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NIT ACTUAL 2016

SECTION-A (MATHS)

- 1. The number of 5 people groups that can be selected from 9 people when two particular persons are not to be in the same group is
 - (a) 126
- (b) 35

- (d) 252
- 2. The solution set of equation

$$\log_{2x} \log_{2x} 2 = \log_{4x} 2$$
 is?

- (a) $\{2^{-\sqrt{2}}, 2^{\sqrt{2}}\}$ (b) $\{1/2, 2\}$

(c) 91

- (c) $\{1/4,2^2\}$
- (d) $\{1/4,2\}$
- If a twelve sided regular polygon is inscribed in a circle of radius 3 centimeters then the length of each side of the polygon is
 - (a) 3

- (b) $18 9\sqrt{3}$
- (c) $18 + 9\sqrt{3}$
- (d) $9(1-\sqrt{3})$
- If C is the midpoint of AB and P is any point outside AB,
 - (a) $\overrightarrow{PA} + \overrightarrow{PB} = 2\overrightarrow{PC}$ (b) $\overrightarrow{PA} + \overrightarrow{PB} = \overrightarrow{PC}$
 - (c) $\overrightarrow{PA} + \overrightarrow{PB} = 2\overrightarrow{PC} = 0$ (d) $\overrightarrow{PA} + \overrightarrow{PB} + \overrightarrow{PC} = 0$
- 5. The average marks of boys in class is 52 and that of girls is 42 .The average marks of boys and girls combined is 50 . the percentage of boys in the class is (a) 80 % (b) 60% (c) 40%
- A boy contains 2 blue caps, 4 red caps, 5 green caps and 1 yellow cap, If four caps are picked at random, the probability that none of them is green is
 - (a) 7/99
- (b) 7/12
- (c) 5/99
- (d) 5/12
- The line 3x + 5y = k touches the ellipse

$$16x^2 + 25y^2 = 400$$
 if K is

(a)
$$\pm \sqrt{5}$$
 (b) $\pm \sqrt{15}$ (c) $\pm \sqrt{35}$ (d) $-\pm 25$

- If $X = \{4^n 3n 1, n \in N\}$ and
 - $Y = \{9n 9, n \in N\}$, then $X \cup Y$ is equal to

 - (a) Y (b) X (c) N
- (d) None
- 9. $\int \left\{ \frac{\log x 1}{1 + (\log x)^2} \right\}^2 dx$ is equal to

- (a) $\frac{xe^x}{1+x^2} + c$ (b) $\frac{x}{(\log x)^2 + 1} + c$
- (c) $\frac{\log x}{(\log x)^2 + 1} + c$ (d) $\frac{x}{x^2 + 1} + c$
- 10. The volume of the parallelepiped determined by u = i + 2j - k, v = -2i + 3k and w = 7j - 4k
 - (a) 21 (b) 22 (c) 23

- (d) 24
- 11. The vector perpendicular to the plane passing through (1,-1,0) (2,1,-1) and (-1,1,2) is

 - (a) $\overline{6i} + \overline{6k}$ (b) $\overline{6i} + \overline{7k}$
 - (c) $\overline{7i} + \overline{6k}$
- (d) $\overline{7i} + \overline{8k}$
- 12. The education of a circle with diameatere are

2x-3y+12=0 and x+4y-5=0 and area of 154 sq unit is

- (a) $x^2 + y^2 6x + 4y 36 = 0$
- (b) $x^2 + y^2 + 6x 4y 36 = 0$
- (c) $x^2 + y^2 6x 4y + 25 = 0$
- (d) none
- 13. dx is equal to

$$\int \frac{x^2 - 1}{x^3 \sqrt{2x^4 - 2x^2 + 1}}$$

(a)
$$\frac{\sqrt{2x^4 - 2x^2 + 1}}{x^2} + c$$

(b)
$$\frac{\sqrt{2x^4 - 2x^2 + 1}}{x^3} + c$$

(c)
$$\frac{\sqrt{2x^4 - 2x^2 + 1}}{x} + c$$

(d)
$$\frac{\sqrt{2x^4 - 2x^2 + 1}}{2x^2} + c$$

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14. if $\stackrel{\rightarrow}{a,b}$ and $\stackrel{\rightarrow}{a+b}$ are vectors of magnitude Γ the the

