

Monthly Progressive Test

Class: X



Subject: PCMB

Test Booklet No.: MPT09

 Test Date:
 2
 0
 0
 1
 2
 0
 2
 5

Time: 120 mins

Full Marks: 200

Important Instructions :

- The Test is of 120 mins duration and the Test Booklet contains 100 multiple choice questions of single correct option only. There are four sections with four subjects. You have to attempt all 100 questions (Candidates are advised to read all 100 questions). Questions 1 to 25 contain Physics, Questions 26 to 50 contain Chemistry, Questions 51 to 75 contain Mathematics, Questions 76 to 100 contain Biology.
- 2. Each question carries 2 marks. For each correct response, the candidate will get 2 marks. There is no negative mark for wrong response. The maximum mark is 200.
- 3. Use Blue / Black Ball point Pen only for writing particulars marking responses on Answer Sheet.
- 4. Rough work is to be done in the space provided for this purpose in the Test Booklet only.
- 5. On completion of the test, the candidate must handover the Answer Sheet to the invigilator before leaving the Room / Hall. The candidates are allowed to take away this Test Booklet with them.
- 6. The CODE for this Booklet is Off Line MPT07 20012025.
- 7. The candidates should ensure that the Answer Sheet is not folded. Do not make any stray marks on the Answer Sheet. Do not write your UID No. anywhere else except in the specified space. Use of white fluid for correction is NOT permissible on the Answer Sheet. Do not scrible or write on or beyond discrete bars of OMR Sheet at both sides.
- 8. Each candidate must show on-demand his/her Registration document to the Invigilator.
- 9. No candidate, without special permission of the Centre Superintendent or Invigilator, would leave his/her seat.
- 10. Use of Electronic Calculator/Cellphone is prohibited.
- 11. The candidates are governed by all Rules and Regulations of the examination with regard to their conduct in the Examination Hall. All cases of unfair means will be dealt with as per Rules and Regulations of this examination.
- 12. No part of the Test Booklet and Answer Sheet shall be detached under any circumstances.
- 13. There is no scope for altering response mark in Answer Sheet.



			[1]				
•			Phys	ics			•
1.	The central point on the s	urfa	ce of curved mirror is ca	lled			
	(A) centre of curvature	B	focus	©	pole	D	aperture
2.	Face the concave mirror to	owa	rds the sun. The image o	of sur	n will form at	_	
	(A) pole	B	centre of curvature	C	focus	D	infinity
3.	Convex mirrors are widely	y use	ed as	_			
	A rear-view mirrors			B	to get enlarged image		
_	© to use for examination	ı of t	eeth	D	solar heating device		
4.	A concave mirror forms an as large as the object, then	n inv 1 the	erted image of an object separation between ob	t pla ject a	ced at a distance of 12 cı and image is	n fro	om it. If the image is twice
	(A) 10 cm	B	12 cm	C	14 cm	D	8 cm
5.	A convex mirror always fo	rms					
	A virtual image			B	erect image		
	© smaller image than ob	oject		D	all of the above		
6.	A ray of light traveling in a refraction be 30°, then refr	air fa racti	lls on the surface of a tra ve index of the slab is	ansp	arent slab at an angle o	finci	idence 45°. If the angle of
	(A) $\frac{3}{2}$	₿	$\frac{4}{3}$	©	1.414	D	1.2
7.	When light travels from gl	ass ($(r.i = \frac{3}{2})$ to water $(r.i = \frac{4}{3})$), th	$en sin (i_c) =$		
	(where i_c is called critical	angl	e for glass-water pair)				
	$\bigotimes \frac{8}{9}$	B	$\frac{4}{9}$	©	$\frac{3}{4}$	D	$\frac{2}{2}$
8.	A same-sized image is form	ned	when an object is placed	l at a	distance of 40 cm from	a cor	vex lens. Then the power
	of convex lens is			M	DIA		
	(A) 2D	₿	1D	C	+ 5D	D	- 5D
9.	An object is placed on the from it. The focal length o	e prin f cor	ncipal axis of a concave ncave lens is 20 cm. Ther	lens 1 the	at a distance of a conca separation between the	ve le obj	ens at a distance of 20 cm ect and image is
	(A) 10 cm	₿	12 cm	©	8 cm	D	14 cm
10.	A convex lens of focal leng that they have the same p	gth 2 rinci	0 cm is placed in contact pal axis. The combination	t witl on ha	h a concave lens of focal as the power	leng	gth of 10 cm in such a way
	(A) 5D	₿	-5D	C	6D	D	4D
11.	The symbol represents (•)) (in	the electric circuit)				
	lug key (OFF)	B	plug key (ON)	©	switch (ON)	D	switch (OFF)
12.	An ammeter is connected	in					
	(A) parallel, in a circuit			B	series, in a circuit		
	© open circuit			D	all of the above		
13.	For a given potential (in v	olt),	i (current) ∝				
	🔕 R	₿	R^2	©	$\frac{1}{R}$	D	$\frac{1}{R^2}$

