

NEET Merit Scholarship Test (MEDICAL)

for students presently in Class X

Paper-2

(SAMPLE PAPER)

Time: 3 Hours (14:00 pm – 17:00 pm)

CODE

Maximum Marks: 720

Instructions:

- 1. You are advised to devote 60 Minutes on Section-I, 60 Minutes on Section-II and 60 Minutes on Section-III.
- 2. This Question paper consists of 3 sections. Marking scheme is given in table below:

Section	Subject		Question no	Marking Scheme for each question		
Section	Subject		Question no.	correct answer	wrong answer	
SECTION - I	BIOLOGY	(PART-A)	1 to 90	+4	-1	
SECTION - II	PHYSICS	(PART-A)	1 to 45	+4	-1	
SECTION - III	CHEMISTRY	(PART-A)	1 to 45	+4	-1	

- 3. Answers have to be marked on the OMR sheet. The Question Paper contains blank spaces for your rough work. No additional sheets will be provided for rough work.
- 4. Blank papers, clip boards, log tables, slide rule, calculator, cellular phones, pagers and electronic devices, in any form, are not allowed.
- 5. Before attempting paper write your Registration Number, Name and Test Centre in the space provided at the bottom of this sheet

Note: Please check this Question Paper contains all 3 sections and 180 questions. If not so, exchange for the correct Question Paper

Registration Number	:
Name of the Candidate	:
Test Centre	:
Test Centre	:

Recommended Time: 60 Minutes for Section – I

Section – I BIOLOGY – (PART – A)

This part contains 90 **Multiple Choice Questions** *number* **1 to 90.** *Each question has 4 choices (A), (B), (C) and (D), out of which* **ONLY ONE** *is correct.*

1.	Knee jerk is the phenomenon of	
	(A) Conditional reflex	(B) Learned reflex
	(C) Unconditional reflex	(D) Learned Behavior
_		
2.	Pellagra is caused due to the deficiency of	
	(A) Locopherol	(B) Retinol
	(C) Pantothenic acid	(D) Niacin
З	The movement of food materials from the leaves t	o other tissues of the plant is called
0.	(A) Transpiration	(B) Translocation
	(C) Guttation	(D) Tropic movement
		(-)
4.	The exudation of xylem sap drops on the edges o	f leaves is called
	(A) Condensation	(B) Transpiration
	(C) Guttation	(D) None of these
_		
5.	A human hormone reducing blood flow to the dige	Stive system and skin during stress is
	(A) Invroxine	(B) Adrenaline
	(C) Insulin	(D) Growth hormone
6	Space which separates arachnoid mater and dura	mater is
0.	(A) Epidural	(B) Subarachnoid
	(C) Mediastinum	(D) Subdural
7.	The spinal cord is continuous with which part of th	e brain?
	(A) Pons	(B) Mid brain
	(C) Cerebellum	(D) Medulla oblongata
Q	Where does recentors for pain, temporature touch	lies?
0.	(A) Muscles	(B) Joints
	(C) Tendons	(D) None of the above
9.	Which column of grey mater receives the sensory	input for the body?
	(A) Anterior column	(B) Posterior column
	(C) Lateral column	(D) Both (A) and (C)
10.	I ransport of food materials in higher plants occurs	s through
	(A) Companion cells	(B) Flavore
	(C) Sieve elements	(D) Flowers
11.	Does cranial nerves and spinal nerves always for	m a link between the brain and the rest of the body
• • •	(A) Yes	(B) No
	(C) Except cranial nerves	D Except spinal nerves
12.	Man is	
	(A) Ammonotelic	(B) Ureotelic
	(C) Uricotelic	(D) None of the above
13.	Vascular tissue in plants consists of:	
	(A) Xylem elements	(B) Phloem elements
	(C) Meristem	(C) Both A and B

14.	Hyper activity of which gland results in acne at the (A) Pituitary gland (C) Sweat gland	time of adolescence: (B) Sebaceous gland (D) All the above
15.	Which hormone would be secreted when an aggres (A) Testosterone (C) Thyroxine	ssive dog is running after you? (B) Adrenaline (D) Thymosin
16.	Unidirectional transmission of a nerve impulse thro (A) Nerve fibre is insulated by a medullary sheath (B) Sodium pump starts operating only at the cytor (C) Neurotransmitters are released by dendrite (D) Neurotransmitters are released by the axon en	ugh nerve fibre is due to the fact that: a and then continues into nerve fibre dings and not by dendrites
17.	Alcohol affects (A) Medulla oblongata (C) Cerebral cortex	(B) Cerebellum (D) Thalamus
18.	The instrument used to record the electrical activity (A) EEG (C) MEG	of brain: (B) ECG (D) None
19.	Which is mismatched? (A) Cerebrum- memory (C) Medulla oblongata- temperature	(B) Cerebellum- equilibrium(D) Olfactory lobes- smell
20.	The movements of hairs in <i>Drosera</i> is an example (A) Chemotropism (C) Thigmotropism	of: (B) Thigmonasty (D) none
21.	The response of different organisms to environment (A) Vernalization (C) Phototropism	tal rhythms of light and darkness is called: (B) Phototaxis (D) Photoperiodism
22.	Phloem elements of gymnosperms lack (A) Phloem fibres (C) Phloem parenchyma	(B) Companion cells(D) Sieve cells
23.	Urea and uric acid are excreted by terrestrial anima (A) Carbon dioxide (C) Water	als. Instead, aquatic animals excrete: (B) Ammonia (D) Proteins
24.	 The posterior pituitary stores and secretes: (A) ADH and Oxytocin (B) Growth hormone and Gonadotropin releasing (C) Aldosterone and Cortisone (D) Adrenalin and Insulin 	hormone
25.	Natural cytokinins are synthesized in tissues that a (A) senescent (C) storing food material	are: (B) dividing rapidly (D) differeniating
26.	Coiling of garden pea tendrils around any support (A) Thermotaxis (C) Thigmonasty	is an example of: (B) Thigmotaxis (D) Thigmotropism
27.	Gaps in the myelin sheath are called (A) Nodes of Ranvier (C) Axonal interstices	 (B) Synapse (D) Myelinoids
28.	The long day plants have: (A) Short night requirement for flowering	(B) No night requirement for flowering

