	3	Quest	ions
	P	art-A (Phys	ics)
	_ == VI	nuclear force	relative to Electromagnetic force is
(1)	10-13	(2)	10-11
(3)	1013	(4)	1011
Para	sec is unit of	1942 N	
(1)	Mass	(2)	Length
(3)	Time	(4)	Frequency
			f its actual value and mass of earth due to gravity will
(1)	Decrease by 2%	(2)	Decrease by 4%
(3)	Increase by 2%	(4)	Increase by 4%
whe	ere $A = 10 \text{ m}, B = 2.$	5 ms^{-2} , and t	ong X-axis is given by $x = A + Bt^2$, is measured in seconds. The average and $t = 3$ s is
(1)	10 ms^{-1}	(2)	15 ms ⁻¹
(3)	20 ms^{-1}	(4)	25 ms ⁻¹
			a direction 30° above the horizontal. e ball will be
(1)	25 m	(2)	20 m
(3)	10 m	(4)	5 m
	(1) (3) Para (1) (3) If rarem (1) (3) The whee velocity (1) (3) A bar (1) (1)	The strength of Weak of the order of (1) 10 ⁻¹³ (3) 10 ¹³ Parsec is unit of (1) Mass (3) Time If radius of earth contremains same then the contremains same the contr	(1) 10 ⁻¹³ (2) (3) 10 ¹³ (4) Parsec is unit of (1) Mass (2) (3) Time (4) If radius of earth contracts by 2% or remains same then the acceleration (1) Decrease by 2% (2) (3) Increase by 2% (4) The position of an object moving all where A = 10 m, B = 2.5 ms ⁻² , and to velocity of this object between t = 1 standard (1) 10 ms ⁻¹ (2) (3) 20 ms ⁻¹ (4) A ball is thrown at a speed 28 ms ⁻¹ in The maximum height attained by the (1) 25 m (2)

Question No.	Questions
6.	A small insect enters the eye of person riding a bike, the person then applies sudden brakes to his bike without rubbing his eye and he found that the small insect got out of his eye. By which law of physics the small insect got out of eye
	(1) Newton's third law of motion (2) Newton's second law of motion
	(3) Newton's first law of motion (4) Newton's law of Gravitation
7.	Two bodies with masses m_1 and m_2 ($m_1 > m_2$) are joined by a massless string passing over fixed pulley. The centres of gravity of the two masses are initially at same height. Assume the pulley to be weightless. Then the downward acceleration of mass m_1 is
	(1) $\frac{m_1}{m_1 + m_2} g$ (2) $\frac{m_2}{m_1 + m_2} g$
80	(3) $\frac{m_1 - m_2}{m_1 + m_2} g$ (4) $\left[\frac{m_1 - m_2}{m_1 + m_2} \right]^2 g$
8.	A block of mass 1 kg lies on a horizontal surface in a truck. The coefficient of static friction between the block and the surface is 0.6. If the acceleration of truck is 5 ms ⁻² , the frictional force acting on the block is
	(1) 4 N (2) 5 N
	(3) 6 N (4) 10 N
9.	Two balls of different mass have same kinetic energy. The ball having greater momentum will be
1	(1) Heavier one (2) Lighter one
	(3) Both have same (4) Can't say
10.	The moment of inertia of a ring of mass M and radius R about an axis through the diameter in its plane will be
	(1) $0.5 \mathrm{MR^2}$ (2) $\mathrm{MR^2}$
	(3) $1.5 \mathrm{MR^2}$ (4) $2 \mathrm{MR^2}$

Question No.	Questions
11.	A thin uniform circular discuss rolling down an inclined plane of inclination 30° without slipping. Its linear acceleration along the plane is
37.3	(1) g/4 (2) g/3
	(3) g/2 (4) 2g/3
12.	A projectile, fired vertically upwards with a speed v escapes from the earth. If it is to be fired at 45° to the horizontal, what should be its speed so that it escapes from the earth?
	(1) v (2) $v/\sqrt{2}$
	(3) $\sqrt{2} v$ (4) 2v
13.	Which of the following substances has negligible elastic fatigue?
	(1) glass (2) copper
	(3) quartz (4) silver
14.	The modulus of rigidity of water is
	(1) zero (2) 1
	(3) 81 (4) infinite
15.	The surface tension does not depend upon
	(1) Nature of liquid (2) Temperature
	(3) Presence of impurity (4) Atmospheric Pressure

