquad$ reputation are often avoided by the rest.
(1) unsteady
(2) unsavory
(3) unsafe
(4) unsatisfied
92. My father was too $\qquad$ to push open the heavy door.
(1) timid
(2) faint
(3) feeble
(4) faltering
93. He does not suffer from any $\qquad$ disease at all
(1) acute
(2) honest
(3) judicious
(4) irregular
94. We are not sure if their business is strictly $\qquad$
(1) prudent
(2) honest
(3) judicious
(4) legitimate
95. The claims made by the manufacture of the prod uct are so extravagant that only the $\qquad$ will ac cept them on face value.
(1) cynical
(2) gullible
(3) rich
(4) indifferent
96. Justice should be $\qquad$ even- handedly.
(1) discharged
(2) performed
(3) declared
(4) administered

## SYNONYMS

Direction. Q $97 \& 98$ In this section you find a number of sentences, parts of which are italicised. You may also find only a group of words which is italicised. For each italicized part, four words phrases are listed below. Choose the word/phrase nearest in meaning to the italicised word or phrase.
97. Now the fury of the demonstrators turned against the machines.
(1) acrimony
(2) rage
(3) passion
(4) asperity
98. He gave much a vivid description of the house we wanted to rent that we did not have to look at it.
(1) confused
(2) detailed
(3) simple
(4) clear

## ANTONYMS

Directions (Qs. 99 \& 100): In this Section each item consists of a word or a phrase which is underlined in the given sentence. It is followed by four words or phrases. Select the word or phrase which is closet to the opposite in meaning of the underlined and bold word or phrase.
99. The new disciplinary measures strengthened the economy of the country.
(1) Destroyed
(2) Changed
(3) Crippled
(4) Constrained
100. There are people who always deprecate the achievements of others.
(1) Exaggerate
(2) Appreciate
(3) Approve
(4) Encourage
101. The image formed by a slide projector is Usually
(1) real, inverted and diminished
(2) real, inverted and magnified
(3) virtual, upright and magnified
(4) virtual, inverted and diminished
102. White light is dispersed using a prism by means of
(1) reflection
(2) refraction
(3) diffraction
(4) interference
103. The focus of a concave mirror is
(1) real
(2) virtual
(3) undefined
(4) at the pole
104. Which of the following statements is not true, regarding the electrical setup for the verification of Ohms law?
(1) The voltmeter is connected in parallel with the known resistance.
(2) The ammeter is connected in series circuit.
(3) The rheostat can only increase the resistance in electric circuit.
(4) The single key is used to switch on/off the electric circuit
105. Two electric bulbs have resistances in the ratio $1: 2$. If they are joined in series, the energy consumed in them are in the ratio
(1) $1: 2$
(2) $2: 1$
(3) $4: 1$
(4) $1: 1$
106. The group....... in the modern periodic table contains 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 reaction is known as $\qquad$
(1) pale yellow
(2) grey
(3) white
(4) red
108. pH scale helps in measuring $\qquad$ ionic concentration in solutions.
(1) hydrogen
(2) hydroxyl
(3) oxygen
(4) nitrogen
109. .........is the only non-metallic element which is not a solid at room Temperature.
(1) bromine
(2) Sulphur
(3) Carbon
(4) Mercury
110. $\qquad$ is known as marsh gas
(1) Methane
(2) Ethane
(3) Propane
(4) Ethene
111. Which of the following is a large blood vessel that carries blood away from the heart?
(1) Vein
(2) Artery
(3) Capillary
(4) Nerve
112. Which of the following is not a member of the vitamin $B$ 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 reptile?
(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 the heaviest metal?
1)osmium
2) mercury
3) iron
4) nickel
117. Consider following statements:
I. Green chemistry focuses on effects of chemical pollutants on nature.
II. Environmental chemistry focuses on technological approach to prevent pollution.