(C) Long night requirement for flowering (D) Short day requirement for flowering **FIITJEE MEDICAL**, *Regional Head Office : FIITJEE TOWERS*, No.3, *First Lane*, *Nungambakkam High Road*, *Nungambakkam*, *Chennai – 600 034*.

29.	How many pairs of cranial nerves (A) 12.	are there in hum (B) 23.	ans?	(C) 31.	(D) 32.	
30.	The parasympathetic nervous sys (A) Excitation	tem attempts to (B) CSF	restore	which of the following? (C) Homeostasis	(D) All of these	
31.	 What is the primary function of ce (A) Centre of consciousness. (B) Coordination of endocrine and (C) Control of digestion, circulation (D) Coordination of complex music 	rebellum? I nervous respon n and breathing i cular movements	ses. moveme	ents.		
32.	The adrenal glands are attached s (A) Thyroid (C) Kidneys	superiorly to whic	ch organ? (B) Liver (D) Hypothalamus			
33.	Which of the following helps in asc (A) Root pressure (C) Capillarity	ent of sap?	(B) Tra (D) All	nspiration of above		
34.	Deficiency of vasopressin causes (A) Graves disease (C) Tetany	a disease	(B) Dia (D) Dia	betes insipidus Ibetes mellitus		
35.	Which one of the following elemen (A) Calcium (C) Potassium	nts in plants is no	ot remot (B) Nitr (D) Pho	oilized? rogen osphours		
36.	Which produces urea as the excre (A) Liver	etory substance i (B) Kidneys	n the hu	ıman body? (C) Urinary bladder	(D) Nephron	
37.	Among the given nutrients milk is (A) Calcium	a poor source of (B) Carbohydra	te	(C) Vitamin – C	(D) Protein	
38.	Absorptive heterotrophic nutrition (A)Algae	is exhibited by (B) Fungi		(C) Bryophytes	(D) Pteridophytes	
39.	Which of the following is not an ar (A) Sucrose	tificial sweetener (B) Neotame	r?	(C) Saccharin	(D) Aspartame	
40.	 Slow respiring plants or plant tissu (A) Leaf primordia and young plant (B) Promeristems (C) Cambium (D) Adult plants and matured tissu 	ues are nt ues				
41.	The exudation of xylem sap drops (A) Guttation	on the edges of (B) Transpiratio	leaves n	is called (C) Condensation	(D) None of these	
42.	Transport of food materials in high (A) Companion cells	ner plants occurs (B) Tracheids	through	י "?" (C) Vessels	(D) Sieve elements	
43.	What is the yellow pigment forme responsible for the yellow colour of	ed after the red b of urine	lood ce	lls are processed in the l	iver "?" . It is primarily	
	(A) Zeaxanthin	(B) Carotenoids	5	(C) Urochrome	(D) None of these	

- 44. Which one is responsible for the recovery of water and sodium chloride from the urine "?"
 - (A) Loop of henle
 - (C) Bowman's capsule

- (B) Ureter(D) None of these
- 45. Plants translocate their products of photosynthesis from the leaves where they are synthesised to other parts of the plant through:
 - (A) Xylem vessels
 - (B) Tracheids
 - (C) Phloem sieve tubes
 - (D) Xylem fibres
- 46. Waste products are stored as resins and gums in the:
 - (A) Newly formed phloem cells
 - (B) Old xylem cells
 - (C) Newly formed xylem cells
 - (D) Old phloem cells
- 47. Oxytocin is produced from
 - (A) Anterior pituitary
 - (B) Posterior pituitary
 - (C) Pineal gland
 - (D) Hypothalamus
- 48. How do plants get rid of excess water?
 - (A) Evaporation
 - (B) Root pressure
 - (C) Transpirational pull
 - (D) Transpiration
- 49. Roots absorb the water from the soil by means of
 - (A) Diffusion
 - (B) Endosmosis
 - (C) Exosmosis
 - (D) Facilitated diffusion
- 50. Single circuit circulation is noticed in:
 - (A) Amphibians
 - (B) Reptiles
 - (C) Fishes
 - (D) Birds
- 51. Largest blood vessel from the below
 - (A) Systemic artery
 - (B) Aorta
 - (C) Post caval vein
 - (D) Pre caval vein
- 52. In glycolysis, the number of pyruvates produced is:
 - (A) 4
 - (B) 3
 - (C) 2
 - (D) 1
- 53. Podocytes are located in the:
 - (A) Inner lining of the Bowman's capsule
 - (B) Outer lining of the Bowman's capsule
 - (C) Inner lining of the glomerulus
 - (D) Inner lining of the Henle's loop
- 54. In absence of oxygen, pyruvate is converted to:
 - (A) Lactic acid
 - (B) Ethanol
 - (C) CO₂ and H₂O
 - (D) Glycogen