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Question No.			Ques	stions
16.	A s	ample of oxygen and a sa d pressure. The ratio of th	mple o	of hydrogen have same mass, volume solute temperature is
	(1)	1/16	(2)	1/4
	(3)	4	(4)	16
17.	The	internal energy of a gas	will inc	rease when it
	(1)	Expands adiabatically	(2)	Is compressed adiabatically
	(3)	Expands isothermally	(4)	Is compressed isothermally
18.	If the qua	ne absolute temperature on tity of heat radiated per	of a per second	fect black body be doubled, then the increases by
	(1)	Two times	(2)	Four times
	(3)	Eight times	. (4)	Sixteen times
19.	The mot is	time period of a particlion from mean position. Af	e unde ter 2 s,	ergoing S.H.M. is 16 s. It starts its its velocity is 0.4 ms ⁻¹ , the amplitude
	(1)	2.88 m	(2)	1.44 m
	(3)	$0.72\mathrm{m}$	(4)	0.36 m
20.	The	speed of wave represente	d by y	$= A \sin (\omega - kx)$ is
	(1)	k/ω	(2)	ω/k
	(3)	ωk	(4)	1/ωk

Question No.		Quest	ions
21.	Two iron spheres, A (a solid sphere) and B (a hollow sphere), are charged to same potential. Which of the two hold more energy?		
	(1) A	(2)	В
	(3) Both have same	(4)	Can't be predicted
22.			00 watt, respectively, rated at 220 V, of 440 V. Which bulb will fuse?
	(1) A	(2)	В
	(3) Both will fuse	(4)	None will fuse
23.	When a charge partic	cle moves thro	igh a magnetic field, it may suffer a
	(1) Energy	(2)	Mass
	(3) Speed	(4)	Velocity
24.	Two electrons are more force between them v		to each other in free space, then the
	(1) Attractive	(2)	Repulsive
¢.	(3) No force	(4)	Can't say anything
25.	Current used for elec	ctrolysis is	
	(1) D.C.	(2)	A.C.
	(3) Both of these	(4)	None of these

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Code-A

Question No.	Questions
26.	Lenz's law in electromagnetic induction follows law of conservation of
	(1) Charge (2) Energy
	(3) Linear momentum (4) Angular momentum
27.	Resistance offered by a Capacitor to D.C. is
	(1) zero (2) negative
2 2	(3) positive (4) infinite
28.	Mechanical analogue of inductance is
	(1) Displacement (2) Velocity
	(3) Energy (4) Mass
29.	The classification of Electromagnetic spectrum is roughly based upon
	(1) How the waves are produced
	(2) How the waves are detected
	(3) Both (1) and (2)
	(4) Wavelength of waves
30.	If the atmosphere of earth suddenly disappears then duration of day will
	(1) Increase by 4 minutes (2) Decrease by 4 minutes
	(3) No change (4) Can't be predicted

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Question No.		Questions	
31.	The blue colour of sky is du	e to	
	(1) Reflection of light	(2) Refraction of light	
	(3) Scattering of light	(4) Diffraction of light	
32.	If two coherent sources ratio of intensity of maxis will be	of intensity ratio 25:1 interfere, then the ma and minima in the interference patter	e n
	(1) 3:2	(2) 9:4	
	(3) 5:1	(4) 25:1	
33.	Nuclear force between two	nucleons depends on their	
	(1) Mass	(2) Charge	
	(3) Spin	(4) Both (2) and (3)	
34.	Charge on a n-type semice	onductor is	
	(1) Zero	(2) Negative	
	(3) Positive	(4) 10 ⁻⁶ coulomb	
35.	If a zener diode has 9.1 dissipation of 273 mW, to zener diode is	V break down voltage with a maximum pow hen maximum current that can pass throu	ver igh
	(1) 40 mA	(2) 30 mA	
	(3) 20 mA	(4) 10 mA	