14.	For alloys of metals, the re	sistivi	ty				
	(A) increases with rise in t	empe	rature	₿	decreases with rise in t	emp	oerature
	© remains same with ris 10 ohm	e in te	mperature	D	data is insufficient		
15.	6A] 				
	20 0nm current through 20 ohm re	esistor	is				
			0.4	0	2 4	\square	2.5.4
16	A 1000-watt heater has less	e resis	stance than a 100-watt	bull	3/1	e	2.5/1
± 0.	A false	55 10510	stance than a 100 watt	B	same times true		
	© true			D	cannot say as data is in	suff	icient
17.	A diagnostic technique in	which	the magnetism inside	e the	human body is used to	form	n images of tissues
	A MRI	B 1	aproscopy	Ô	endoscope	D	tubectomy operation
18.	In ring magnet	•	-FF)	Ŭ		Ŭ	······································
	(A) it has only North Pole						
	(B) it has only South Pole						
	© one face is the north p	ole wł	nile the other is the Sou	uth F	Pole		
	D magnetism does not e	xists			0		
19.	The magnetic field is stron	iger w	here	_			
	(A) the field lines are more	e close	ely spaced	B	the field lines are wide	ly sp	aced
	C the field lines are abse	ent		D	none of these		
20.	For a barmagnet		VO	C			
	A magnetic field lines ar	e outs	ide the barmagnet only	у			
	magnetic field lines ar	e insic	le the barmagnet only				
	C magnetic field lines ar	e insic	de the bar magnet and	outs	aide the barmagnet		
01	• none of the above is co	orrect		1 1	1	•	
∠⊥.	a current-carrying wire.	ctric ci	urrent can be very easi	ly De	demonstrated by bring	ing a	a magnetic compass near
	line (1997)	Bs	sometimes true	©	false	D	data insufficient
22.	All magnetic field lines are	e					
	(A) open curve	B	closed curve	©	sometimes closed curv	re	O straight lines always
Ass	ertion Reason based Que	stions	(Q 23):				
Di	rections: Read the followin	gques	stions and choose any	one	of the following four res	pon	ses.
	A: Assertion and Reason	both a	re correct and Reason	is th	e correct explanation of	Ass	ertion.
	B: Assertion and Reason	both a	re correct and Reason	is no	ot the correct explanatio	n of	Assertion.
	D: Assertion is wrong but	reaso Reaso	on is correct				
23.	Assertion(A) : The directi	on of	the magnetic field due	to a	current in a straight cor	ndua	ctor is given by Maxwell's
	right-hand thumb rule.		0				0 ,

Techno India Group • DN-25 • Sector-V • Kolkata

[2]

Reason(R): As the distance of the compass from the wire increases, the deflection of its needle decreases.