1) Only I
2) Only II
3) Both I \& II
4) Neither I nor II
118. Which one of the following received the Greener Reaction 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 dioxide
2) Supercritical hydrogen
3) Aqueous hydrogen peroxide
4) All of these
120. Green solvents are derived from $\qquad$ .
1) Renewable resources
2) Carbon resources
3) Non-renewable resources
4) All of these
121. Which of the following is not true?
(1) Nirbhay is a missile of 1000 km
(2) Brahmos missile is developed by DRDO
(3) Astra is an Air to Surface missile.
(4) The range of Agni iii is between 3000 to 5000 kms .
122. Druva is a $\qquad$
(1) Tank
(2) Advanced light helicopter
(3) A multi barrel rocket system
(4) Missile
123. Which country is the biggest importer of arms and ammunition in the world?
(1) Iran
(2) Afghanistan
(3) Pakistan
(4) India
124. From which country India purchases its maximum defence equipment?
(1) Russia
(2) USA
(3) Israel
(4) China
125. What is NOT true about Brahmos missile?
(1) It was developed by the DRDO with the help of US
(2) It's a supersonic cruise missile that can be launched from submarines, ships, aircrafts or lan
(3) It can hit at the maximum 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 Limited?
(1) Vishakhapatnam
(2) Kolkata
(3) Mumbai
(4) Kandla
127. When is army day observed in India?
(1) 4 dec
(2) 15 jan.
(3) 28 feb
(4) 1 dec
128. Which of the following is the oldest paramilitary in the country?
(1) CRPF
(2) BSF
(3) ITBP
(4) Assam rifles
129. Which of the following does not different from others?
(1) Vijayanta
(2) T-55
(3) Arjun
(4) Agni
130. Bhabha Atomic Research Centre is situated in. $\qquad$
(1) Karnataka
(2) Maharashtra
(3) Uttrakhand
(4) Delhi
131. The Paithan (Jayakwadi) Hydro-electric project, completed with the help of Japan, is on the river
(1) Ganga
(2) Cauvery
(3) Narmada
(4) Godavari
132. The percentage of irrigated land in India is about
(1) 45
(2) 65
(3) 35
(4) 25
133. The southernmost point of peninsular India, that is, Kanyakumari, is
(1) north of Tropic of Cancer
(2) south of the Equator
(3) south of the Capricorn
(4) north of the Equator
134. The pass located at the southern end of the Nilgiri Hills 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 content of sugarcane
III) Lower labour cost
IV) Longer crushing period
(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 sovereign body because
(1) it can legislate only on subjects entrusted to the Centre by the Constitution
(2) it has to operate within the limits prescribed by the Constitution
(3) the Supreme Court can declare laws passed by parliament as unconstitutional if they contravene the provisions of the Constitution
(4) All of the above
137. The name of the Laccadive, Minicoy and Amindivi islands was changed to Lakshadweep by an Act of Parliament in
(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 the legislative council
139. The members of the panchayat are
(1) nominated by the district officer
(2) the electorates of the respective territorial constituencies
(3) nominated by local self-government minister of the state
(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 signed MoU with the Maharashtra Government to promote Fintech?
(1) Ministry of Manpower
(2) Ministry of Trade and Industry
(3) Economic Development Board
(4) Monetary Authority of Singapore
142. This government launched a scheme 'Mukhyamantri Tirth Yatra Yojana' which offers free travel packages for senior citizens.
(1) Delhi
(2) Himachala Pradesh
(3) Punjab
(4) Kerala
143. Which state government launched the PEETHA scheme which is a part of the 3 T initiative of Technology, Transparency and Team Work model.
(1) Bihar
(2) Odisha
(3) Andra Pradesh
(4) Tamil Nadu
144. Prime Minister Narendra Modi will inaugurate India's longest rail-cum-road bridge "Bogibeel Bridg" located in the state of;
(1) Jharkhand
(2) Gujarat
(3) Haryana
(4) Assam
145. Which of the following state is the second state in the country to launch the emergency mobile number?
(1) Manipur
(2) Nagaland
(3) Maharashtra
(4) Madhya Pradesh
146. Which country to Chair Kimberley Process From January 2019 ?
(1) India
(2) Pakistan
(3) Saudi Arabia
(4) Indonesia
147. According to the report by Bain \& Company, which of the following country is the fastest growing e-commerce market?
(1) Saudi Arabia
(2) Malaysia
(3) India
(4) Argentina
148. Which IIT researchers developed smartphone-based system to detect adulteration in milk?
(1) IIT Roorkee
(2) IIT Kanpur
(3) IIT Chennai
(4) IIT Hyderabad
149. 2019 Union World Conference on Lung Health wil be hosted by $\qquad$ .
(1) India
(2) Poland
(3) Spain
(4) Morocco
150. This country conferred with the Asia Environment Enforcement Awards, 2018, recently United Nation Environment.
(1) Denmark
(2) Iceland
(3) China
(4) India
