RRB JE Question paper 2013

## **Based on Memory**

1.	P.Gopichand is associate with:			
	1) Tennis	2) Golf	3) Badminton	
	4) Hockey	5) Squash		
2.	$\int e^{x} \sin\left(x + \frac{\pi}{4}\right) dx$	x =		
	1) $\frac{e^x}{\sqrt{2}}$ sin x + C		2) $\sqrt{2}e^x \sin x + C$	
	$3) \frac{e^x}{\sqrt{2}} \cos x + C$		4) $\sqrt{2}e^x \cos x + C$	
	5) None of these			
3.	Which oxide of nitrogen is formed when ammonium nitrate is heated?			
	[) NO	2) NO <sub>2</sub>	3) N <sub>2</sub> O	
	4) N <sub>2</sub> O <sub>5</sub>	5) O <sub>2</sub>		
4.	Energy in the sun i	s produced as a resu	lt of:	
	1) Fusion		2) Combustion	
	3) Explosion		4) Thermo nuclear	Fission
	5) Friction			
5.	Ampere is used to	measure:		
	l) Temperature	2) Current	3) Light	4) Weight
	5) None of these			
6.	If f(x) is a polynom polynomial of degr	nial of degree n and ee-	$  \Delta f(x) = f(x+h) - f(x+h)$	$\hat{f}(x)$ . then $\Delta^n f(x)$ is a
	l) n	2) n-l	3) I-n	
	4) 1	5) n-2		

7.	The strongest redu	cing agent among th	e following acids is:
	1) Formic acid		2) Acetic Acid
	3) Propionic Acid		4) Chloro Acetic Acid
	5) Nitric Acid		
8.	The amount of hea	t required to conver	t 5 gms of ice at -20°C to steam at 100°C
	is:		
	1) 675 calorie	2) 3775 calorie	3) 3650 calorie
	4) 3725 calorie	5) 400 calorie	
9.	Princess Diana was	s killed in a car acci	dent in:
	1) UK	2) Italy	3) France
	4) Russia	5) Spain	
10.	India plays two ma	tches each with wes	st Indies and Australia. In any match
	probabilities of Ind	ia getting points 0.	1. 2 are $\frac{9}{2}$ , $\frac{1}{2}$ , and $\frac{1}{2}$
			20, 20 20 2
	respectively. Assum	ning that the outcon	nes are at least 7 points is:
	$1)\frac{3}{80}$	2) $\frac{5}{80}$	
	$(4)\frac{1}{80}$	$5)\frac{1}{10}$	
11.	If $\frac{3}{4}$ th quantity of	a radio active elem	ent decays in one hour, its half life
	period will be:		
	1) 2 hours	2) $3\frac{1}{2}$ hours	$3)\frac{1}{4}$ hours
	4) $\frac{1}{3}$ hours	5) None of the ab	ove
12.	Bernoulli's theoren	is applicable to-	
	1) Flow of liquids		2) Viscocity
	3) Surface tension		4) Static fluid pressure
	5) elasticity		
13.	Tulsidas became fa	mous during the rei	gn of-
	I) Sher shah suri	2) Humayun	3) Shahjahan
	4) Akbar	5) Jehangir	
		-	

14.	The co - efficient of correlation between two variables x and y is 0.5, and their co - variance is 16. If the standard deviation of x is 4, then the standard deviation		
	of y is-		
	1)4	2) 16	3) 64
	-1) 8	5) 2	
15.	Amino acids are pr	oduced by the hydro	olysis of-
	1) Fat	2) Carbohydrates	3) Protiens
	4) Nucleic Acid	5) All of the above	
16.	The colours of thin	film result due to-	
	1) disperation of lig	tht	2) scattering of light
	3) polarization of li	ght	4) selective absorption of light
	5) interference of li	ght	
17.	The series 'BDFH' i	s related to "JLNP"	in the same way as "RTVX" is related to-
	l) YZAB	2) STMN	3) ZBDF
	4) ZBFD	5) None of these	
18.	$lf \log_5 (6 + \frac{2}{x}) + 1$	$\log \frac{1}{5}(1 + \frac{x}{10}) \le 1.$	then x lies in:
	1) (-∞, 1-√5) ∪	$(1 + \sqrt{5}, \infty)$	2) $(1, 1 + \sqrt{5})$
	3) $(1 - \sqrt{5}, 1 + \sqrt{5})$	· )	4) $(1 - \sqrt{5}, 1)$
	5) None of these		
19.	"The Sphinx" is loc	ated in-	
	1) Egypt	2) [raq	3) China
	4) Europe	5) Japan	
20.	Susceptibility of the	e air medium is-	
	1) Positive	2) Negative	3) Zero
	4) One	$5)\frac{1}{\sqrt{2}}$	
21.	Which is the missin	g number in the fol	lowing series?, 10, 17, 26, 37
	1)06	2) 09	3) 05
	4) 08	5) 04	
22.	Co - Ordinates of	points of inflection	of the normal curve is-
	l) m ± σ	2) o	3) m
1			