		А		B	В		©	С	D	D
Cas	e Sti	udy B	ased Questions	(Q2	4 – Q25):					
	A co eacl than	oil is m h turn n that	ade by winding produces its ow produced by a ci	sever m ma ircula	ral turns o agnetic fie ar loop of	of in eld. sin	sulated wire in a These fields tog gle turn.	a circular fo ether give r	orm. When a curr rise to a net mag	ent passes through a coil, netic field that is stronger
24.	Ifa	coil ha	as n turns, the m	agne	tic field d	uet	to the coil is n ti	mes strong	er than that due	to a single turn
	(A)	true		B	sometim	les t	true C	false	Ø	none of the above
25.	The	curre	nt in the circular	r coil	is reverse	ed. 7	Then			
	A	Streng	gth of magnetic f	field	remains s	am	e 🛽 🖲	the poles g	get interchanged	
	©	both ((((((()))))))))))))))))))))	corre	ct		D	none of th	e above	
•						-	inemistr	Ϋ́Υ		•
26	Idor	a+;f++1	a product (V' ch	stain	ad in that	fall	wing chomical	roaction		
20.	luei	iiiiy u		Jaiii			owing chemical	Teaction.		
	_			-		Ca	$CO_3 \xrightarrow{\Delta} 'X' +$	-CO ₂		
	(A)	Quick	lime	B	Gypsum		C	Limestone	e D	Plaster of Paris
27.	Con	nsider	the following ch	emic	cal equation	on:				
					aAlaOa	+	$hHCl \longrightarrow cAl$	$Cl_2 + dH_2$	0	
	-				u 1203					
	ln o	order to	o balance this ch	iemi	cal equati	on,	the values of a,	b, c and d r	nust be	
	(A)	1, 6, 2	and 3	B	2, 6, 2 an	d 3	U	1, 6, 3 and		2, 6, 3 and 2
28.	The	follov	ving reaction is a	an ex	ample of a	a:	Vo	C		
				4	$NH_3(g) +$	- 50	$O_2(g) \longrightarrow 4N$	$O(g) + 6H_2$	$_{2}O(g)$	
	(i) I	Displa	cement reaction		(ii) Com	bina	ation reaction			
	(iii)	Redo	x reaction	~	(iv) Neut	trali	ization reaction		0	
	A	(i)&(iv)	B	(ii) & (iii))	©	(i) & (iii)	D	(iii) & (iv)
29.	Ran	cidity	can be prevente	ed by	:					
		Addin	ng antioxidants				B	Storing for	od away from lig	ht
	©	Keepi	ng food in refrig	erato	or		D	All of the a	lbove	
30.	Mat	ch the	e following:							
			Column-I				Column-II			
		(a)	Metal oxides		(i)	pH = 7			
		(b)	Distilled water		(ii	i)	Generally basic	c in nature		
		(c)	Phenolphthalei	in	(ii	i)	Methanoic aci	d		
		(d)	Chalk Ant sting			7))	Turns Pink wit	h base		
			Ant sung			9	Calciulii Carbo	nate		

- (a)-(ii), b-(i), c-(v), d-(iv), e-(iii)
 (a)-(i), b-(ii), c-(iii), d-(v), e-(iv)
- © (a)-(ii), b-(i), c-(iv), d-(v), e-(iii)

31.	A shiny brown coloured e 'B' can respectively be:	eleme	ent 'A' on heating in air l	oeco	mes black, because of f	orma	tion of 'B'. Hence, 'A' and
	A Ag, Ag ₂ O	₿	Cu, CuO	©	Fe, Fe_2O_3	D	Al, Al_2O_3
32.	The colour of the precipit	ate o	btained during the reac	tion	of potassium iodide and	d lead	d nitrate is:
	White	₿	Blue	©	Yellow	D	Grey
33.	Select the mixed salt:						
	B FeSO ₄ . (NH ₄) ₂ SO ₄ . 6	H_2O		₿	CH ₃ COONH ₄		
	C Na ₂ KPO ₄			D	$K_4[Fe(CN)_6]$		
34.	Which of the following wi	ll hav	ve the maximum concer	ntrat	ion of H ⁺ ions?		
	A Solution with pH = 4	₿	Solution with $pH = 10$	©	Solution with pH = 2	D	Solution with pH = 7
35.	Complete the reaction:						
	Zn + 2NaOH —	\rightarrow ?					
	$(OH)_2 + H_2O $	₿	$Na_2ZnO_2 + Na_2O$	©	$Zn(OH)_2 + H_2O_2$	D	$Na_2ZnO_2 + H_2$
36.	What will be the decreasi	ng re	activity order when met	als r	eact with dilute minera	l acid	!?
	(A) $Na > Zn > Mg > Fe > C$	u		B	Na > Mg > Fe > Zn > Ce	u	
	\bigcirc Zn > Na > Mg > Cu > H	² e		D	Na > Mg > Zn > Fe > Ca	u	
37.	Which of the following co	ntair	ns both polar and non-p	olar	bonds?		
	\bigcirc NH ₄ Cl	₿	HCN	©	H_2O_2	D	CH_4
38.	Both ionic and covalent b	onds	are present in:		0		
	O CH ₄	B	NaOH	C	KCl	D	SO_2
39.	In the following reactions	-9			0		
			Metal M + HCl	\rightarrow S	alt 'X' + H ₂		
			Metal M + NaOH -	\rightarrow	Salt Y + H ₂		
	Metal 'M' and Salt 'Y' res	oecti	vely can be:		2		
	A Mg and Mg(OH) ₂	B	Ca and CaO	C	Fe and Fe_2O_3	D	Zn and Na ₂ ZnO ₂
40.	Consider the following ac	meor	us solutions				
	(i) Zinc sulphate (ii) (Copp	er sulphate (iii) Alu	min	um sulphate (iv) Fo	errou	ıs sulphate
	A few iron fillings were p	laced	l in the given solutions	and	the changes were obse	erved	l. Which of the following
	observations is correct for	r the	above activity?				
	Colour of all four solu	tions	is changed				
	Colour change is observed	erved	only in solutions (i), (ii) and	l (iii)		
	© No change is observed	d in t	he solutions (i), (iii) and	1 (iv)			
	Unly the colour of sol	utior	(III) is changed				
Ass	ertion Reason based Que	stior	ns (41–45):				
Di	rections: Read the followir	ıg qu	estions and choose any	one	of the following four re	spon	ses.