magnitude of the vector $\stackrel{\rightarrow}{a} - \stackrel{\rightarrow}{b}$

- (a) $\sqrt{2}$ r (b) $\sqrt{3}$ r
- (c) 2r
- (d) 3r
- 15. Which of the following statements is False?
 - (a) $2 \in A \cup B$ implies that if $2 \notin A$ then $2 \in B$
 - (b) $\{2,3\} \subset A$ implies that $2 \subset A$ and $3 \subset A$
 - (c) $A \cap B \supset \{2,3\}$ implies that $\{2,3\} \subset A$ and $\{2,3\}\subseteq B$
 - (d) $\{2\} \in A$ and $\{3\} \in A$ impelies that $\{2,3\} \subseteq A$
- **16.** If $2x^2 + 7xy + 3y^2 + 8x + 14y + \} = 0$ represents a pair of straight lines ,the value of } is (d) 8 (b) 4 (c) 6(a) 2
- 17. The area of region bounded by the lines
 - y = |x 1| and y = 3 |x| is
 - (a) 3 sq. unit
- (b) 4 sq unit
- (c) 6 sq unit
- (d) 2 sq. unit
- **18.** In a triangle ABC, a=4, b=3, $\angle BAC = 60^{\circ}$, then the equation for which C is the root, is
 - (a) $c^2 + 3c + 7 = 0$
- (b) $c^2 + 3c 7 = 0$
- (c) $c^2 3c + 7 = 0$ (d) $c^2 + 3c 7 = 0$
- **19.** If $\cos_{\pi} = \frac{5}{13}, \frac{3f}{2} < \pi < 2f$, then $\tan 2\pi$ is?
 - (a) -120/119
- (b) -120/169
- (c)119/169
- (d) 120/119
- 20. An experiment has 10 equally likely outcome. Let A and B be two non- empty events of the experiment . If A consist of 4 outcomes ,the number of outcome that B must have so that A and b are independent, is
 - (a) 2,4 or 8
- (b) 3,6 or 9 (c) 4 or 8
- **21.** Let $\stackrel{\rightarrow}{a}$, $\stackrel{\rightarrow}{b}$ and $\stackrel{\rightarrow}{c}$ be three non-zero vectors, no two of

which are collinear , if the vector $\stackrel{\rightarrow}{a}+2\stackrel{\rightarrow}{b}$ is collinear

with $\stackrel{\rightarrow}{c}$ and $\stackrel{\rightarrow}{h} + 3\stackrel{\rightarrow}{c}$ is collinear with $\stackrel{\rightarrow}{a}$, then

 $\stackrel{\rightarrow}{a}$ + 2 $\stackrel{\rightarrow}{b}$ + 6 $\stackrel{\rightarrow}{c}$ is equal to

- (a) $\} \stackrel{\rightarrow}{a}$ (b) $\} \stackrel{\rightarrow}{b}$ (c) $\} \stackrel{\rightarrow}{c}$ (d)
- 22. The value of a, for which the sum of the square of the roots of the equation $x^2 - (a-2)x - (a+1) = 0$
 - (a) 3
- (b) 2
- (c) 0
- (d) 1
- For any two events A nd B, the probability that atleast one of them occur is 0.6. If A and B occure simultaneously with a probablity 0.3 then P(A') + P(B') is
 - (a) 0.9
- (b) 1.15

- Two finite sets A and B are having m and n elements. 24. The total number of subsets of the first set is 56 more than the total number of subsets of the second set. The value of m and n are
 - (a) 7,6
- (b) 6,3
- (c) 5.3
- (d) 8,7
- 25. The probability that A speaks truth is 4/5 while this probability for B is 3/4, The probability that they contradict each other when asked to speak on a fact is
 - (a) 3/20
- (b) 1/5
- (c) 7/20
- The sum of the expression

$$\frac{1}{\sqrt{1+\sqrt{2}}} + \frac{1}{\sqrt{2}+\sqrt{3}} + \frac{1}{\sqrt{3}+\sqrt{4}} + \dots + \frac{1}{\sqrt{80}+\sqrt{81}}$$

- (a) 7
- (b) 8
- (c) 9
- (d) 10
- Consider the function f defines by

$$f(x) = \begin{cases} x^2 - 1 & x < 3 \\ 2ax & x \ge 3 \end{cases}$$
 for all real number x. If F is

continuous at x=3, then value a is?