Question No.	0		Ques	stions
		Part-B	(Chem	nistry)
36.	25 gav was	e a title value of 30 mL	OH) ₂ on . The m	titration with 0.1 M solution of HC ℓ olarity of barium hydroxide solution
	(1)	0.07	(2)	0.14
	(3)	0.28	(4)	0.35
37.	Ider	ntify the least stable amo	ong the i	following:
	(1)	Li ⁻	(2)	Be ⁻
	(3)	B -	(4)	C -
38.	The	correct order of size am	ong Cl,	$C\ell^+$ and $C\ell^-$ is
AT	(1)	$C\ell^+ < C\ell^- < C\ell$	(2)	$C\ell^+ > C\ell^- > C\ell$
-	(3)	$C\ell^+ < C\ell < C\ell^-$	(4)	$C\ell^- < C\ell < C\ell^+$
39.	The	geometry of ClO ₄ ion is	s:	· · · · · · · · · · · · · · · · · · ·
	(1)	Pyramidal	(2)	Tetrahedral
	(3)	Trigonal Planar	(4)	Trigonal bipyramidal
40.	The	number of orbitals in a s	ubshell	is equal to
	(1)	$2\ell-1$	(2)	2ℓ
	(3)	ℓ ²	(4)	$2\ell + 1$

Question No.			Ques	tions
41.	The term that accounts for intramolecular force in van der Waal's equation for non-ideal gas is		cular force in van der Waal's equation	
	(1)	RT	(2)	V - b
	(3)	$P + \frac{a}{V^2}$	(4)	(RT) ⁻¹
42.	Whabs	ich one of the follow: orption	ing is no	t applicable to the phenomena of
	(1)	$\Delta H > 0$	(2)	ΔG<0
	(3)	ΔS<0	(4)	$\Delta H < 0$
43.	Wh	ich one of the following	is a positi	vely charged sol
	(1)	Gold sol	(2)	As_2S_3 sol
	(3)	Methylene blue sol	(4)	Gelatin
44.	Wha	at is the normality of 1	M H ₃ PO ₂	solution?
	(1)	0.5 N	(2)	1.0 N
	(3)	2.0 N	(4)	3.0 N
45.	A cr	icket ball 0.5 Kg is movi ciated with its motion i	ng with a is :	velocity of 100 ms ⁻¹ . The wavelength
	(1)	1/100 cm	(2)	$6.6 \times 10^{-34} \text{ m}$
	(3)	$1.32 \times 10^{-35} \text{ m}$	(4)	$6.6 \times 10^{-28} \text{ m}$

uestion No.	Q	uesti	ons
46.	Ortho and para hydrogen differ:	in	
	(1) atomic number	*	(2) mass number
	(3) electron spin in two atoms		(4) nuclear spin in two atoms
47.	Which of the following carbonate	es is	east stable
e	(1) MgCO ₃	(2)	Na_2CO_3
	(3) K ₂ CO ₃	(4)	$\mathrm{Rb_2CO_3}$
48.	The IUPAC name of the		
	Me Me Me Me		
	Structure is:		
	(1) 2,4,5-triethyl-3-nonene	(2)	5,6-diethyl-3-methyl-4-decene
	(3) 2,4,6-triethyl-3-octene	(4)	3-ethyl-5-methyl-3-heptene
49.	The strongest base among the f	ollow	ring is:
	(1) N	(2)	
	(3) N H	(4)	NH ₂
50.	The number of σ-and Π-bonds	prese	ent in pent-4-ene-1-yne is:
	(1) 10, 3	(2)	4, 9
	(3) 3, 10	(4)	9, 4