- a: Assertion and Reason both are correct and Reason is the correct explanation of Assertion.
- b: Assertion and Reason both are correct and Reason is not the correct explanation of Assertion.

	c: Assertion is correct but	Ros	son is wrong				
	A section is correct but	. ncc	ison is wrong.				
	d: Assertion is wrong but	Reas	son is correct.				
41.	Assertion (A): Metals hav	e hi	gh reactivity are reduced	d by	electrolysis.		
	Reason (R): Metals have s	stror	ng bonds in their compo	und	S		
	(▲) a	₿	b	©	С	D	d
42.	Assertion (A): The atoms in	n a c	ovalent molecule share	elec	trons but some are pola	r cov	alent.
	Reason (R): In polar cova	lent	molecules the shared el	lectr	ons spend more time ne	ear o	ne of the atoms.
	(A) a	B	b	©	С	D	d
43.	Assertion (A): HCl is an ac	id.					
	Reason (R): HCl produce	s H ₃	O ⁺ in water.				
	(A) a	₿	b	©	с	D	d
44.	Assertion (A): pH of pure	dist	illed water is always 7.				
	Reason (R): Pure water co	onta	ins equal concentration	of h	ydronium and hydroxyl	ions	h.
	▲ a	B	b	C	С	D	d
45.	Assertion (A): NaCl is for	med	l by the reaction of NaOl	H wi	th HCl.		
	Reason (R): NaCl is solub	le ir	n water.				
	▲ a	₿	b	©	с	D	d
46.	Which of the following allo	oys c	contain non-metal as on	e of	the constituents?		
	A Brass	₿	Steel	©	Bronze	D	Amalgam
	e Study Based Questions	(47–	-48):				
Rea	ad the passage carefully and	d sel	ect the correct options :				
Co	valent bonds are formed by	the	non-metals and ionic bo	onds	are formed by complete	tran	sfer of electrons between
metals	and non-metals. Covalen	t co	mpounds fulfill their o	ctets	by sharing electrons and	nd re	eceive nearest noble gas
conng metal	releases electron(s) to form	ecui i cat	ies may have single, dou	ble a s acc	ept electron(s) to form a	case anio	of ionic compounds, the n.
47.	When magnesium and oxy	vgen	form magnesium oxide	the	n correct statement is		
	A Metal releases 3 electr	ons	and non - metal accepts	2 el	ectrons		
	Metal releases 2 electric	ons	and non - metal accepts	2 el	ectrons		
	© Metal releases 3 electr	ons	and non - metal accepts	3 el	ectrons		
	Metal releases 2 electr	ons	and non - metal accepts	3 el	ectrons		
48	X = total number of electro	nne i	n the outermost shell of	N ³⁻	ion		

- **48.** $X = \text{total number of electrons in the outermost shell of N³⁻ ion$ Y = total number of electrons in the outermost shell of oxygen atomThe value of (X + Y) is
- (A) 12(B) 14(C) 1649. Write the I.U.P.A.C name of tertiary butyl alcohol
 - B 2-methyl-propanol
 - 1, 1-dimethyl ethanol