- (a) 8
- (b) 3/4
- (c) 1/8

(c)2/9

- (d) 4/3
- Three house are availabe in a locality . Three persons apply for the houses. Each applies for one house without consulting other . The probability that all the three apply for the same house is
 - (a) 8/9
- (b)7/9
- (d)1/9
- Five horse are in a race. Mr. A selects two of the horse at random and bets on them . The probabily that Mr. A selected winning horse is
 - (a) 3/5
- (b) 1/5
- (c) 2/5
- (d) 4/5
- **30.** If $3^x = 4^{x-1}$, then x =
 - (a) $\frac{2 \log_3 2}{2 \log_3 2 1}$
- (b) $\overline{2\log_3 2} 1$
- $2 \log_3 2$
- $2\log_3 2$ (d) $2\log_2 3 + 1$

- The matrix A has x has x rows and (x+5) columns and the metrix B has y rows and (11-y) columns.ilf both the matrices AB and BA exist, then value of x and y are?
 - (a) 8.3
- (b) 3.5
- (c) 3.8
- (d) 8.5
- a circus artist is climbing a 20 m long rope ,which is tightly streached and tied from the top of a vertical pole to the ground .Find the height of the pole, if the angle made by the rope with the ground level is 30° ?
 - (a) 10 m
- (b) 20 m
- (c) 30 m
- (d) 40 m
- There are n equally spaced points 1,2,....,n marked on the circumference of a circle. If the point 15 is directly opposit to the point 49, then the total number okf points is?
 - (a) 50
- (b) 68
- (c) 66
- (d) 70
- 34. Let $S = \{1, 2, ..., n\}$. The number of possible pairs of the form (A,B) with $A \subseteq B$ for subsets A,B of S is $(\mathbf{A})2^n$
 - (a) 2^n

(b) 3^n

(c) n!

- $(d) \sum_{k=0}^{n} \binom{n}{n-k}$
- 35. Sum of the roots of the equation

$$4^{x} - 3(2^{x+3}) + 128 = 0$$
 is?

- (b) 6
- (c)7
- (d) 8
- 36. If the sum of the slopes of the lines given by $x^2 - 2cxy - 7y^2 = 0$ is four times their product, then the value of c is?
 - (a) 1
- (b) -1
- (c) -2
- (d) 2
- 37. The system of equations

$$x + y + 2z = a$$

$$x + z = b$$

$$2x + y + 3z = c$$

- (a) b = c
- (c) c = a + 2b
- (d) a = b = c

- Let $f(x) = x^2 bx + c$, b is an odd positive integer .If f(x) = 0 has two prime numbers as roots and b+c=35, then the global minimum value of f(x) is (a) -183/4 (b) 173/16 (c) -81/4(d) 17/2
- 39. The vertex of the parabola whose focus is (-1,1) and directrix is 4x + 3y - 24 = 0 is

 - (a) $\left(0, \frac{3}{2}\right)$ (b) $\left(0, \frac{5}{2}\right)$
 - (c) $\left(1, \frac{3}{2}\right)$ (d) $\left(1, \frac{5}{2}\right)$
- **40.** The number of points in $(-\infty, \infty)$, for which

$$x^2 - x\sin x - \cos x = 0$$
 is

- (a) 6
- (b) 4

- There are 4 books on fairy tales, 5 novels and 3 plays. In how many ways can they be arranged in the order books on fairy tales, novels and then plays so that books of same category are put together?
 - (a) 17280
- (b) 103680
- (c) 51840
- (d) 360
- Suppose a population A has 100 observations 42. 101,102,....200 and another population B has 100 observations 151,152,...,250.If V_a and V_b represent vari-

ance of the two populations respectively, then $rac{V_A}{V_-}$ is

- (a) 9/4
- (b) 4/9 (c) 1 (d) 2/3
- If \overrightarrow{a} , \overrightarrow{b} are vector such that $|\overrightarrow{a} + \overrightarrow{b}| = \sqrt{29}$ and

$$\vec{a} \times \left(2\hat{i} + 3\hat{j} + 4\hat{k}\right) = \left(2\hat{i} + 3\hat{j} + 4\hat{k}\right) \times \vec{b} \text{ then a}$$

possible value of $(\hat{a} + \hat{b}) (-7\hat{i} + 2\hat{j} + 3\hat{k})$ is .