Question No.	Questions
51.	Which alkene on ozonolysis gives CH ₃ CH ₂ CHO and CH ₃ COCH ₃ ?
/	(1) $CH_3CH_2CH=C(CH_3)_2$ (2) $CH_3CH_2CH=CHCH_2CH_3$
9	(3) $CH_3CH_2CH=CHCH_3$ (4) $CH_3C(CH_3)=CHCH_3$
52.	$NBS \rightarrow A \xrightarrow{NaC \equiv CH} B$, what are A and B:
	(1) \bigcirc
	(3) Pr $C \equiv CH$ (4) None of them
53.	Identify the compound Y in the following reaction:
	$ \begin{array}{c c} & NH_2 \\ \hline & NaNO_2 + HC\ell \\ \hline & 273-278 \text{ K} \end{array} $ $ \begin{array}{c c} & Cu_2C\ell_2 \\ \hline & Y + N_2 \end{array} $
	$(1) \bigcirc^{C\ell} \qquad \qquad (2) \bigcirc$
	$(3) \bigcirc C\ell$ $C\ell$ $C\ell$ $C\ell$
54.	Which reagent will you use for the following reaction?
	$\mathrm{CH_3CH_2CH_2CH_3} \! \to \mathrm{CH_3CH_2CH_2CH_2C\ell} + \mathrm{CH_3CH_2CHC\ellCH_3}$
	(1) $C\ell_2$ / UV light (2) $NaC\ell + H_2SO_4$
	(3) $C\ell_2$ gas in dark (4) $C\ell_2$ gas in the presence of iron in dark

Question No.	Questions
55.	In the following sequence of reaction:
⊗**:	$CH_3CH_2OH \xrightarrow{P+I_2} A \xrightarrow{Mg} B \xrightarrow{HCHO} C \xrightarrow{H_2O} D$
	The compound D is:
	(1) Butanal (2) n- butyl alcohol
	(3) n- propyl alcohol (4) Propanal
56.	The reaction of
	CH ₃ -CH=CH-OH with HBr gives:
	(1) CH ₃ CHBrCH ₂ —OH
e	(2) CH ₃ CH ₂ CHBr—OH
	(3) CH ₃ CHBrCH ₂ ——Br
	(4) CH ₃ CH ₂ CHBr————————————————————————————————————
57.	Among the following the one that gives positive Idoform test upon reaction with ${\rm I_2}$ and NaOH is :
	(1) $CH_3CH_2CH(OH)CH_2CH_3$ (2) $C_6H_5CH_2CH_2OH$
	(3) CH ₃ CH ₃ (4) PhCHOHCH ₃

Question No.	Questions
58.	In the following sequence of reaction, identify the final product:
	$CH_3\text{-Mg-Br} + \overbrace{\bigcup_{O}} \xrightarrow{H_3O^+} A \xrightarrow{HBr} B \xrightarrow{Mg.ether} C \xrightarrow{CH_3CHO} D$
8.7	(1) CH ₃ CHOH CH ₃ C=O CH ₃
ati	(3) \bigcirc CHOH-CH ₃ (4) \bigcirc CH ₂ OH
59.	The correct order of increasing acidic strength is -
	(1) Phenol < Ethanol < Chloroacetic acid < Acetic acid
	(2) Ethanol < Phenol < Chloroacetic acid < Acetic acid
	(3) Ethanol < Phenol < Acetic acid < Chloroacetic acid
	(4) Chloroacetic acid < Acetic acid < Phenol < Ethanol
60.	Among the following which one does not act as an intermediate in Hofmann rearrangement?
	(1) RNCO (2) RCON:
	(3) RCON:HBr (4) RNC
<u> </u>	

Question No.	Questions		
61.	Electrolytic reduction of nitrobenzene in weakly acidic medium gives:		
	(1) Aniline (2) Nitosobenzene		
	(3) N-phenylhydroxylamine (4) p-hydroxyaniline		
62.	The efficiency of fuel cell is given by		
	(1) $\frac{\Delta G}{\Delta S}$ (2) $\frac{\Delta G}{\Delta H}$		
	(3) $\frac{\Delta S}{\Delta G}$ (4) $\frac{\Delta H}{\Delta G}$		
63.	Thymine is:		
	(1) 5-methyluracil (2) 4-methyluracil		
	(3) 3-methyluracil (4) 1-methyluracil		
64.	If the rate of the reaction is equal to the rate constant, the order of the reaction is		
	(1) 0 (2) 1		
	(3) 2 (4) 3		
65.	Which of the following polymer can be formed by using the following monomer unit? H H C CH H C CH H C CH H C C		