- 55. Many plants, store their nitrogenous waste products in their:
 - (A) Glyoxysomes
 - (B) Peroxisomes
 - (C) Vacuoles
 - (D) Lysosomes
- 56. Energy released in the aerobic respiration is:
 - (A) Lesser than the energy of anaerobic respiration
 - (B) Same as the energy of anaerobic respiration
 - (C) Greater than the energy of anaerobic respiration
 - (D) Cannot be predicted
- 57. Nephrons type in humans are called
 - (A) Cortical nephrons
 - (B) Juxta cortical nephrons
 - (C) Juxta medullary nephrons
 - (D) Both A and C
- 58. In artificial kidney, the tubes are made of
 - (A) Polyvinyl
 - (B) Cellophane
 - (C) Polyethylene
 - (D) None of the above
- 59. Carbon dioxide combines with the respiratory pigment to form:
 - (A) Oxyhaemoglobin
 - (B) Carboxyhaemoglobin
 - (C) Carbamino haemoglobin
 - (D) Dicarboxyhaemoglobin
- 60. Transport of soluble products of photosynthesis is called :
 - (A)Transpiration
 - (B) Root pressure
 - (C) Translocation
 - (D) Conduction
- 61. Plants have low energy needs because
 - (A) They do not move
 - (B) Majority of the plant body is made of dead tissue
 - (C) They do not breathe
 - (D) Both A and B
- 62. Phloem elements of gymnosperms lack
 - (A)Phloem fibres
 - (B)Companion cells
 - (C) Phloem parenchyma
 - (D) Sieve cells
- 63. By removing which of the cells, earthworm fails to excrete
 - (A)Solenocytes
 - (B)Flame cells
 - (C) Nephridia
 - (D) Malpighian tubules
- 64. The major driving force in the movement of water in the xylem is:
 - (A) Root pressure
 - (B) Transpirational pull
 - (C) Capillary force
 - (D) Adhesive forces
- 65. Excretion of nitrogenous wastes mainly as uric acid by birds is helpful for:
 - (A) Conservation of body water
 - (B) Eliminating excess body water
 - (C) Eliminating excess body heat
 - (D) Conserving body heat

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- 66. In plants, waste products are stored as resins and gums in the:
 - (A) Phloem
 - (B) New xylem
 - (C) Old xylem
 - (D) Cambium
- 67. Movement of the following ion into the guard cells make the water to move into guard cells and finally makes the stomata to open for gaseous exchange
 - (A)Magnesium
 - (B)Manganese
 - (C) Potassium
 - (D) Iron
- 68. Plants get rid of their excess water by
 - (A)Transportation
 - (B)Guttation
 - (C) Transpiration
 - (D) Both B and C
- 69. Woody stems breath by means of:
 - (A)Stomata
 - (B)Lenticels
 - (C) Plants do not breath at all
 - (D) None of the above
- 70. Plants translocate their products of photosynthesis from the leaves where they are synthesised to other parts of the plant through:
 - (A) Xylem vessels
 - (B) Tracheids
 - (C) Phloem sieve tubes
 - (D) Xylem fibres
- 71. Conversion of excess amino acids into urea occur in
 - (A) Lungs
 - (B) Large intestine
 - (C) Liver
 - (D) Kidney
- 72. End product of glycolysis is:
 - (A) Glucose
 - (B) Fructose
 - (C) Pyruvic acid
 - (D) Water
- 73. The process of the escape of liquid from the tip of uninjured leaf or through Hydathodes is called:
 - (A) Guttation
 - (B) Transpiration
 - (C) Evaporation
 - (D) None of the above
- 74. Man is
 - (A) Ammonotelic
 - (B) Ureotelic
 - (C) Uricotelic
 - (D) None of the above
- 75. Many plants, store their nitrogenous waste products in their: (A) Glyoxysomes (B) Peroxisomes (C

(C) Vacuoles

(D) Lysosomes

- 76. In gymnosperms, water conduction occur through:
 - (A) Xylem vessels
 - (B) Tracheids
 - (C) Phloem sieve tubes
 - (D) Xylem fibres