	4) $f(m \pm \sigma)$	5) None of these	
23.	The first man to go	into space was-	
	1) Neil Armstrong	2) Lyka	3) Yuri Gagarin
	4) Edward Aldrin	5) Michael Collins	i
24.	Electrolysis of aque	ous solution of sodi	um succinate gives-
	1) $C_2H_6$	2) C <sub>2</sub> H <sub>2</sub>	3) C <sub>2</sub> H <sub>4</sub>
	4) C <sub>3</sub> H <sub>6</sub>	5) None of these	
25.	Pick the odd man o	ul?	
	1)	2) 3)	4) 5) <b>5</b>
26.	If n and p are the	e parameters of a	binomial distribution, then its standard
	deviation is-	•	
	$\frac{1}{n}\sqrt{p(1-p)}$	$2)\frac{1}{p}\sqrt{n(1-p)}$	3) $\sqrt{np(1-p)}$
	4) $\sqrt{np(1-n)}$	5) None of these	
27.	Dr. Christian Barna	rd performed the fir	si-
	1) Kidney transplar	nt	2) Liver transplant
	3) Heart transplant		4) Pancreas transplant
	5) Bone marrow tra	insplant	
28.	All the radio active	changes are-	
	1) Zero order reacti	ion	2) First order reaction
	3) Second order rea	iction	4) Third order reaction
	5. Half order reaction	on	
29.	Four of the following not?	ng pairs have a logic	cal relationship. Which one of them does
	I) SHOE : SOCK		2) COAT : SHIRT
	3) CAP : TURBAN	ſ	4) NEEDLE : THREAD
	5) CONTACT LEN	S : SPECTICLES	
30.	When two waves o	of same frequency a	nd same amplitude travelling in opposite
	directions in a straig	ght line overlaps the	y give rise to:
	1) beats	2) interference	3) stationary waves
	4) harmonics	5) None of these	
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31.	Niagara Falls is one	of the border of-	
	I) France & Germa	ny	2) Nigeria & Congo
	3) USA & Canada		4) Nigeria & Kenya
	5) USA & Mexico		
32.	Which of the follw	ing electrolyte is lo	east effective in causing coagulation of
	ferric hydroxide sol	ution?	
	1) KC <i>l</i>	2) K <sub>2</sub> SO <sub>4</sub>	3) $K_2 CrO_4$
	4) K <sub>3</sub> [Fe(CN) <sub>6</sub> ]	5) K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	
33.	The atmosphere is h	eld to the earth by:	
	1) Gravity	2) Surface tension	3) Ratation of earth
	4) Sun	5) None of these	
34.	Polarization is a cha	aracteristic of-	
	1) light wave	2) sound wave	3) water wave
	4) heat wave	5) none of these	
35.	The number of state	s in India is-	
	1) 25	2) 26	3) 27
	4) 28	5) none of these	
36.	Oxidation of thiosul	lphate ion by I <sub>2</sub> give	·S:
	1) SO <sub>3</sub> -2	2) S <sub>4</sub> O <sub>6</sub> -2	3) SO <sub>4</sub> -2
	4) S <sub>2</sub> O <sub>8</sub> -2	5) None of these	
37.	If $x < y$ , $y < z$ and $z$	> w, then which of	the following will always be true?
	1) $x > w$	2) y = 2	3) y > w
	4) x < z	5) x < 2	
38.	The unit of luminou	s intensity is:	
	I) lumen	2) lux	3) candela
	4) watt	5) light year	
39.	King Gyanendra is	the king of	
	I) Bhutan	2) Nepal	3) Mauritius
40	+) Fiji	5) Maldives	
40.	renting's solution at	na Benedict's solutio	on are reduced by glucose to form:
		$2) Cu_2 O$	3) CuCO <sub>2</sub>
	+) $Cu(OH)_2$	5) None of these	