(A) 1-methyl-propanol

© 2-methyl-propan-2-0*l*

D 15

			[6]	
50.	Find the total number	of structural isomers	of C ₄ H ₈	
	A 2	B 3	© 4	D 5
•		[Mathematics	•
51.	The sums of n terms o	f two arithmetic series	s are in the ratio of $7n + 1 : 4n + 27$	7. Find the ratio of their 11^{th} terms.
50	(A) 4:3	(B) 5:4	© 7:4	D none of these
52.	A number is chosen at both is	t random from 1 to 120	0. The probability of the number of	chosen being a multiple of 3 and 15
	(A) 1/15	B 1/16	© 1/17	D 1/19
53.	Which of the following	g is true?		
	Three points $(1, -2)$	e), (3, 4) and (4, 7) form	n a straight line	
	Any line parallel to	o x-axis is y = b		
	© The point (3, 4) is a	at a distance of 5 units	s from the origin	
	(D) All of these			
54.	A kite is flown with a t	hread of 250 m length	h. If the thread is assumed to be s	tretched and makes an angle of 60°
	with the horizontal, th	en the height of the k	ite above the ground is (Use $\sqrt{3}$ =	=1.732)
55	W 216.50 m	(1 - 2) and $C(4 - 2)$ are	212.25 m	U 210.25 m
55.	Find: (a) the coordina	(1, -3) and $C(4, -3)$ are the midpoint of	AC	
	(b) the length of	AB.		A ⊾ ↓y
		(h)		
	(\mathbf{A}) $(-1/2, 1)$	9 units	G	
	(B) (-1/2, 1)	10 units	VDIA	
	(C) (1/2, -1)	9 units		
	(()) (1/2, -1)	10 units		
56.	Which of the following	g is incorrect		
	For $K = \frac{9}{2}$, the equ	uation $2x^2 + 3k + K = 0$	will have real and equal roots.	
	\mathbf{B} For $K = -1$ the equ	ution $\mathbf{y}^2 + K(A\mathbf{y} + K - 1)$	1) + 2 - 0 will have equal roots	
	C For $K = 2$, the equation $K = 2$.	ation $x^2 - 2x(1 + 3K) + 3$	7(3 + 2K) = 0 will have equal roots.	s
	(b) For $K = -3$, the equ	uation $(K + 1)x^2 - 2(K - 1)$	(1)x + 1 = 0 will have equal roots.	
57.	A number is chosen at	random from 1 to 120). The probability of the number of	chosen being a multiple of 3 or 15 is
	·			
	$\bigcirc \frac{1}{2}$	\mathbf{B} $\frac{1}{-}$	© <u>1</u>	\bigcirc $\frac{1}{}$
58	 ─ 3 Two metallic right circ 	6 Sular cones having the	• 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	✓ 12 ectively and the radii of their bases
50.	2.1 cm each, have bee	n melted together and	l recast into a sphere. Find the di	ameter of the sphere.
	(A) 2.1 cm	B 3.5 cm	© 4.2 cm	(b) 6.2 cm

59.	$\sqrt{3}x + \sqrt{2}y = \sqrt{12}$ $\sqrt{2}x - \sqrt{3}y = \sqrt{8}$ Find the x-coordinate.			_		
	(A) 0	B 1	©	$\sqrt{2}$	D	none of these
60.	Given $\{a_n\}$ an arithmetic s	sequence such that				
	$a_1 + a_2 = 9$					
	$a_1 + a_2 + a_3 + \dots + a_8 = 108$					
	Find third term.		-		-	
	(A) 7	B 9	C	12	D	none of these
61.	In the following diagram,	O is the center of the circle.	EF is	the tangent to the circl	e. Fir	nd the values of x and y.
	(A) $x = 64^{\circ}, y = 72^{\circ}$					A F
	(B) $x = 72^\circ$, $y = 64^\circ$					T 72°
	© $x = 122^\circ, y = 36^\circ$					
	(D) none of these					B C
62.	The coordinates of $\triangle ABC$	are A(5, 7), B(11, 7) and C(3,	, y), v	with y > 7. The area of Δ	ABC	is 12. What is the value of
	y?			C (3, y)		
	(A) 8				\backslash	
	B 9			2		
	© 10					
	(D) 11	No.		G	A(5,	7) B(11, 7)
63.	A rectangle has integer lea	ngth sides and an area of 202	24. W	hat is the least possible	e peri	imeter of the rectangle?
	(A) 160	B 180	©	222	D	228
64.	If $\sec\theta = x + \frac{1}{4x}$, then $\sec\theta$	θ + tan θ =				
	(A) $2x$ or $\frac{1}{2x}$	Only 2x	©	Only $\frac{1}{2x}$	D	$2x \text{ or } \frac{1}{x}$
65.	In \triangle PQR, point M is on si then find area (\triangle PMS) : an	de PQ and point S is on the rea (QRSM).	side	PR such that QRSM is a	a trap	bezium. If MS : $QR = 3 : 5$,
	(A) 9:16	B 10:17	©	3:5	D	9:25
66.	For a frequency distributi	on, mean, median and mod	e are	connected by which of	the	following relations?
	Mode = 3 Mean - 2 Mean	edian	B	Mode = 2 Median - 3 M	/lean	L
	\bigcirc Mode = 3 Median - 2 M	Mean	D	Mode = 3 Median + 2	Mear	1
67.	The circumference of the can it hold?	base of a cylindrical vessel is	s 132	cm and its height is 25	cm.	How many litres of water
	(A) 34.11 L	B 45.40 L	©	24.65 L	D	34.65 L
68.	Find the number of zeros	at the end of product of 15 ×	< 20 ×	$25 \times 30 \times 35$	-	
	(A) 2	(B) 3	©	4	D	5