77.	Transport of soluble products of p (A) Transpiration	bhotosynthesis is called : (B) Root pressure	(C) Translocation	(D) Conduction
78.	The main function of guard cell to (A) Guttation (C) Translocation	help with	(B) Transpiration (D) Transportation	
79.	Nitrogenous wastes excreted thro (A) Ammonia (C) Urea	ough urine in humans is	(B) Uric acid (D) Trimethyl amine ox	ide
80.	Which of the following organ proc (A) Kidneys (C) Pancreas	duces urea as the excrete	ory substance in human (B) Urinary bladder (D) Liver	body
81.	The first product of c₄ pathway is (A) PGA (C) OHAP		(B) Oxaloacetate (D) Phosphoenol Pyru	ivate
82.	If the atmospheric pressure is lov (A) Decrease (C) Stay unchanged	v, then the rate of transpi	iration will (B) Increase (D) Can't be determine	ed
83.	Transport of food materials in hig (A) Flowers (C) Companion cells	her plants occurs throug	h (B) Trachesds (D) Sieve elements	
84.	The movement of materials from (A) Transpiration (C) Translocation	the leaves to other tissue	es of the plant is called (B) Guttation (D) Tropic movement	
85.	The exudation of xylum sap drops (A) Guttation (C) Transpiration	s on the edges of leaves	is called (B) Condensation (D) Translocation	
86.	Term "vitamin was given by (A) James Lind	(B) Sterling	(C) Funk	(D) J.C. Drummond
87.	The form of sugar transported thr (A) Glucose (C) Sucrose	ough phloem is:	(B) Fructose (D) Ribose	
88.	The lower surface of leaf will have (A) Dorsiventral leaf (C) Both (A) and (B)	e more number of stoma	ta in a: (B) Isobilateral leaf (D) None of the above	
89.	Animal which excrete urea produ (A) Ureotelism (C) Ammonotelism	ced during metabolism o	f amino acid is (B) Uricotelism (D) Aminotelism	
90.	Mitochondria are called powerhou statement? (A) Mitochondria synthesize ATP (B) Mitochondria have a double n (C) The enzymes of the Krebs' cy	uses of the cell. Which of nembrane /cle and the cytochromes	f the following observations are found in mitochond	ons support this ria

(D) Mitochondria are found in almost all plant and animal cells

Recommended Time: 60 Minutes for Section – II

Section – II

PHYSICS - (PART - A)

This part contains 45 Multiple Choice Questions number 1 to 45. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

1. The current I and voltage V graphs for a given metallic wire at two different temperatures T_1 and T_2 are shown in the figure. It is concluded that

- (A) $T_1 > T_2$ (B) $T_1 < T_2$ $(D) T_1 = 2T_2$ (C) $T_1 = T_2$
- 2. Find the equivalent resistance of the circuit across A and B





(A) $\frac{5R}{4}$

(B) 4R

- (C) 0
- 3. Five identical lamps, each of resistance 1100 ohm are connected to 220 V as shown in the following figure. The reading of an ideal ammeter A is
 - (A) $\frac{220}{1100} \times 5$ amp (B) $\frac{220}{1100} \times 3$ amp (C) $\frac{220}{1100} \times 1 \text{ amp}$ (D) $\frac{220}{1100} \times 2$ amp

(D) 3R



4. A soft iron bar is inserted inside a current-carrying solenoid. The magnetic field inside the solenoid: (A) Will decrease (B) Will increase

(C) Will become zero

- (D) Will remain the same
- 5. Two free parallel wires carrying currents in the opposite directions, then they
 - (A) attract each other

(B) repel each other

(C) do not affect each other

- (D) get rotated to be perpendicular to each other
- 6. A current carrying conductor is held in exactly vertical direction. In order to produce a clockwise magnetic field around the conductor, the current should be passed in the conductor:
 - (A) From top to bottom (C) From bottom to top

- (B) From left to right
- (D) From right to left

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- 7. The force exerted on a current carrying wire placed in a magnetic field is zero when the angle between wire and the direction of magnetic field is: (C) 90° (A) 45° (B) 60° (D) 180°
- 8. A current of 10 A is flowing in a wire of length 1.5 m. A force of 15 Newton acts on it when it is placed in a uniform magnetic field of 2 tesla. The angle between the magnetic field and the direction of current is (A) 30° (B) 60° (C) 90° (D) 45°
- 9. The direction of induced current is given by (B) Fleming's left hand rule. (A) Fleming's right hand rule (C) Right hand thumb rule. (D) Left hand thumb rule.
- 10. A long straight wire is in horizontal plane carries a current of 25A going from North to South direction. Magnetic field at a point 2.5 m in the West of the wire
 - (A) 2×10^{-6} T westward

(B) 2×10^{-6} T vertically upward (D) 2×10^{-6} T eastward

(C) 2×10^{-6} T vertically downward

- 11. An electric motor is a device which transforms (A) Mechanical energy into electrical energy
 - (C) Kinetic energy into potential energy
- (B) Electrical energy into mechanical energy
- (D) Electrical energy into Potential energy
- 12. Three concentric circular rings of given radii are carrying currents and arranged as shown. The magnetic field at the centre 'O' is. (Take $R_1 = 1m$; $R_2 = 2m$; $R_3 = 3m$ and $I_1 = I_2 = I_3 = 1A$)



(A) $\frac{\pi}{3} \times 10^{-7} \mathrm{T}_{\odot}$ (C) $\frac{2\pi}{3} \times 10^{-7} \text{ T}_{\odot}$

- (B) $\frac{\pi}{3} \times 10^{-7} \, \mathrm{T} \otimes$ (D) $\frac{2\pi}{3} \times 10^{-7} \, \mathrm{T} \otimes$
- 13. The shape of the magnetic field lines produced by a current carrying straight conductor are: (A) Straight lines (B) Concentric circles (D) Concentric parabolas
 - (C) Concentric ellipse