- (b) 3

- **44.** Let x_1, x_2, \dots, x_n be n observations such that

 $\sum x_i^2 = 400$ and $\sum x_i = 80$. then a possible value of n amongs the following is

- (a) 10
- (b) 15
- (c) 20
- (d) 8

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- 45. Area of the greatest rectangle that can be inscribed in the ellipse is
 - (a) \sqrt{ah}
- (b) 2ab (c) ab (d) a/b
- **46.** Two common tangents to the circles $x^2 + y^2 = 2a^2$ and parabola $y^2 = 8ax$ are
 - (a) $x = \pm (y + 2a)$ (b) $y = \pm (x + 2a)$
 - (c) $x = \pm (y+a)$ (d) $y = \pm (x+a)$
- **47.** If a_1, a_2, \dots, a_n are in A.P. and $a_1 = 0$ then the value of

$$\left(\frac{a_3}{a_2} + \frac{a_4}{a_3} + \frac{a_n}{a_{n-1}}\right) - a_2 \left(\frac{1}{a_2} + \frac{1}{a_3} + \dots + \frac{1}{a_{n-2}}\right)$$
 is

(a)
$$(n-2) + \frac{1}{n-2}$$
 (b) $\frac{1}{n-2}$

(b)
$$\frac{1}{n-2}$$

(c)
$$n-2$$

(c)
$$n-2$$
 (d) $n-\frac{1}{n-2}$

- **48.** The value of $\cos 20^{\circ} + \cos 100^{\circ} + \cos 140^{\circ}$ is

 - (a) 0 (b) $\frac{1}{\sqrt{2}}$ (c) $\frac{1}{2}$
- (d) 0
- The permutations of {a,b,c,d,e,f,g} are listed in lexicographic order .Which of the following permutations are just before and just after the permutation bacdefg?
 - (a) agfedbc and bacdfge (b) agfedcb and badcefg
 - (c) agfebcd and bacedgf (d) agfedcb and dacdegf
- **50.** The foci of the ellipse $\frac{x^2}{16} + \frac{y^2}{h^2} = 1$ and the hyperbola
 - $\frac{x^2}{144} \frac{y^2}{81} = \frac{1}{25}$ coincide .Then the value of b^2 is
 - (a) 5
- (b) 7
- (c) 9
- (d)1

SECTION-B (COMPUTER)

Directions (Questions 63 to 66)

Eight friend J,K,L,M,N,O,P and Q live on eight different floors of a building but not necessarily in the same order. The lower most floor of the building is numbered one, the one above that is numbered two and so on until the top most floor is numbered eight.

- * J lives on floor numbered six.
- * Only one person lives between J and L.

- O lives on the floor immediately below L.
- * Only one person lives between O and P.
- * O lives above P.
- * K lives on an even numbered floor but not on the floor numbered two.
- Two person lives between K and Q.
- * Q does not live on the lower most floor.
- N lives on one of the floors above Q.
- 63. Who amongst the following lives on the floor number eight?
 - (a) P (d) cannot be determined (b) O (c) K
- 64. Three of the following four are alike in a certain way based on the given arrangement and thus form a group. Which of the following does not belong to the group? (c) LN (a) PL (b) MQ
- 65. If P and L interchange their places, who will live between P and M?
 - (a) O
- (c) J
- (d) No one
- (b) L Which of the following is true about M?
 - (a) K lives immediately above M.
 - (b) Only two people live between M and Q.
 - (c) M lives on an odd numbered floor.
 - (d) M lives on the lower most floor.
- 67. A family has several children. Each boy in this family has as many sister as brothers, but each girl has twice as many brothers as sisters. How many brothers and sisters are there?
- (a) 1 and 2 (b) 3 and 4 (c) 6 and 3 (d) 4 and 3 In a certain code language '134' means 'good and tasty','478' means 'see good pictures' and '729' means 'pictures are faint'. How many brothers and sisiters are there?
 - (a) 2
- (b) 7
- (c) 8
- (d) 1
- If the English word 'EXAMINATION' is coded as 56149512965, then the word 'GOVERNMENT' can be coded as
 - (a) 7655955552
- (b) 7645954452
- (c) 7645954552
- (d) 7644956552

Questions 70 and 72 are based on the following:

A team must be selected from the ten probable players A,B,C,D,E,F,G,H,I and J. Of these,A,C,E and J are forwards, B,G and H are point guards and D,F and I are defenders.