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41.	If $\cos \alpha$ , $\cos \beta$ . $\sin^2 \alpha + \sin^2 \beta + \sin^2 \beta$	$\cos \gamma$ be the $\cos^2 \gamma =$	direction – cosines of a line. then
	1)1	2) 2	3) - I
	4) 3	5) None of these	
42.	Which of the follow	ring materials is use	d for permanent magnets?
	l) brass	2) coper	3) soft iron
	4) steel	5) tungsten	
43.	The first Governor	General of free Indi	a was-
	1) Rajendra Prasad		2) C. Rajagopalachari
	3) Lord Mountbatte	n	4) Padmaja Naidu
	5) None of these		
44.	Which of the follow	ring solutions of Nat	C/ has the lowest value of specific con-
	ductance-		
		2) 0.1 M	3) 0.01 M
47	-+) 0.001 M	5) 2 M	and the second statement of the
42.	that atleast one of il	he events will happe	nts are $p_1$ , $p_2$ , $p_n$ . then the probability
	$(D_1 - D_2)(D_2 - f)$	$(\mathbf{D}_{1}, \mathbf{U}_{2}, \mathbf{D}_{3})$	11 12:
	$2)(1-p_1)(1-p_2) (1-p_1)$		
	$3) = (1 - p_1) (1 - p_2)$	$(1-p_2)$ $(1-p)$	
	(4) $1 - p_1 p_2 p_3 \dots p_n$		
	5) None of these		
-46.	In an electron micro	oscope if the potentia	al is increased from 20 KV to 80 KV, the
	resolving power 'R'	of the microscope v	vill be:
	1) R	2) 2R	3) 4R
	$(4)\frac{R}{2}$	5) $\frac{R}{+}$	
47.	'R' is 'S's mother. 'Q	) is 'T's mother. 'S'	is 'Q's father and 'P' is 'T's sister. How is
	'U' related to 'S'?		
	1) Grand father	2) Daughter	3) Grand mother
	4) Grand daughter	5) None of these	
48.	Number of ions pre	sent in K <sub>3</sub> [Fe (CN)	6] are:
	1) 2	2) 5	3) 3
	4) 4	5) 9	

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49.	If in a distribution each x is replaced by corresponding value of $f(x)$ , then the probability of getting xi, whose original probability is Pi is-		
	1) Pi	2) f (Pi)	$3)\frac{1}{\mathrm{P}i}f$
	4) 1 (Pi)	5) None of these	
50.	Band spectrum is pr	roduced by-	
	I) H <sub>(1)</sub>	2) He	3) H <sub>2</sub>
	4) Na	5) H <sub>(g)</sub>	
51.	Rahul was born wh	hen his father was	32 year older than his brother and his
	mother was 25 year	s older than his siste	er. If Rahul's brother is 6 years older than
	him and his mothe	r is three years you	inger than his father, what was Rahul's
	TV 10	2) 6	31.10
	1) 1.1	5) None of these	5) 12
52	The Capital of Aust	ralia is-	
، شال	1) Sydney	2) Melbourne	3) Capherra
	1) Brichane	5) Chicago	5) Canberra
52	The angle of elevet	ion of the sun if the	$a$ length of the choice of a tower is $a(\overline{2})$
22.	times the height of the tower is-		
	() 30°	?) 60°	3) 45°
	4) 150°	5) 90°	2, 12
54.	A bar magnet is	dropped vertically	downward through a wire loop held
	horizontally. The ac	celeration of the ma	ignet will be:
	l) g	2) greater than g	3) less than g
	4) zero	5) None of these	
55.	Mohit is ranked 9 <sup>th</sup>	from top and 14 <sup>th</sup>	from the bottom half of the total number
	of students in the cl	ass. How many stuc	lents are there in the class?
	1) 46	2) 23	3) 24
	4) 47	5) None of these	
56.	The world standard	time is taken from-	
	1) Florence	2) Kentucky	3) Miami
	4) Greenwich	5) Manhattan	

57.	The degree of the d	ifferential equation-	$-\left[1+\left(\frac{dy}{dy}\right)^{2}\right]^{\frac{3}{2}} = \frac{d^{2}y}{d^{2}y}$ is:
	-	2) 2	$\begin{bmatrix} dx \end{bmatrix} dx^2$
	1) 1	2) 2 5) 5	5 f C
59	t) t	5) 5	
20.		2) Na-CO- H-O	3) Na-CO-7 H-O
	4) No. CO. 10H-O	5) None of these	5)1422037, 1120
50	Which group does a	of watch in others?	
	U caed	2) infant	2) interview
	bud	2) Intant	s) interview
	flower		posing
	f) meeting	adult 5) infection	appointment
	4) meeting	J) Intection	
	Iove	deeth	
60	The longert occord in	ucam the world in	
00.	The targest ocean in	a) Indian Occas	
	1) Aliantic Ocean	2) Indian Ocean	3) Pacific Ocean
	+) Arctic Ocean	5) Black Sea	
61.	Value of $\int_{0}^{1} x^2 (1 - 0)^2 dx^2$	(x) $\frac{3}{2}$ dx is:	
	1) <sup>16</sup> 315	2) $\frac{16\pi}{315}$	3) $\frac{32\pi}{315}$
62	A strong solution of	falcoholic alkali wi	I preferentially promote in alkul balidar
02.	L) Addition	2) Elimination	3) Substitution
	1) Addition	5) Rearrangement	<i>5)</i> 305110101
63.	Which is the odd m	an out?	
	I) CAR	2) AEROPLANE	3) HELICOPTER
	4) BUS	5) TRAIN	2, 1221001 1210
64.	The heroine of the s	film "Mother India"	was-
	I) Meena Kumari	2) Nargis	3) Madhubala
	4) Vaijayanthimala	5) Nimmi	