Question No.	Questions			
66.	Which of the following is not a target molecule for drug function in body?			
	(1)	Carbohydrates	(2)	Lipids
	(3)	Vitamins	(4)	Proteins
67.	The pollutants released by jet aeroplane in the atmosphere as fluorocarbons are called			
	(1)	Photochemical oxida	nts	
	(2)	Photochemical reduc	tants	
	(3)	Aerosols		5 5
	(4)	Physical pollutants		
68.	Which of the following pairs has the same size?			same size ?
	(1)	Zn ²⁺ , Hf ⁴⁺	(2)	Fe ²⁺ , Ni ²⁺
	(3)	Zr ⁴⁺ , Ti ⁴⁺	(4)	Zr ⁴⁺ , Hf ⁴⁺
69.	The coordination number and oxidation state number of Cr in $K_3Cr(C_2O)$ are respectively		ion state number of Cr in $K_3Cr(C_2O_4)_3$	
	(1)	3 and $+3$	(2)	3 and 0
	(3)	6 and + 3	(4)	4 and + 2
70.	Ioni	ic solids, with Schottk	y defects, o	contain in their structure
	(1)	Cation vacancies onl	У	
	(2)	Cation vacancies and	d interstitia	al cations
	(3)	Equal number of cat	ion and ani	on vacancies
	(4)	Anion vacancies and	interstitia	l anions

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Question No.	Questions		
	Part-C {Opt. (i)} (Mathematics)		
71.	If A and B are any two sets, then $A - B \neq$		
	$(1) B \cap A' \qquad (2) A \cap B'$		
	(3) $(A' \cup B)'$ (4) None of these		
72.	Let R be the relation of the set R of all real numbers defined by aRb iff $ a-b \le 1$. Then R is		
	(1) reflexive and symmetric (2) symmetric only		
	(3) transitive only (4) anti-symmetric only		
73.	If $f(x) = \frac{x-1}{x+1}$, then $f\left(\frac{1}{f(x)}\right)$ equals:		
	(1) 0 (2) 1		
	(3) x (4) $\frac{1}{x}$		
74.	Which of the following is correct?		
59	(1) $\sin 1^{\circ} > \sin 1$ (2) $\sin 1^{\circ} < \sin 1$		
	(3) $\sin 1^\circ = \sin 1$ (4) $\sin 1^\circ = \frac{\pi}{180} \sin 1$.		
75.	The cube roots of unity lie on a circle		
	(1) $ z-1 =1$ (2) $ z+1 =1$		
8	(3) z = 1 (4) None of these		

Question No.	Questions	
76. ✓	Area of the triangle formed by 3 complex numbers $1+i$, $i-1$, $2i$ in the Argand plane is	
	(1) $\frac{1}{2}$	(2) 1
	(3) √2	(4) 2
77.	If the equations $2x^2$ common, then the va	$+ kx - 5 = 0$ and $x^2 - 3x - 4 = 0$ have one root in lue of k is:
	(1) 3	(2) -3
-	(3) 4	(4) None of these
78.	The solution of the e	uation $1 + x - 1 \ge 0$ is:
	(1) $(-\infty, 0)$	(2) (-2,0)
	(3) (0, ∞)	(4) (0, 2)
79.		arranged to a round table. If two particular persons to be side by side, the total number of arrangements
	(1) 9 (10!)	(2) 2 (10!)
	(3) 2 (11!)	(4) 10!
80.	The positive integer just greater than $(1 + 0.0001)^{10000}$ is	
	(1) 3	(2) 4
	(3) 5	(4) None of these