- * The team must have at least on eforward, one point guard and one defender.
- * If the team includes J, it must also include F.
- * The team must include E and B, but not both.
- * If the team includes G, it must also include F.
- * The team must include exactly one among C,G and I.
- * C and F cannot be members of the same team.
- D and H cannot be members of the same team.
- The team must include both A and D or neither of
- There is no restriction on the number of members in the team.
- 70. What would be the size of the largest possible team? (a) 7 (b) 6 (c) 5
- Which of the following cannot be included in a team of size 6?
 - (a) A
- (b) H
- (c) J
- (d) E

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72.	What could be the maximum size of the team that in-	Que	stions 81 to 83 are based on the following :
	cludes G?		A boy is asked to put in a basket one mango when
	(a) 4 (b) 5 (c) 6 (d) More than 6	No.	ordered 'One', one orange when ordered 'Two', one
73.	405 sweets were distributed equally among a group of		apple when ordered 'Three' and is asked to take out
	children such that the number of sweets received by		from the basket one mango and an orange when or-
	each child is one-fifth of the number of children. The		dered 'Four'. A sequence of orders is given as
	number of children in the group is	04	12332142314223314113234.
74	(a) 45 (b) 9 (c) 21 (d) 15	81.	How many total fruits will be in the basket at the end of
74.	The number of common terms in the two sequences		the above order sequence? (a) 9 (b) 8 (c) 11 (d) 10
	17, 21, 25,,817 and 16,21,26,,851 is (a) 28 (b) 39 (c) 40 (d) 87	82.	(a) 9 (b) 8 (c) 11 (d) 10 How many total oranges were in the basket at the end
75.	Fact 1: Most stuffed toys are stuffed with beans.	02.	of the above sequence?
70.	Fact 2: There are stuffed bears and stuffed tigers.		(a) 1 (b) 4 (c) 3 (d) 2
	Fact 3: Some chairs are stuffed with beans.	83.	The day after the day after tomorrow is four days after
	If the above statements are fact, which of the following		Monday. What day is it today?
	statements must also be fact?		(a) Monday (b) Tuesday
	Only children's chairs are stuffed with beans.		(c) Wednesday (d) Thursday
	All stuffed tigers are stuffed with beans.	84.	A clock is set right at 5 a.m. The clock looses 16 min-
	Stuffed monkeys are not stuffed with beans.	40	utes in 24 hours. What will be the correct time when the
	(a) 1 is a fact		clock indicates 10 p.m. on the 3rd day?
	(b) Only 2 is a fact		(a) 11 p.m. (b) 10:45 p.m.(c) 11:15 p.m. (d) 12 p.m.
	(c) Both 2 and 3 are facts	Que	stions 85 to 87 are based on the following:
76.	(d) None of the statements 1,2,3 are true A Group of 630 children are seated in n rows for a group		* Eleven students A,B,C,D,E,F,G,H,I,J and K are sitting in the row of the class facing the teacher.
70.	photo session. Each row contains three less children		* D who is to the immediate left of F is second to the
	than the row in front of it. Which one of the following		right of C.
	number of rows in not possible?		* A is second to the right of E, who is at the ends.
	(a) 3 (b) 4 (c) 5 (d) 6		* J is the immeiate neighbour of A and B and third to the
Que	stions 77 to 79 are based on the following:		left of G.
	* There are six houses P,Q,R,ST and U, three on		* H is to the immediate left of D and third to the right of I.
	eitherside of a road.	100	
	* The houses are if different colours-red, blue,	85.	Who is sitting in the middle of the row?
	green,orange,yellow and white.	00	(a) B (b) C (c) G (d) I
	* All the houses are of different heights. * T, the tallest house is exactly opposite to the red	86.	If E and D, C and B, A and H and K and F interchange their positions, which of the following pairs o fstudents
	coloured house.		are sitting at the ends?
	* The shortest house is exactly opposite to the green		(a) D and E (b) E and F
	coloured house.		(c) D and K (d) K and F
	* U, the orange coloured house is located between P	87.	Which of the following groups of friends is sitting to the
	and S.		right of G?
	* R, the yellow coloured house is exactly opposite to		(a) CHDE (b) CHDF (c) IBJA (d) None
	P	88.	What is the missing number in the series
	* Q, the green coloured house is exactly opposite to		4,7,11,18,29,47, ,123,199?
	U.	90	(a) 76 (b) 77 (c) 86 (d) 87
	* P, the white coloured house is taller than R, but shorter than S and Q.	89.	How many pairs of lettes are there in the word NECES- SARY which have as many letters between them in the
	Shorter than 5 and Q.		word as there are between them in the alphabet and in
77.	Which is the second largest house?		the same order?
	(a) Q (b) R (c) S (d) cannot be determined		(a) One (b) Two (c) Three (d) Four
		90.	Unscramble the letters in the following words and find
78.	Which is the second shortest house?		the odd one.
	(a) P (b) R (c) S (d) cannot be determined		(a) ONGEAR (b) NOONI
79.	What is the colour of the tallest house?		(c) ALPEP (d) AUVAG
	(a) Red (b) Blue	91.	A bus starts from its depot filled to seating capacity. It
	(c) Green (d) Yellow		stops at a point A were 1/6 th of the passengers alight
80.	Raman was born on March 5, 1970 Lakshman was		and 10 board the bus. At point B, 1/5th of the passen-
	born 25 days before Raman. The year when they took		gers alight and 3 board the bus. At point C which is the
	birth, the Republic day fell on Monday. What is the day of birth of Lakshman?		last stop, all the 55 passengers alight. The capacity of the bus is