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65.	If $J = \frac{\delta(u, v)}{\delta(x, y)}$ and	$J' = \frac{d(u, v)}{d(x, y)}$ , then J.	], =	
	l) zero	2) 23	3) 2J'	
	4) -1	5) I		
66.	2-pentanol and 3-pe	entanol can be distin	guished by:	
	1) Lucas Test		2) Tollens reagent	
	3) Iodoforin reactio	n	4) Victor Meyer's Me	ethod
	5) Benedict's Soluti	o <b>n</b>		
67.	A total of how man	y squares + rectangl	es can be seen in	
	the figure below?			
	1)6	2) 8	3) 9	
	4) 10	5) None of these		
68.	Choreography is the	e art of-		
	l) Canvas painting		2) Creating dance	
	3) Writing		4) Computer Graphic	2S
	5) None of these			
69.	Which of the follow	ving has the greatest	t viscosity?	
	l) air	2) hydrogen	3) water	
	4) mercury	5) helium		
70.	Which of the follow	ving compounds is s	steam volatile?	
	l) phenol	2) p-nitrophenol	3) m-nitrophenol	
	4) o-nitrophenol	5) None of these		
71.	Which of the option	n fits into the vacant	square?	
	┥ <mark>╶╴</mark> ┝┫ ┍╺┝┛	1)	2)	3)
		-4)	5)	
72.	Hamid Karzai is the 1) Turkey	e President of- 2) Iran	3) Afghanistan	
	4) Malaysia	5) Saudi Arabia		

73.	Radioactivity was discovered by-			
	1) Curie	2) Rutherford	3) Bacquerel	
	4) Roentgen	5) Thomson		
74.	A rare gas that was	detected in the sun	before it was discovered on earth is-	
	l) He	2) Ne	3) Ar	
	4) Kr	5) Xe		
75.	The plane $\frac{x}{3} + \frac{y}{4}$	$+\frac{z}{5}=1$ cuts the axe	es in A. B. C.	
	The equation of the	sphere through A. I	3. C and the origin is:	
	1) $x^2 + y^2 + z^2 + 3y^2$	x + 4y + 5z = 0		
	2) $x^2 + y^2 + z^2 - 3z$	x - 4y - 5z = 0		
	3) $2(x^2 + y^2 + z^2) + z^2$	-3x + 4y + 5z = 0		
	4) $2(x^2 + y^2 + z^2) -$	-3x - 4y - 5z = 0		
	5) None of these			
76.	Hydrogen was disc	overed by-		
	1) Priestly	2) Boyle	3) Cavendish	
	4) Curve	5) Charles		
77.	Two electric bulbs	designed to operate	e with a power of 500 watts in 220 volt	
	line, are connected in series with a 110 volt line. The power generated by each			
	bulb will be-			
	1) 31.25 watts	2) 3.125 watts	3) 22 watts	
	4) 62.5 watts	5) El watts		
/8.	Natural rubber is a	polymer of-	2) [	
	1) Styrene	2) Butadiene	3) Isoprene	
70	+) Chloroprene	5) Einylene	an Adi (Adi A) is aqual to:	
79.		2 $  A   n +   A$	A = A = A = A	
	4) $ A ^{n-3}A$	$\frac{2}{ A ^{\alpha}}$	5)  A * -A	
80	If 'AMERICA' is	coded as 9542739	and 'UNITED' is coded as 017246	
00.	INIDICAR can be o	coded as join 2100	and criticip is coded as officio,	
	1) 7176392	2) 7167932	3) 7157932	
	4) 9176392	5) 7167392		