- 14. A fuse should always be placed in the (A) Live wire of the main circuit
 - (C) Earth wire of the main circuit

- (B) Neutral wire of the main circuit
- (D) Both live and neutral wire of the main circuit.
- 15. A circular coil of radius 20 mm consists of 250 turns of wire in which the current is 20 mA. The magnetic field at the centre of the coil is
 - (A) $5\pi \times 10^{-10}$ T
 - (C) $3\pi \times 10^{-7}$ T

- (B) $5\pi \times 10^{-5}$ T (D) $3\pi \times 10^{-10}$ T
- Electric bulb B1 (100W –250V) and electric bulb B2 (100 W –200V) are connected across source of 250 16. V as shown in figure what is the potential drop (approx.) across electric bulb B₂?



In the given circuit, what is the equivalent resistance between A and B? 17.



- 19. Magnetic field due to current through a is similar to magnetic field produced by a bar magnet. (A) circular loop of conducting wire (B) rectangular loop of conducting wire (D) thick copper wire
 - (C) solenoid

(A) 10 Ω

(C) 5 Ω

(A) weber

(C) henry

- 20. Which of the following is true?
 - I. A moving charge produces magnetic field but no electric field.
 - II. A moving charge experiences force in magnetic field but not in electric field.
 - III. Magnetic field inside a solenoid is uniform.
 - IV. Magnetic field lines are always closed.

18. The S.I. unit of magnetic field intensity is:

- (A) I and IV
- (C) I and III
- Dynamo works on the principle of: 21.
 - Heating effect of current (A)
 - Electromagnetic induction (B)
 - Chemical effect of current (C)
 - Seebeck effect (D)
- The electrical properties of copper and rubber are different because 22.
 - (A) The positive charges are free to move in copper but stationary in rubber.
 - (B) Many electrons are free to move in copper, but all electrons are bound to molecules in rubber.
 - (C) Positive charges are free to move in rubber but stationary in copper.
 - (D) Many electrons are free to move in rubber but stationary in copper.
- A constant current I flows in a horizontal wire in the plane of the paper from West to East as shown in 23. the figure. The direction of magnetic field at a point will be South to North



- (A) directly above the wire
- (B) directly below the wire
- (C) at a point located in the plane of the paper, on the north side of the wire.
- (D) at a point located in the plane of the paper, on the south side of the wire.
- 24. 15 cells each of emf 2 volt are connected in series but 2 of them are connected wrongly. Calculate the emf of the combination (A) 30-volt (B) 26-volt (C) 22-volt (D) 28 volt
- An electric Kettle consumes 1 kW of electric power when operated at 220 V. A fuse wire of what rating 25. must be used for it. (A) 1 A
 - (B) 2 A (C) 5 A (D) 4 A

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(B) III and IV (D) II and IV

26.	The radius of the path of a charge (A) Charge of the particle (C) Energy of the particle	ed particle in a un	iform ma (B) Mor (D) Inte	agnetic field is directly nentum of the particle nsity of field	v proportional to:
27.	The unit of electrical potential is _ (A) ampere	(B) coulomb		(C) volt	(D) watt
28.	If a bar magnet is cut lengthwise i (A) 3	nto three parts, tl (B) 2	he total	number of Poles will b (C) 6	be: (D) 0
29.	The maximum attraction in a mag (A) In the centre (C) On the poles	net is:	(B) On (D) On	the sides the surface	
30.	Two long parallel wires are at a di of attraction per unit length betwe	istance of 1m. If t en the two wires	ooth of tl is	hem carry 1 A of curre	ent, them the force
	(A) 2 x 10 ⁻⁷ N m ⁻¹	(B) 4 x 10 ⁻⁶ N m	-1	(C) 2.4 x 10 ⁻⁸ N m ⁻¹	(D) 5 x 10 ⁻⁷ N m ⁻¹
31.	A 4 Ω resistor is connected to an cell in 4 minutes?	8 V cell. How ma	any elec	trons come out of the	negative terminal of the
	(A) 3×10^{21} (C) 3×10^{20}			(B) 6×10^{21} (D) 3×10^{22}	
32.	Two plane mirrors are inclined t parallel to the second is reflected the two mirrors is	o each other sud I from the second	ch that d mirror	a ray of light inciden parallel to the first m	t on the first mirror and irror. The angle between
	(A) 30°			(B) 45°	
	(C) 60°			(D) 75°	
33.	A man is 1.7 m tall and his eyes a uses a plane mirror kept at a dista (A) 180 cm (C) 85 cm	are 10 cm below t ance of 1m from h	he top o nim. The	f his head. In order to minimum height of th (B) 90 cm (D) 170 cm	e see his entire image, he ne mirror required is
34.	An object is placed symmetrically total number of images formed is	y between the tw	vo plane	e mirrors inclined at a	in angle of 30 ⁰ , then the
	(A) 12 (C) 11			(B) 2 (D) infinite	
35.	The refractive index of diamond glass than in diamond?	is 2.40 and that	of glass	is 1.50. How much f	aster does light travel in
	(A) $\frac{3}{2}$ times			(B) 1.6 times	
	(C) $2\frac{2}{3}$ times			(D) 2.4 times	
36.	If the refractive indices of alcoho refractive index of benzene with re	I and benzene w espect to alcohol	rith resp is	ect to air are 1.36 ar	nd 1.50 respectively then
	(A) 1.123 (C) 0.907			(B) 1.103 (D) 1.110	
37.	Light with wavelength 4500 Å in v of the light? (given that speed of I (A) 4×10^{14} Hz (C) 1.33×10^{14} Hz	vater is travelling ight in vacuum =	in wate 3 × 10 ⁸	r of refractive index 4/ m/s) (B) 5 × 10 ¹⁴ Hz (D) 4.5 × 10 ¹⁴ Hz	'3. What is the frequency