(a) Sunday

(a) 96

(b) 99

(b) Monday

(d) Saturday

(d) 90

(c) 66

The Catalyst of **Your Ambition**

Kha-kha is an obscure island which is inhabited by two types of people: the "yes" typy and the "No" type. Native of type 'yes' ask only questions the right answer to which is 'yes' while those of type 'No' ask only questions the right answer to which is 'No'. For example the 'yes' type will ask questions like "Is 2 plus 2 equal to 4?" While the "No" type will ask questions like "Is 2 plus 2 equal to 5?". The following question i sbased on your visit to the island Kha-kha.

Kevin and Kumar are brothers from the island. Kumar asks you. Is at least one of us is of type 'No'? You ca conclude that

- (a) Kevin is 'No', Kumar is 'Yes"
- (b) Both are 'Yes'
- (c) Kevin is 'Yes'. umar is 'No'.
- (d) Both are 'No'

Questions 93 to 95 are based on the following:

- * A,B,C,D,E and F are six members in a family in which there are two married couples.
- * D is brother of F.
- * Both D and F are lighter than B.
- * B is mother of D and lighter than E.
- * C is a lady, is neither haviest nor lightest in the family.
- * E is lighter than C.
- * The grandfather in the family is the haviest.
- **93.** Which of the following is a pair of married couples? (a) AB (b) BC (c)AD (d) BE
- Who among the following will be in the second place if all the members in the family are arranged in a descending order of their weights?
- (a) C (b) A (c) D 95. How is C related to D?
 - (a) Grandmother
- (b) Cousin

(d) Data inadequate

- (c) Sister
- (d) Mother

Questions 96 to 99 are based on the following:

- * A group of six friends are sitting around a hexgonal table, each one at one corner of the hexagon.
- * Ram is sitting opposite to Ramesh.
- * Jyoti is sitting next to Seema.
- * Neeta is sitting opposite to Seema but not next to Ram.
- * Amrit has a person sitting between Ramesh and himself.
- 96. Who is sitting between Amrit and Ramesh?
 - (a) Neeta
- (b) Jyoti
- (c) Seema
- (d) Ram
- 97. Who is sitting opposite to Jyoti?
 - (a) Ramesh
- (b) Neeta
- (c) Amrit
- (d) Seema
- 98. If Seema and Jyoti mutually interchange their positions, then who will be sitting opposite to Neeta?
 - (a) Jyoti (b) Ram
- (c) Seema (d) Ramesh
- If Neeta sits to the right of Amrit, then who is sitting to the left of Amrit?
 - (a) Ramesh
- (b) Neeta
- (c) Jyoti
- (d) Ram
- 100. P,Q,R and S are four logical statements such that ifP is true, then Q is true, then R is true; and if S is true, then at least one of Q and R is false. Then it follows that
 - (a) if S is false, then both Q and R are True
 - (b) if at least one of Q and R is true, then S is false.

- (c) if P is true, then S is false.
- (d) if Q is true, then S is true.