81.	Heat from the sun	reaches the earth by	means of-
	1) conduction	2) convection	3) radiation
	4) diffusion	5) None of these	
82.	The percentage of	nitrogen in urea is-	
	1) 40	2) 30	3) 46.6
	4) 47.8	5) 47.3	
83.	The probability of	getting 53 sundays i	n a leap year is-
	$1) 1 \frac{1}{7}$	$2)\frac{2}{7}$	$3)\frac{3}{7}$
	$(-1)\frac{-1}{7}$	5) I	
84.	Ram takes 20 min	utes to inspect a car	while Robert takes only 18 minutes. If
	both start inspectin	g cars at 8.00 hours	what is the first time at which both will
	have finished inspe	ecting a car at the same	
	1) 09.42 nrs	2) 10.00 hrs	3) 09.30 nrs.
	4) 14.00 hrs	5) 11.00 hrs	
85.	I he law $\lambda$ m1 = co	onstant (1° = tempera	ture) is known as-
	1) Raleigh Jean's L	.aw	2) Newton's Law of Cooling
	3) Wein's Displace	ment Law	4) Plack's Law
	5) Fresnel's Law		
86.	The planet in the s	olar system which is	closes to the sun is-
	1) Mercury	2) Venus	3) Earth
	4) Pluto	5) Moon	
87.	In a town of 10,00 20% families buy families buy A and families which buy	0 families, it was fo newspaper B and B, 3% buy B and none of A B C is-	und that 40% families buy newspaper A, 10% families buy newspaper C, 5% C. 4% buy A and C, then the number of
		2) 3 500	3) 4 000
	4) 4 200	5) 5,000	
88	Insert the missing		
00.	I) W	2) Y	3) T
	1) TT	-) ∧ 5) \/	-17 1
	4J U	5J V	

89.	Which of the following hot bodies of the same material cools last?		
	I) a solid sphere	2) a solid cube	3) a solid cylinder
	4) a solid rod	5) a solid cone	-
90.	Koli Annan is the S	Secretary General of	6.
	I) WHO	2) UNO	3) ILO
	4) UNESCO	5) None of these	
91.	The diffrential equa	ation of all non-hori	zontal lines in a plane is:
	$\frac{d^2y}{dx^2} = 0$	$2) \frac{dx^2}{dy^2} = 0$	$3)\frac{dy}{dx} = 0$
	$4)\frac{\mathrm{d}x}{\mathrm{d}y} = 0$	5) None of these	
92.	Insert the missing r	number	$\langle 4   2 \rangle$
	1)6	2) 8	3 1
	3) I	4) 2	2 6
	5) 4		
93.	If the earth expand	ls to twice its radius	, the duration of a day will become-
	I) 24 hrs.	2) 48 hrs.	3) 6 hrs.
	4) 12 hrs.	5) 96 hrs.	
94.	Jallianwala Bagh n	nassacre took place	in-
	I) Ambala	2) Jalandahar	3) Amritsar
	4) Lahore	5) Panipat	
95.	If co-efficient of co	prrelation $\mathbf{r} = 0$ . the	two lines of regression are-
	1) parallel to each	other	2) Perpendicular to each other
	3) skewed		4) make angle 45° to each other
	5) None of these		
96.	Eight jury member	s are sitting in a circ	ele. L is sitting between 'I and N', 'M' is to
	the right of T but to	o the left of K, who	appear is sitting diagonally opposite to '1'?
		2) I	
	4)0	5) K	_1 J 1
07	Which of the follow	ving is ontically act	ive?
	I) Formic Acid	2) <b>Propionic</b> Acid	3) Succinic Acid
	4) Lactic Acid	5) Meso-tartaric A	Acid

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98. The battle of Plassey was fought between Sirajud-Daulah and:

- I) Warren Hastings2) Lord Curzon
- 3) Robert Clive 4) Winston Churchill
- 5) None of these

**99.** Moment of inertia of a thin rod of length 'a' and mass 'm' about an axis passing through an end and perpendicular to the rod is given by-

1) MI =  $\frac{1}{12}$  ma<sup>2</sup> 3) MI =  $\frac{1}{4}$  m<sup>2</sup>a<sup>2</sup> 4) MI =  $\frac{1}{3}$  ma<sup>2</sup> 5) MI =  $\frac{1}{3}$  m<sup>2</sup>a<sup>2</sup>

100. Pick the odd man out:

1) flower2) branch3) thorn4) fruit5) leaf

101. The atomic number of an element having  $4f^{\dagger}$  electronic configuration in the ground state is-

1) 54	2) 49	3) 56
+) 57	5) 58	

102. The author of "God of small Things" is:

- 1) Salman Rushdie 2) Arundhati Roy
- 3) Rohinton Mistry 4) amit Chowdhury
- 5) Jhumpa Lahiri

103. The ball pen works on the principle of-

- 1) Visosity 2) Gravitational
- 3) Capillary action and surface tension 4) Boyle's law
- 5) Diffusion