[7]

69. A girl of height 90 cm is walking away from the base of a lamp-post at a speed of 1.2 m/sec. If the lamp is 3.6 m above the ground, then find the length of her shadow after 4 seconds.

(A) 0.6 m **(B)** 2.6 m **(C)** 1.4 m **(D)** 1.6 m

70. If the median for the following frequency distribution is 28.5, then find the values of x and y respectively

	Classes	Frequency	
	0-10	5	
	10-20	x	
	20-30	20	
	30-40	15	
	40-50	у	
	50-60	5	
	Total	60	
B 7,	8	© 9,6	- • 6,

Assertion Reason based Questions (71-72):

A 8,7

Directions: In the following questions, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

- (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
- (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
- (c) Assertion (A) is true but reason (R) is false.
- (d) Assertion (A) is false but reason (R) is true.
- **71.** Assertion(A) : TF is a tower with F on the ground. The angle of elevation of T from A is x such that $\tan x = \frac{2}{5}$ and AF = 200 m. The angle of elevation of T from a nearer point B is y with BF = 80 m. The value of y is 45° .

Reason(R) : The angles of elevation of the top of a tower from two points P and Q at distances m^2 and n^2 respectively, from the base and in the same straight line with it are complementary. The height of the tower is m/n.

A	В В	© C	D
72. Assertion(A) :	$\frac{\sin\theta - \cos\theta + 1}{\sin\theta + \cos\theta - 1} = \frac{1}{\sec\theta - \tan\theta}$		
Reason(R):s	$\operatorname{ec}^2 \theta = 1 + \tan^2 \theta.$		
A	B B	© C	D D

■ Case Study Based Questions (73–75):

Read the passage given below and answer the following questions:

Three friends R, L and S go to the same school and live in the same neighbourhood, but they are at different locations in the playground. They are connected by a path of distances which varies for each one of them differently as shown in the respective image below.



76. The figure given below shows a schematic plan of blood circulation in humans with labels. Identify the correct label with its functions:



(i) Pulmonary vein – takes impure blood from body parts

- (ii) Pulmonary artery takes blood from lungs to heart
- © (iii) Aorta takes blood from heart to body
- (iv) Vena cava takes blood from body parts to right auricle
- **77.** The diagram shows the arrangement of cells inside the leaf of a green plant. Which group of cells normally contain chloroplasts ?