If m stands for magnification produced by a lens, u stands for object distance, v stands for image 38. distance and f stands for focal length of the lens, then which of the following is/are correct.

(A)
$$m = \frac{f}{f+u}$$

(C) both (A) and (B)

(B) $m = \frac{f - v}{f}$ (B) $m = \frac{f}{f - u}$

39. Where should an object be placed before a convex lens of focal length 10 cm be placed to get a virtual image at a distance of 30 cm from the lens? (A) at 15 cm from the lens (B) at 7.5 cm from the lens. (C) at 22.5 from the lens

- When a wave is refracted, 40.
 - (A) its path must change
 - (C) its velocity must change

- (D) at 30 cm from the lens.
- (B) its amplitude must change
- (D) its frequency must change

2mm

41. If the behaviour of light rays through a convex lens is as shown in the adjoining figure, then; (A) $\mu = \mu_2$

(C) $\mu > \mu_2$

(B) μ < μ₂ (**D**) μ ≤ μ₂

- A ray of light is incident on a transparent glass slab of refractive index $\sqrt{3}$. If the refracted and reflected 42. rays are mutually perpendicular, the angel of incidence is. (B) 60⁰ (A) 30⁰
- (C) 37⁰ (D) 53⁰ 43. In which case the image formed by a convex lens is virtual.
 - (A) 0 < u < f(B) f < u < 2f (C) 2f < u < ∞ (D) none of the above
- What will be the critical angle for a material of refractive index $\sqrt{2}$, placed in air? 44. (A) 45° (B) 30° (C) 60° (D) 38.5°
- A convex lens of focal length 10 cm is painted black at the middle portion 45. as shown in figure. An object is placed at a distance of 20 cm from the lens. Then
 - (A) only one image will be formed by the lens
 - (B) two images are formed and distance between them is 6 mm
 - (C) two images are formed and distance between them is 4 mm
 - (D) two images are formed and distance between them is 2 mm

Recommended Time: 60 Minutes for Section – III Section – III CHEMISTRY – (PART – A)

This part contains **45** *Multiple Choice Questions number* **1** *to* **45***. Each question has 4 choices (A), (B), (C) and (D), out of which* **ONLY ONE** *is correct.*

1.	2mL each of concentrated HCl, HNO ₃ ratio of 3:1 were taken in test tubes lab tube. No change occurred in test tube could be (A) Al (C) Cu	and a mixture of concentrated HCl and concentrated HNO ₃ in the elled as A,B and C. A small piece of metal was put in each test A and B but the metal get dissolved in test tube C. The metal (B) Au (D) Pt
2. /	An element A is soft and can be cut with air. It reacts vigorously with water. Ider (A) Mg (C) P	a Knife. This is very reactive to air and cannot be kept in open tify the element from the following. (B) Na (D) Ca
3.	Reaction between X and Y, forms com following properties is shown by Z? (A) High melting point (C) Low melting point	pound Z. X loses electron and Y gains electron. Which of the (B) Conducts electricity in solid state (D) Occurs as liquid
4.	A metal acts as a good reducing agent welding broken railway tracks. Identify (A) Na (C) Zn	. It reduces Fe_2O_3 and MnO_2 . The reaction with Fe_2O_3 is used for the metal. (B) Fe (D) Al
5.	Royal water is prepared by mixing two dissolve Gold and platinum. It is highly are mixed. (A) 3:1 (C) 1:2	acids A and B. Royal water is called as aqua regia. It can corrosive and fuming liquid. What is the ratio in which A and B (B) 1:1 (D) 1:4
6.	A yellow coloured powder 'X' is soluble smelling gas which turns moist blue litr (A) Cl (B)	in carbon disulfide. It burns with a blue flame forming suffocating hus red. Identify X. S (C) Na (D) I
7.	Generally, non-metals are not lustrous (A) Sulphur (C) Nitrogen	Which of the following non-metal is lustrous? (B) Oxygen (D) lodine
8.	Which of the following statement is true (A) All ores are minerals (C) A mineral can't be an ore	e? (B) All minerals are ores (D) A ore can't be a mineral
9.	The reaction that differs from the rest of (A) Formation of CaO from $CaCO_3$	f the reactions given is (B) Formation of Al from AI_2O_3
	(C) Formation of Na_2CO_3 from NaH	CO ₃ (D) Formation of mercury from HgO
10. (A (B (C	For the redox reaction: $MnO_4^- + C_2O_4^2$ reactants for the balanced reaction are $MnO_4^ C_2O_4^{2-}$ H^+) 2 5 16) 16 5 2) 5 16 2	$H^+ \rightarrow Mn^{2+} + CO_2 + H_2O$. The correct coefficients of the
) (D) 2 16 5	