GENERAL ENGLISH

Directions 101 to 104 are based on the following:

While cement is the basic raw material for producing cement tiles and cement paint which are used extensively in building construction. The main consumers of white cement are, therefore, cement tile and cement paint manufacturing units. These consumers, mostly in the small scale sector, are today facing a major crisis because of a significant increase in the price of white cement during a short period. The present actual licensed production capacity of white and grey cement in the country is appoximately 3.5 lakh tonnes. The average demand is 2-2.5 lakh tonnes. This means that there is idle capacity to the tune of one lakh tonnes or more. The price rise is, therefore, not a phenomenon arising out of inadequate production capacity but evidently because of artificial scarcity created by the manufacturers in their self-interest.

The main reason for the continuing spurt in cement price is its decontrol. As it is, there is stiff competition in the cement paint and tile manufacturing business. Any further price revision at this stage is bound to have a severe adverse impact on the market conditions. The government should take adquate steps to ensure that suotable controls are brought in. Else it should allow import of cement.

- 101. What is te crisis being faced by the cement tile manufacturers as described in the passage?
 - (a) White cement prices are very high
 - (b) White cement is not of good quality
 - (c) White cement usage is high
 - (d) White cement is priced very low.
- 102. Which of the following words has the same meaning as the word 'artificial' as used in the passage?
 - (a) Deliberate
- (b) Prolonged
- (c) Practical
- (d) Unnatural
- 103. Which of the following words has the opposite meaning as the word 'basic' as used in the passage? (b) Unimportant (c)Acidic (d) Last
 - (a) Vital
- **104.** Why is the price of cement going up?
 - (a) Because the Government is controlling the quota
 - (b) Because of export of which cement
 - (c) Because of the large usage of white cement
 - (d) None of the above
- **105.** Which of the following words means 'Theatrical'?
 - (a) Thrilling (b) Histrionic
 - (c) Delicate
- (d) Delicious
- 106. Identif the word which is different from the rest of the words:
 - (a) Indisputable
- (b) Uncertain
- (c) Dubious
- (d) Doubtful
- 107. Choose the word that accurately signifies a person who makes money by starting or running business:
 - (a) Antreprenour
- (b) Andrapreneur
- (c) Entrapranour
- (d) Entrepreneur
- 108. Which of the following is correct phrase to describe a group of insects?
 - (a) A flock of insects
 - (b) A swarm of insects

- (c) A school of insects
- (d) A shoal of insects
- 109. Which of the following has meaning to the word 'REPU-TATION'?
 - (a) Character
- (b) Respect
- (c) Fame
- (d) Honour
- 110. The meaning of the wor "EGRESS" is
 - (a) Entrance
- (b) Exit
- (c) Double
- (d) Program
- 111. Choose the answer which best expresses the meaning of the idiom/phrase 'Elbow room'?
 - (a) Opportunity for freesom of action
 - (b) Special room for the guest
 - (c) To give enough space to move or work in
 - (d) To add a new room to the house
- 112. Select the pair that best expresses a relationship similar to that expreesed in SCALE:TONE.
 - (a) Physician: Medicine (b) Wave: Amplitude (c) Spectrum: Colour
 - (d) Rainbow: Shower
- 113. Choose the answer which best expresses the meaning of the idiom/phrase "to burn a hole in the pocket".
 - (a) Steal from someone's pocket
 - (b) To destroy other's belongings
 - (c) To be very miserly
 - (d) Money that is spent quickly
- 114. Choose the correct alternative to fill the blank My window look the garden.
 - (a) up on
- (b) out on

(c) in

(d) at

- 115. Fill in the blank with suitable article. darkest cloud has a silver lining.
 - (a) An
- (b) A
- (c) The
- (d) From
- 116. Fill in the blank with appropriate adjective.

This steak is completely....., it is cold and tough.

- (a) edible
- (b) erratic
- (c) unswerving
- (d) thedible
- 117. Fill in the blank with appropriate preposition.
 - We havre been looking for a new flat ages.
 - (a) Since
- (b) for
- (c) during
- (d) in
- 118. Fill in the blank with appropriate verb.

Where is he? He should home hours ago

(a) be

- (b) have been (d) were
- (c) had been
- 119. Fill in the blank with appropriate verb
 - (a) should n't you?
 - (b) should you not?
 - (c) would n't you?
 - (d) should you?
- 120. Change the following sentence into passive sentences They studied Mathematics last year
 - (a) Mathematics was studied by them last year
 - (b) Mathematics were studied by them last year
 - (c) Mathematics has been studied by them last year
 - (d) Mathematics studied them last year.