Question No.	Questions	
81.	If H be the HM between a and b, then the value of $\frac{H}{a} + \frac{H}{b}$ is	
	$(1) \frac{ab}{a+b} \qquad (2) \frac{a+b}{ab}$	
	(3) 2 (4) None of these	
82.	The straight lines $x + y = 0$, $3x + y - 4 = 0$, $x + 3y - 4 = 0$ form a triangle which is:	
	(1) right angled (2) equilateral	
	(3) isosceles (4) none of these	
83.	The circle $x^2 + y^2 + 4x - 7y + 12 = 0$ cuts an intercept on y-axis is of length:	
	(1) 3 (2) 4	
	(3) 7 (4) 1	
84.	The value of $\lim_{x \to \infty} \left(\frac{x+3}{x-1} \right)^{x+3}$ is	
	(1) e (2) e ²	
	(3) e^3 (4) e^4	
85.	If there are 6 girls and 5 boys who sit in a row, then the probability that no two boys sit together is:	
	(1) $\frac{6! \ 7!}{2! \ 11!}$ (2) $\frac{5! \ 7!}{2! \ 11!}$	
	(3) $\frac{6! 6!}{2! 11!}$ (4) None of these	

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Question No.	Questions		
86.	The one which is the measure of central tendency is:		
	(1) co-efficient of correlation (2) standard deviation		
	(3) mean deviation (4) mode		
87.	If S be a finite set containing n elements. The the total number of binary operations on S is:		
	(1) n^n (2) 2^{n^2} (3) n^2 (4) n^{n^2}		
	(3) n^2 (4) n^{n^2}		
88.	The solution of the equation $tan^{-1}(1+x) + tan^{-1}(1-x) = \frac{\pi}{2}$ is:		
	(1) $x = 1$ (2) $x = -1$		
	(3) $x = 0$ (4) $x = \pi$		
89.	If $A = [a \ b]$, $B = [-b \ -a]$ and $C = \begin{bmatrix} a \\ -a \end{bmatrix}$, then the correct statement		
	is:		
	(1) $A = -B$ (2) $A + B = A - B$ (3) $AC = BC$ (4) $CA = CB$		
	(3) $AC = BC$ (4) $CA = CB$		
90.	The value of λ and μ for which the system of equations $x + y + z = 6$, $x + 2y + 3z = 10$ and $x + 2y + \lambda z = \mu$ have unique solution are:		
	(1) $\lambda \neq 3, \mu \in \mathbb{R}$ (2) $\lambda = 3, \mu = 10$		
	(1) $\lambda \neq 3, \mu \in \mathbb{R}$ (2) $\lambda = 3, \mu = 10$ (3) $\lambda \neq 3, \mu = 10$ (4) $\lambda \neq 3, \mu \neq 10$		

Question No.	Questions		
91.	The largest value of a third order determinant whose elements are 0 or 1		
	is: (1) 3 (2) 2		
	(1) 3 (3) 1 (4) 0		
92.	The set of all points, where the function $f(x) = \frac{x}{1+ x }$ is differentiable is:		
	$(1) (0, \infty) \qquad \qquad (2) (-\infty, \infty)$		
	(3) $(-\infty, 0) \cup (0, \infty)$ (4) None of these		
93.	The function f (x) is defined by		
15	$f(x) = \begin{cases} \frac{ x+2 }{\tan^{-1}(x+2)}, & x \neq -2 \\ 2, & x = -2 \end{cases}, \text{ then}$ $f(x) \text{ is :}$ $(1) \text{ continuous at } x = -2$ $(2) \text{ differentiable at } x = -2$ $(3) \text{ not continuous at } x = -2$ $(4) \text{ continuous but not derivable at } x = -2$		
94.	If $\int \frac{\cos 4x + 1}{\cot x - \tan x} dx = A \cos 4x + B$, then		
	(1) $A = -\frac{1}{8}$ (2) $A = -\frac{1}{4}$		
	(3) $A = -\frac{1}{2}$ (4) -1		
95.	The area of the figure bounded by $y = \sin x$, $y = \cos x$ in the first quadrant is:		
	(1) $2(\sqrt{2}-1)$ (2) $\sqrt{3}+1$		
	(3) $2(\sqrt{3}-1)$ (4) None of these		