	© They throw out excess	water by transpiration.				
	D They excrete waste pro	oducts into the soil around t	hem			
83.	Bowman's capsule is cond	cerned with:				
	Solution Filtration under high	pressure	B	Production of urea		
	© Concentration of urin	e	D	Reabsorption of usefu	l sub	stances
84.	Which of the following is	concerned with protection o	of the	brain?		
	left Cranium	B Meninges	©	CSF	D	All of them
85.	Select the correct option	about a pistillate flower:				
	(A) It is a bisexual flower					
	It can take part in both	h self pollination and cross p	oollin	ation		
	© It cannot take part in	the process of fertilization				
	(D) It has three floral who	rls				
86.	In humans, 44+XX represe	ents:				
	Total number of chron	mosomes in a male gamete				
	Total number of chron	mosomes in a female gamet	е			
	© Total number of chron	mosomes in any cell of a ma	le. ex	cept the male gamete		
	D Total number of chror	mosomes in any cell of a fen	nale.	except the female game	ete	
87.	The Mendelian ratio 3:1. f	for the cross shown as TT X t	t. sta	nds for		
-	A 3 homozygous tall : 1	heterozygous dwarf	B	3 heterozygous tall : 1	hom	ozygous dwarf
	© 3 dwarf : 1 tall		D	3 tall : 1 dwarf		
88.	Select the odd one out:		Ŭ	<u>a</u> a		
	A Thyroid gland	Pituitary gland	Ô	Pancreas	D	Adrenal gland
89.	Which of the following co	nstitute a food chain? (Do n	ot ch	ange the order in which	ı the	organisms are given)
	Grass, tiger, deer	B Grass, goat, human	C	Goat. cow. elephant	D	Grass. fish. goat
90.	Organisms which synthes	sise carbohydrates from inor	gani	c compounds using rad	iant	energy are called –
	Producers	Herbivores	C	Carnivores	D	Decomposer
Asse	rtion-Reason type ()uestions (91-94):				1
Direc	tions: Read the following	questions and choose any c	ne o	f the following four res	none	65
DIICC	A. Both Assertion and Re	eason are true and Reason is	sthe	correct explanation of t	he As	ssertion.
	B. Both Assertion and Re	eason are true but Reason is	not t	he correct explanation	of th	e Assertion.
	C. Assertion is true but R	Reason is false.		1		
	D. Assertion is false but I	Reason is true.				
91.	Assertion (A): Plants raise	ed by vegetative propagatior	ı can	bear flowers earlier tha	n th	ose produced from seeds.
	Reason (R): Plants which propagation.	ch have lost the capacity	to be	ear viable seeds can p	oropa	agate through vegetative
	A A	B B	C	С	D	D
92.	Assertion (A): All arteries	s, except pulmonary artery,	carrie	es deoxygenated blood.		
	Reason (R): Arteries origi	inate from the aorta and end	l in c	apillaries.		
	A	B B	©	С	D	D
93.	Assertion (A): Saprophyt	ic fungi serve as decompose	ers.			
	Reason (R): Decomposer	rs live in or on the body of a	noth	er living organism for th	neir f	ood.
	A	B B	©	С	D	D

[11]

94. Assertion (A): Height is character.

Reason (R): Tallness or dwarfness are traits.

A B B C O D

Case Based Questions (95-97):

Read the given passage and answer the following questions:

A potted plant, with parts marked as X and Y, is kept horizontally. After a few days, it was observed that both the parts bend in different directions.



95. Choose the correct statement regarding the type of movement shown by the plant.

- A The movements of both the parts are dependent on the direction of stimulus.
- B The movements can be reversed by reversing the direction of stimulus.
- © Movement of the leaflets of *Mimosa pudica* is not the same as these movements.
- **(D)** All of the above

Directions: Read the following questions and choose any one of the following four responses.

- A. Both Assertion and Reason are true and Reason is the correct explanation of the Assertion.
- B. Both Assertion and Reason are true but Reason is not the correct explanation of the Assertion.
- C. Assertion is true but Reason is false.
- D. Assertion is false but Reason is true.
- **96.** Assertion (A): The pollen tube grows towards the ovule.

Reason (R): The movement of the pollen tube occurs due to the same stimulus as received by the part Y.

	A A	₿ B	© C	D D
--	-----	-----	-----	------------

- 97. In case of a climber, what causes the bending of the tendril towards the support?
 - (A) Unequal distribution of auxin on the illuminated and shady parts of the stem.
 - B Chemotropism
 - © Apical dominance caused by auxin
 - **(D)** None of the above

Case Based Questions (98-100):

Two pea plants, one with round and yellow seeds (RRYY) and another with wrinkled and green seeds (rryy) are crossed. Answer the following questions on the basis of the above statement:

- **98.** Which gamete will not be produced when the FI plants are self pollinated?
 - A RR
 - B YY
 - **©** уу
 - **(D)** None of these combinations will be produced in the gametes
- **99.** If 1600 plants were obtained in the F2 generation, the number of plants having round and yellow seeds would be:
- **(A)** 900 **B** 600 **©** 300 **D** 100 **100.** What will be the phenotype of the FI individuals? A Round and green seeds
 - **©** Wrinkled and yellow seeds

- **B** Round and yellow seeds
- **(D)** Wrinkled and green seeds