104. If E is the shift operator and  $\Delta$  is the forward difference operator then E –  $\Delta$  =

 1) 0
 2) -1
 3) 1

 4) -2
 5) 2

<b>105.</b> The temperature at which real gases obey ideal gas laws over wide range of pressure is called-			
1) Critical temperat	ure	2) Boyle temperature	
3) Reduced temperation	nture	4) Inversion temperature	
5) Absolute temperation	ature		
106. The colours known	as primary colours	are-	
l) red, yellow. green		2) red. blue, green	
3) red, black, yellow	v	4) red. blue, yellow	
5) red, green. black			
107. Decibel is-			
1) a measure of sound level		2) wavelength of noise	
3) a musical instrument		4) the frequency of sound	
5) a musical note	5) a musical note		
108. If A, B, C are non-s	<b>108.</b> If A, B, C are non-singular $n \times n$ matrices, then $(ABC)^{-1} =$		
I) A <sup>-1</sup> B <sup>-1</sup> C <sup>-1</sup>		2) $A^{-1}C^{-1}B^{-1}$	
3) $C^{-1}A^{-1}B^{-1}$		4) $B^{-1}C^{-1}A^{-1}$	
5) None of these			
109. The first man to pre	dict the inter - rela	tionship of matter and energy is:	
1) de Broglie	2) Bohr	3) Planck	
4) Einstein	5) Rutherford		
110. The capital of Uttar	anchal is-		
1) Nainital	2) Dehradun	3) Hardwar	
4) Mussouri	5) None of these		
111. The resistance of ar	ideal ammeter is-		
l) low	2) high	3) infinite	
4) zero	5) None fo these		
<b>112.</b> For the matrix A =	$\begin{bmatrix} 1 & 2 & 1 \\ 2 & 1 & 0 \end{bmatrix}$ . Which	is correct?	
1) $A^3 + 3A^2 - 1 = 0$	(2) $A^3 - 3A^2 - 1 =$	$0  3) A^3 + 2A^2 - 1 = 0$	
4) $A^3 - A^2 + I = 0$ 5) None of these			
-			

112 Marcil Cubback Core	and Consolar in Isoa			
113. Netaji Subnash Spo	orts Complex is loca			
I) Patiala	2) Jalandhar	3) Kolkata		
4) Chennai	5) New Delhi			
114. 'V' to 'Z' are five houses in a row. 'V' is to the right of 'W'. 'Z' is to the left of 'X'				
and right of 'V'. W	' is to the right of 'Y	. Which is the middle house?		
I) Z	2) X	3) V		
4) Y	5) W			
115. A liquid drop break	ts into number of dro	oplets. Its surface energy?		
1) increases	2) decreases	3) remains the same		
4) becomes zero	5) None of these			
116. Dialing a telephone number an old man forgets the last two digits remembering				
only that these are different and dials them at random. The probability that the				
number dialed corr	ectly is-			
$1)\frac{1}{45}$	$2)\frac{1}{00}$	3)100		
45	90	100		
$(4)\frac{2}{45}$	5) 1 50			
117. The main constitue	nt of Marsh gas is-			
I) CO	2) CO <sub>2</sub>	3) SO <sub>2</sub>		
4) CH4	5) C <sub>2</sub> H <sub>6</sub>			
118. 'A' city is 5 km. ea the following is the	118. 'A' city is 5 km. east of 'B' city, 'C' city is 10 km. Southeast to city 'B'. Which of the following is the closest to the distance from city 'A' to city 'C'?			
1) 12 km	2) 13 km	3) 14 km		
4) 13 km	5) 15 km			
119. The voltage gain of	f a triode depends or	1-		
1) filament voltage		2) plate current		
3) plate voltage		4) filament current		
5) plate resistance				
120. The shaded region	in the given figure	is-		
c A	I)A∩(B∪C)	2) A $\cup$ ( B $\cap$ D )		
	3) A $\cap$ (B – C)	4) A ~ ( B ∪ C )		
	5) None of these			
В	sy mone of mese			

r

121. Catalyst used in Friedel crafts reaction is-1) Na2) K3) ZnO

4) MnO<sub>2</sub> 5) None of these

122. Pick the odd man out-



127. Two charged particles seperated by a distance 'y' attract each other with a force of 'x'. What will be the attraction if the distance is increased to 5y?				
1) 25x	2) $\frac{x}{25}$	3) x+25		
4) x-25	5) <u>25</u>			
128. The (n+1) <sup>th</sup> and	higher order differenc	es of a polynomial of n <sup>th</sup> degree are:		
l) n+l	2) n	3) n-l		
4) n+2	5) Zero			
129. What was the Day of week on 1947 August 15?				
1) Friday	2) Wednesday	3) Sunday		
4) Monday	5) Thursday			
130. Which is the or	ld man out?			
I) LONDON	2) NEW YORK	3) MUMBAI		
4) SYDNEY	5) VENICE			
131. Which of the fo	llowing has no multipl	e bond?		
I) HCN	2) N <sub>2</sub> H <sub>4</sub>	3) C <sub>2</sub> H <sub>4</sub>		
4) CO <sub>2</sub>				
132. The most appro	priate material for a co	oking pot is the one having-		
1) High specific	c heat and low conduct	ivity		
2) High specific	2) High specific heat and high conductivity			
3) Low specific	3) Low specific heat and low conductivity			
4) Low specific heat and high conductivity				
5) None of these				
133. The first Indian to win the Nobel Prize was-				
l) C. V. Raman	l	2) Hargobind Khorana		
3) Rabindranat	h Tagore	4) Amartya Sen		
5) Nirad C.Cha	udhary			
134. Insert the missi	ng number- 8 12 10 16	12		
1) 18	2) 14	3) 20		
4) 24	5) 32			