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Question No.	Questions	
96.	The order of the differential equation whose solution is	
	$y = a \cos x + b \sin x + c e^{-x}$ is	
	(1) 2 (2) 1	
	(3) 3 (4) None of these	
97.	If $\vec{r} = x \hat{i} + y \hat{j} + z \hat{k}$, then value of $(\vec{r} \cdot \hat{i}) \hat{i} + (\vec{r} \cdot \hat{j}) \hat{j} + (\vec{r} \cdot \hat{k}) \hat{k}$ is	
	(1) 0 (2) $3\vec{r}$	
	(3) 8 r (4) r	
98.	The vectors $2\hat{i}+3\hat{j}-4\hat{k}$ and $a\hat{i}+b\hat{j}+c\hat{k}$ are perpendicular when:	
	(1) $a = 2, b = 3, c = 4$ (2) $a = 4, b = 4, c = -2$	
	(3) $a = 5, b = 4, c = 4$ (4) $a = 4, b = 4, c = 5$	
99.	A fair coin is tossed 100 times. The probability of getting tails an odd number of times is:	
	(1) $\frac{3}{8}$ (2) $\frac{1}{2}$	
	(1) $\frac{3}{8}$ (2) $\frac{1}{2}$ (3) $\frac{1}{8}$ (4) None of these	
100.	The equation $ \vec{r} ^2 - 2(\vec{r} \cdot \vec{a}) + \lambda = 0$ represents a	
	(1) plane (2) straight line	
	(3) sphere (4) none of these	

Code-A

Question No.	Questions		
	Part-C {Opt. (ii)} (Biology)		
101.	Genetic engineering is connected with		
	(1) Eugenics (2) Euthenics		
	(3) Euphenics (4) All of these		
102.	Some people who have suffered from a disease may not be affected again during their life time; such immunity is called		
	(1) Natural immunity (2) Acquired immunity		
	(3) Innate immunity (4) Passive immunity		
103.	Raw cheese is known as		
	(1) Blue cheese (2) Cottage cheese		
	(3) Swiss cheese (4) None of these		
104.	Cell division cannot be stopped in which phase of the cell cycle?		
	(1) G ₁ -Phase (2) G ₂ -Phase		
	(3) S-Phase (4) Prophase		
105.	What type of plant is formed when colchicine is used in the process of development of Raphanobrassica?		
	(1) Autotetraploid (2) Haploid		
	(3) Triploid (4) Allotetraploid		

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Question No.	Questions		
106.	Synapsis occurs between		
/	(1) mRNA and ribosomes		
	(2) male and female gametes		
	(3) Two homologous chromosomes		
	(4) Spindle fibers and centromere		
107.	A nitrogen fixing microbe associate	d with <i>Azolla</i> in rice fields is	
	(1) Frankia (2)	Tolypothrix	
	(3) Spirulina (4)	Anabaena	
108.	A patient brought to a hospital wi immediately given	th myocardial infarction is normally	
	(1) Cyclosporin-A (2)	Statins	
	(3) Penicillin (4)	Streptokinase	
109.	Rotenone is		
	(1) A bioherbicide (2)	A natural insecticide	
	(3) An insect hormone (4)	A natural herbicide	
110.	Variation in gene frequencies with rather than by natural selection. T	hin populations can occur by chance his is referred to as	
	(1) Genetic flow (2)	Genetic drift	
	(3) Random mating (4)	Genetic load	