11.	. Indium reacts with bromine to form InBr ₃ . In the balanced equation for this reaction, the coefficient of the indium (III) bromide is						
	(A) 1 (C) 3		(B) 2 (D) 4				
12.	When the following equation is ba Al ₂ (CO ₃) ₃ + Mg(OH) ₂ \rightarrow Al(OH	lanced, what is the sum $ 0_3+MgCO_3 $	of the coefficients?				
	(A) 3	(B) 11	(C) 8	(D) 9			
13.	$C_2O_4^{2-}$ + MnO_4^- + H^+ \rightarrow Mn^{+2} +	$\mathrm{CO}_{_2} + \mathrm{H}_{_2}\mathrm{O}$, the reduct	ant is				
	(A) $C_2 O_4^{2-}$		(B) MnO ₄				
	(C) Mn ⁺²		(D) H⁺				
14.	In the balanced chemical reaction	$IO_3^- + aI^- + bH^+ \rightarrow cH^-$	$H_2O + dI_2$, a, b, c and d re	espectively correspond			
	to (A) 5,6,3,3	(B) 5,3,6,3	(C) 3,5,3,6	(D) 5,6,5,5			
15.	The pH of the solution formed when 2.0 L is	en 0.02 mol of HCl is ac	lded to enough water to i	make the final volume			
	(A) 1.67	(B) 2.0	(C) 12.0	(D) 10.0			
16.	Which of the following solutions c (A) 0.01 M NaOH (C) 0.05 M H ₂ SO ₄	ontain the lowest conce	ntration of hydrogen ion? (B) 0.1 M HCI (D) 0.01 M HCI)			
17.	NaH₂PO₄ is a (A) Acid salt (C) Normal salt		(B) Basic salt (D) Double salt				
18.	The hydroxyl ion concentration in	a solution having $pH = -$	4 will be				
	(A) 10^{11}		(B) 10^{-10}				
	(C) 10 ⁻²		(D) 10 ⁺				
19.	pH of the salt solution made by mixing CH ₃ COONa and water will be $(A) < 7$						
	(C) many be < 7 or > 7		(D) cannot find out				
20.	0.005 M H ₂ SO ₄ solution will be ha	iving					
	(A) $pH = 2$ (C) $[H+1] ion in solution$		(B) [H+] = 10-2 (D) all the above				
04			(2) an ine avere				
21.	(A) S 2-	Sacio	(B) NH ₃				
	(C) OH-		(D) AICI ₃				
22.	Identify the acidic salt						
	(A) NH4 CI (C) CaCl ₂		(B) KCI (D) Na₂ CO				
23.	Which of the following are not cor	njugate (acid-base) pair					
	(A) HS⁻, S²⁻		(B) NH_4^+ , NH_3				
	(C) H_2O, O^{-2}		(D) NH_3, NH_2^-				
24.	According to Lewis acid-base con (A) Species in which central atom (B) All negatively charged ions are (C) Molecule in which the central	cept, which is a correct has completed octet ca e acids atom has vacant 'd' orbi	statement? annot act as acid itals acts as acid				

(D) All positively charged ions are bases

25.	When 1 mole of a weak acid CH ₃ H + ions	COOH is dissolve	ed in one	e litre water, resulting so	lution will contain
	(A) 1 mole (C) less than 1 mole			(B) more than 1 mole (D) can't say	
26. <i>i</i>	Arrange the following in the increas	ing order of oxida	ation sta	te of Mn	
(i	i) Mn^{+2}	(ii) MnO	(iii) KM	hΟ	(iv) K MnO
()	A) (i) > (ii) > (iii) > (iv)	()	()	(B)(i) < (ii) < (iv) < (iii)	(1) (1)
()	C) (ii) < (iii) < (i) < (iv)			(D) (i) < (i) < (iv) < (ii) (D) (iii) < (i) < (iv) < (ii)	
27.	Calculate the pH of HCI solution of	containing 3.65 g	in 1000	mL solution.	
	(A) 1	0 0		(B) 2	
	(C) 3			(D) 4	
~~		,			
28.	Methods of preventing rancidity is	s/are		(D) refrigeration of the f	lead at uff
	(A) adding anti-oxidants (C) Electroplating			(D) Colversion	ood-stull
	(C) Electroplating			(D) Galvanisation	
29.	Which of the following is the most	t electro negative	element	t in the periodic table?	
	(A) <i>Pb</i>	. electric lieganite		(B) <i>F</i>	
	(C) Si			(D) C	
30. lı	n the following set of elements one	element does no	ot belong	to the group. Select the	e element.
	(A) $\frac{27}{13}$ AI			(B) ²² ₁₀ Ne	
	(C) ^{23}Na			(D) $^{27}_{12}Ma$	
	(-) 11.0			(-) 123	
31. T	he total number of elements prese	ent in 6 th period of	f modern	periodic table is	
	(A) 8			(B) 18	
	(C) 32			(D) 24	
32. T	The conjugate base of NH ₃ is?				
	(A) NH4 ⁺			(B) NH4 ⁻	
	(C) NH4OH			(D) NH_2^-	
33. A	an element 'X' belongs to third period	od and 13 group	of the m	odern periodic table. Th	e number of valence
	electrons of element 'X' is			(D) 0	
	(A) 2 (C) 1			(D) 3 (D) 4	
				(D) 4	
34.	Formula of plaster of paris is				
	(A) CaSO ₄			(B) CaSO ₄ .1/2 H ₂ O	
	(C) CaSO ₄ .H ₂ O			(D) CaSO ₄ . 2H ₂ O	
35.	The conjugate base of water is :				
	(A) OH ₄ +			(B) OH ₂ -	
	(C) H ₃ O ⁺			(D) OH-	
36.	Which of the following is not a bal	lanced equation			
	(A) $Mg + CuSO_4 \longrightarrow MgSO_4 + CuSO_4$	Cu		(B) $Fe + Cl_2 \longrightarrow FeCl_2$	2
	(C) $7n + S \longrightarrow 7nS$			(D) $Ba(OH) + HCI \rightarrow B$	- aCL +H O
				$(D) Da(OH)_2 + HOI \to D$	
37.	The nonmetal which exhibits yello	ow colour is			
	(A) Silicon	(B) Phosphorou	JS	(C) Sulphur	(D) Carbon
38.	$Mg_3N_2 + 6H_2O \longrightarrow XMg(OH)_2 +$	⊦yNH₃			
	In above equation, the values of x	and y are			
	(A) 0, 1	(B) 2, 8		(C) 3, 2	(D) 2, 2
20	The maps of NoCl are diversited	a 200 ml at 2 00		olution in novitrali-ad with	
39.	(A) 2.34 g	n 200 ML of 2.00	IVI HCI S	UNDER US NEUTRALIZED WI	IN NAUH IS
	(C) 234 g			(D) 23.4 y (D) None of the above	
	/ <u></u> g			(=) 10110 01 110 00000	