135. An example of an a	alicyclic compound	is-
1) Hexane	2) Pyrrole	3) Benzene
4) Cyclohexane	5) Anthracene	
136. In a room fitted wi	th green bulb a red	cloth will appear to be-
l) red	2) yellow	3) orange
4) black	5) blue	
137. Heathrow airport is	s in-	
I) Paris	2) London	3) New York
4) Chicago	5) Sydney	
<b>138.</b> If $f(x, y, z) = 0$ the	$n \frac{\delta x}{\delta y}, \frac{\delta y}{\delta z}, \frac{\delta z}{\delta x} is equ$	ial to.
I) O	2) I	3) – 1
4) 2	5) None of these	
139. Aqueous solution	of CuSO <sub>4</sub> changes b	plue litmus to red due to-
1) Cu <sup>+2</sup> ions prese	nt	2) $SO_4^{-2}$ ions present
3) reduction taking	place	4) oxidation taking place
5) hydrolysis takin	g place	
140. X-Ray consist of	stream of-	
1) Protons	2) electrons	3) neutrons
4) photons	5) argons	
141. The longest river i	n the world is-	
l) Ganga	2) Volga	3) Nile
4) Hwang Ho	5) None of these	
<b>142.</b> If the matrix $A = ($	$\begin{bmatrix} I & I \\ 2 & 2 \end{bmatrix}$ and $B = \begin{pmatrix} -I \\ I \end{bmatrix}$	$\left  \begin{array}{c} I \\ -I \end{array} \right $ then
$1) \begin{pmatrix} 1 & 1 \\ 2 & 2 \end{pmatrix}$	$2)\begin{pmatrix} 1 & 1 \\ 1 & -1 \end{pmatrix}$	$3)\begin{pmatrix} I & I \\ I & I \end{pmatrix}$
$( \begin{array}{cc} 0 & 0 \\ 0 & 0 \end{array} ) $	5) $\begin{pmatrix} -1 & 1 \\ 2 & -2 \end{pmatrix}$	
143. Of the following, a	n amphoteric hydro	xide is-
1) Ca(OH) <u>2</u>	2) NaOH	3) NH <sub>4</sub> OH
4) Cu(OH)2	5) Zn(OH) <sub>2</sub>	

144. The density of wate	er is maximum at-	
1) O°C	2) 4°C	3) O°F
4) 4°K	5) 273°K	
145. Santoor is a-		
l) Mughlai dish	2) Ornament	3) Musical instrument
4) Ceremonial dres	ss 5) A fruit	
146. A random variable	has the following po	int distribution-
x 0 1 2	3 + 5 6	7
p(x) 0 p 2p	2p 3p p <sup>2</sup> 2p	<sup>2</sup> 7p <sup>2</sup> +p
$1)\frac{1}{10}$	2) -1	$3)\frac{-1}{10}$
$(4)\frac{3}{10}$	5) None of these	
147. The element which	exhibits variable va	lency is-
() Zinc	2) silicon	3) aluminium
4) cobalt	5) None of these	
148. The value of the ab	solute zero on the F	ahrenheit scale is-
l) 273°F	2) -459.4°F	3) 0°F
4) -1827°F	5) -273°F	
149. Photosynthesis is a	process related to-	
l) plants	2) animals	
3) bacteria	4) colour photogra	phy
5) fish		
150. A group of 10 item	s has mean 6. If the	mean of 4 of these items is 7.5, then the
mean of the remaini	ng items are:	
1) 6.5	2) 5.5	3) 4.5
4) 5.0	5) 4.0	
151 Aromatic primary a	mine when treated y	with cold HNO <sub>2</sub> gives.
I) Nitrohanzana	2) Benzyl Alcohol	3) Phenol
		S) ETCHOL
4) benzene	5) Diazonium Salt	

152. The temperature at which the speed of sound in air becomes double of its value at 0°C is-

l) 1273°C	2) 546°C	3) 819°C
4) 1546°C	5) 1092°C	

153. There are 4 dancers. 4 musicians, 1 actress and 3 singers in a group of 6 women. G and V are among the singers. S and T are among the dancers, while J and S are not singers. P is the actress, 'J, V. S and T are all musicians and 2 of them are also singers. Who is both a dancer and a singer?