Question No.	Questions	
111.	The tendency of population to remain in genetic equilibrium may be disturbed by	
	(1) Random mating (2) Lack of migration	
	(3) Lack of mutation (4) Lack of random mating	
112.	If two pea plants having red (Dominant) colored flowers with unknown genotypes are crossed, 75% of the flowers are red and 25% are white. The genotypic constitution of the parents having red colored flowers will be	
	(1) Both heterozygous	
	(2) One homozygous and other heterozygous	
	(3) Both homozygous	
	(4) Both hemizygous	
113.	The deposition of lipids on the wall lining the lumen of large and medium sized arteries is referred to as	
	(1) Osteoarthritis (2) Osteoporosis	
	(3) Stokes-Adams Syndrome (4) Atherosclerosis	
114.	Which of the following matches correctly?	
	(1) Pulmonary artery – Carries deoxygenated blood to the lungs	
	(2) Superior vena cava – Receives deoxygenated blood from the lower body and organs	
	(3) Inferior vena cava – Receives deoxygenated blood from the head and body	
	(4) Hepatic artery – carries deoxygenated blood to the gut	

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Question No.	Questions			
115.	The function of leghemoglobin in the root nodules of legumes is			
	(1) Oxygen removal			
	(2) Inhibition of nitrogenase activity			
0	(3) Expression of nif gene			
	(4) Nodule differentiation			
116.	GIFT (Gamete intrafallopian transfer) mixes egg and sperm in the			
/	(1) Fallopian tube (2) Uterus			
	(3) Vagina (4) Culture medium			
117.	An example of merocrine gland is			
	(1) Sebaceous gland (2) Pineal gland			
	(3) Salivary gland (4) Mammary gland			
118.	ATPase enzyme needed for muscle contraction is located in			
400	(1) Actinin (2) Troponin			
	(3) Myosin (4) Actin			
119.	Casparian strips are present in the of the root.			
	(1) Pericycle (2) Cortex			
	(3) Epiblema (4) Endodermis			



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Question No.	Questions				
120.	The inner, darker and harder portion of secondary xylem that cannot conduct water, in an older dicot stem, is called				
	(1)	Bast	(2)	Alburnum	
	(3)	Duramen	(4)	Wood	
121.	Seed coat is not thin, membranous in				
	(1)	Groundnut	(2)	Coconut	
	(3)	Maize	(4)	Gram	
122.	Lenticels are involved in				
	(1)	Transportation	(2)	Gaseous exchange	
	(3)	Food transport	(4)	Photosynthesis	
123.	Insect mouthparts are adapted for different functions in different species. Mouthparts of houseflies are used for				
	(1)	Siphoning			
	(2)	Piercing and sucking			
	(3)	Sponging and lapping			
×	(4)	Biting and chewing			
124.	The	first enzyme to be purific	ed and o	crystalized was	
	(1)	Urease	(2)	Diastase	
	(3)	Insulin	(4)	Zymase	



Question No.	Questions				
125.	Many enzymes are secreted in inactive form to protect				
	(1) Cell membrane (2) Mitochondria				
	(3) Cell proteins (4) Cell DNA				
126.	An action potential in the nerve fiber is produced when positive and negative charges on outside and the inside of the axon membrane are reversed because				
3	(1) All potassium ions leave the axon				
	2) More potassium ions enter the axon as compared to sodium ions leaving it				
	3) More sodium ions enter the axon as compared to potassium ions leaving it				
	(4) All soidum ions enter the axon				
127.	Sequence of taxonomic categories is				
	(1) Divison - Class - Order - Family - Tribe - Genus - Species				
	(2) Class - Phylum - Tribe - Order - Family - Genus - Species				
	(3) Phylum – Order – Class – Tribe – Family – Genus – Species				
	(4) Division - Class - Family - Tribe - Order - Genus - Species				
128.	In the five-kingdom system of classification, which single kingdom out of the following can include blue green algae, nitrogen-fixing bacteria and methanogenic archaebacteria?				
	(1) Protista (2) Fungi				
	(3) Monera (4) Plantae				

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$\mathbf{Code}\text{-}\mathbf{A}$

Question No.	Questions			
129.	Methanogens are			
	(1) Obligate anaerobic bacteria			
	(2) Aerobic fungi			
	(3) Aerobic bacteria			
	(4) Obligate anaerobic fungi			
130.	Noise is measured using sound meter and the unit is			
	(1) Hertz			
	(2) Decibel			
	(3) Joule			
į	(4) Sound			