- 40. Number of lone pair present in each molecules of H_2O , NH_3 and C_2H_4 respectively (A) 1, 2, 1 (B) 2, 1, 0 (C) 1, 1, 1 (D) 2, 1, 2
- 41. Identify the least stable ion amongst the following
 (A) Li⁺
 (C) B⁻
- 42. What is the effect of heating on Sodium carbonate?
 (A) Na₂O and CO₂ are produced
 (C) Na₂O and CO are produced
- 43. Alcohols cannot be oxidized to carboxylic acids by
 (A) alkaline KMnO₄
 (C) PCl₅

(B) Na₂O₂ and CO are produced(D) None of the above

(B) acidified K₂Cr₂O₇ (D) All of these

(B) Be-

(D) C-

44. The first ionization potential of Na, Mg, Al and Si are in the order of
(A) Na < Mg > Al < Si
(B) Na > Mg > Al > Si
(C) Na < Mg < Al > Si
(D) Na > Mg > Al < Si

45. Arrange the following oxides in the increasing order of their basic nature (A) $Na_2O < MgO < Al_2O_3$ (B) $Al_2O_3 < MgO < Na_2O$ (C) $Na_2O = MgO = Al_2O_3$ (D) $MgO < Al_2O_3 < Na_2O$

NEET Merit Scholarship Test (MEDICAL)

for students presently in Class X

(Paper-2)

SECTION-I Biology PART - A

1. C	2. D	3. B	4. C	5. B	6. D	7. D	8. D	9. B	10. C
11. C	12. B	13. D	14. B	15. B	16. D	17. B	18. A	19. C	20. B
21. D	22. B	23. B	24. A	25. B	26. D	27. A	28. A	29. A	30. C
31. D	32. C	33. D	34. B	35. A	36. A	37. C	38. B	39. A	40. D
41. A	42. D	43. C	44. A	45. C	46. B	47. D	48. D	49. B	50. C
51. C	52. C	53. A	54. B	55. C	56. C	57. D	58. B	59. C	60. C
61. D	62. B	63. C	64. B	65. A	66. C	67. C	68. D	69. B	70. C
71. C	72. C	73. A	74. B	75. C	76. B	77. C	78. B	79. C	80. D
81. B	82. B	83. D	84. C	85. A	86. C	87. C	88. A	89. A	90 .A

Section – II PHYSICS – (PART – A)

1. A	2. C	3. B	4. B	5. B	6. A	7. D	8. A	9. A	10. C
11. B	12. A	13. B	14. A	15. B	16. C	17. A	18. B	19. C	20. B
21. B	22. B	23. B	24. C	25. C	26. B	27. C	28 .C	29. C	30. A
31. A	32. C	33. C	34. C	35. B	36. B	37. B	38. C	39. B	40. C
41. B	42. B	43. A	44. A	45. A					

Section – III CHEMISTRY – (PART – A)

1. B	2. B	3. A	4. D	5. A	6. B	7. D	8. A	9. C	10. A
11. B	12. D	13. A	14. A	15. B	16. A	17. A	18. B	19. B	20. D
21. D	22. A	23. C	24 .C	25. C	26. B	27. A	28. A	29. B	30. B
31. C	32. D	3. B	34. B	35 .D	36. D	37. C	38. C	39 .B	40. B
41. B	42. D	43 .C	44. A	45. B					