1) T 2) 3	S 3) J
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4) V 5) G

154. If a<b. then-

1)  $\frac{a+b}{2} < b$   $2 \rightarrow \frac{a+b}{2} > b$   $3 \rightarrow \frac{a+b}{2} < a$ 4)  $\frac{a+b}{2} > a$  5) None of these

155. Which of the following is used as refrigerant?

I) CO <sub>2</sub>	2) CHC <i>l</i> <sub>3</sub>	$3v CF_2CI_2$
4) CH <sub>3</sub> Cl <sub>3</sub>	5) None of these	

156. Lenz's Law is a consequence of the law of conservation of-

1) charge 2) momentum 3) mass

4) energy 5) angular momentum

157. What number fills the blanks in the series below? 3. 8. 22. 63, 185, ....

1) 310 2) 295 3) 550

4) 285 5) None of these

158. The angle between the two planes 3x-4x+5z = 0 and 2x-y-2z = 5 is-

$1)\frac{\pi}{2}$	$2\int_{3}^{\pi}$	$\frac{\pi}{3}$
$(\frac{\pi}{6})$	$5)\frac{2\pi}{3}$	
	بير الرجائل محمد الأمريط الم	the terrestere a

159. The "Wright Brothers" credited with invention of aeroplane were-

- 1) Wilbur & Orville2) Wilbur & John3) William & Orville4) William & John
- 5) William & Wilbur

160 The number of unp	aired electrons in C	hromium atom is:	
100. The number of unp	2) 5	3) 6	
4) 4	5) 8	570	
161. Which is the odd m	an out?		
		<b>A</b>	
1) 2)	3) 🗡	4) (* 5)	
<b>162.</b> If the product of a matrix and its transpose is a unit matrix then the matrix is called-			
1) symmetric matrix		2) skew symmetric matrix	
3) null matrix		4) orthogonal	
5) None of these			
163. The Capital of Aru	nachal Pradesh is-		
I) Agartala	2) Aizawi	3) Itanagar	
4) Guwahati	5) Imphal	-	
164. Pure H <sub>2</sub> O <sub>2</sub> is-	-		
1) Colourless liquid	1	2) A gas	
3) Dark blue syrupy	/ liquid	4) Pale blue syrupy liquid	
5) None of these			
165. Four out of the five odd group?	165. Four out of the five groups of letters below are of the same type. Which is the odd group?		
1) ADG	2) HKN	3) MOQ	
-1) ORU	5) JMP		
166. In Electroplatting t	hat which substance	e on plating is to take as follow-	
1) as the anode			
		2) as the cathode	
3) between anode a	nd cathode	<ul><li>2) as the cathode</li><li>4) as the third electrode</li></ul>	
<ul><li>3) between anode a</li><li>5) near the electroly</li></ul>	nd cathode	<ul><li>2) as the cathode</li><li>4) as the third electrode</li></ul>	
<ul><li>3) between anode a</li><li>5) near the electroly</li><li>167. "Missionaries of Ch</li></ul>	nd cathode yte narity" was founded	<ul><li>2) as the cathode</li><li>4) as the third electrode</li><li>by-</li></ul>	
<ul><li>3) between anode a</li><li>5) near the electroly</li><li>167. "Missionaries of Ch</li><li>1) Sister Nivedita</li></ul>	nd cathode yte narity" was founded	<ul> <li>2) as the cathode</li> <li>4) as the third electrode</li> <li>by-</li> <li>2) Annie Besant</li> </ul>	
<ul> <li>3) between anode a</li> <li>5) near the electroly</li> <li>167. "Missionaries of Ch</li> <li>1) Sister Nivedita</li> <li>3) Mother Teresa</li> </ul>	nd cathode yte narity" was founded	<ul> <li>2) as the cathode</li> <li>4) as the third electrode</li> <li>by-</li> <li>2) Annie Besant</li> <li>4) Swami Vivekananda</li> </ul>	
<ul> <li>3) between anode a</li> <li>5) near the electroly</li> <li>167. "Missionaries of Ch</li> <li>1) Sister Nivedita</li> <li>3) Mother Teresa</li> <li>5) Florence Nightin</li> </ul>	nd cathode yte narity" was founded gale	<ul> <li>2) as the cathode</li> <li>4) as the third electrode</li> <li>by-</li> <li>2) Annie Besant</li> <li>4) Swami Vivekananda</li> </ul>	

## **ANSWERS**