SECTION - 1 (PHYSICS)

1. Which arrangement of four identical resistances should be used to draw maximum energy from a cell of voltage V.



13.	Electron volt is a meas (A) Charge	sure of: (B) Current	(C)	Electric potential	(D) Energy	
14.	Two bodies of masses (A) 4:1	1 kg and 4 kg have equal (B) 1:4	kinet (C)	ic energies. The ratio	o of their momentum is: (D) 1:2	
15.	When 1 g of ice melts at 0 °C, then(A) 80 cal heat is liberated(C) No heat is required		(B) (D)	(B) 80 cal heat is absorbed(D) none of heat		
16.	In a nuclear power pla (A) combine and give (C) burn and give off	nt, uranium atoms off heat energy heat energy	(B) (D)	(B) split and give off heat energy(D) split and give off electrons		
17.	A circular disk of cop diameter of the hole w (A) increase	oper has a symmetrical he ill (B) decrease	ole a (C)	t its centre. The dis remain the same	c is uniformly heated. The (D) N.O.T	
18.	If the speed of an obje (A) Doubled	ct is doubled the its kinetic (B) Quadrupled	c ener (C)	rgy is Halved	(D) Tripled	
19.	A person standing near the cliff fires the gun and hears its echo after 1.5 sec. If the speed of sound in air is 340 m/s , how far is person from the cliff?					
20.	The speed of a car (ma in momentum? (A) 5000Kg m/s	 (B) 200 kg) increases from (B) 10000kg m/s 	(C) (C)	km/hr to 72 km/hr.W 1500kg m/s	(D) 220 m (hat is the change (D) 36000kg m/s	
21.	2 kg and 3 kg stone ar (A) 2 kg (C) both will hit the g	e dropped, from height h.	Whic (B) (D)	h one will hit the gro 3 kg none of these	ound first?	
22.	Find work done by the boy, if he carried a luggage of 4 kg on his head and climbed 10m upwards at a constant speed of 5m/s.					
	(A) 40 J	(B) 400 J	(C)	0 J	(D) none of these	
23.	Specific resistance of a wire depends on the -(A) length of the wire(C) resistance of the wire		(B) area of cross-section of the wire(D) nature of material of the wire			
24.	A father has mass 60 child is	kg and the mass of his so	n is 3	30kg. The ratio of in	ertia of father to that of his	
	(A) 1:1	(B) 1:2	(C)	2:1	(D) 1:3	
25.	An aeroplane flying at (A) only potential ene (C) both, potential an	height of 20,000 m at a sp orgy d kinetic energy	(B) (D)	of 300km h ⁻¹ has only kinetic energy none of the above		

SECTION – 2 (CHEMISTRY)

26.	Bleaching powder is represented as				
	(A) CaO	(B) CaCO ₃	(C) $Ca(OH)_2$	(D) CaOCl ₂	
27.	Which of the following (A) Na_2CO_3	g is an acidic salt? (B) NaHCO ₃	(C) CaCO ₃	(D) CuSO ₄	
28.	The one which is meta (A) Na	lloid among the following (B) Si	is (C) Mg	(D) Cs	
29.	M-shell can have 18 el (A) 2	ectrons. No. of elements in (B) 8	n third period is (C) 18	(D) 32	
30.	Which one of the follo (A) NaHCO ₃	wing is used in soda acid t (B) NaCl	fire extinguisher? (C) NaOH	(D) Na ₂ SO ₄	
31.	 In the Chlor-alkali process (A) Sodium hydroxide is produce exactly between the cathode and anode (B) Sodium hydroxide is produced near the anode (C) Sodium hydroxide is produced near the cathode (D) Sodium hydroxide is not produced. 				
32.	The number of C-H bo (A) 7	onds present in propanol is (B) 8	(C) 9	(D) 10	
33.	 On thermal decomposition of CaCO₃, a gas 'x' is obtained. The aqueous solution of X. (A) Turns red litmus blue (B) Does not change the colour of phenolphthalein (C) Gives red colour with turmeric (D) Gives blue colour with methyl orange 				
34.	Which of the following pairs of elements have same number of valence electrons?(A) Carbon and nitrogen(B) Oxygen and sulphur(C) Potassium and calcium(D) Sodium and magnesium				
35.	Which of the followin (A) Iron	g metal is used in storage (B) Lead	battery? (C) Tin	(D) Zinc	
36.	Which of the following (A) Hg	g metal forms amalgam wi (B) Cu	th other metals? (C) Pb	(D) Sn	
37.	The product obtained v (A) Na_2CO_3	when baking powder is hea (B) Na ₂ O	ated during cooking is (C) NaOH	(D) NaH	
38.	Which of the following (A) CO_2	g is an electrovalent compo (B) CH ₄	ound? (C) NaCl	(D) H ₂ O	

39.	During thermal decomposition of lead nitrate, the gas obtained is				
	(A) NO	(B) NO ₂	(C)	N ₂ O	(D) N ₂ O ₃
40.	The corrosion of Fe day (A) FeO	ue to the formation of (B) Fe_3O_4	(C)	$Fe_2O_3 \cdot xH_2O$	(D) Fe(OH) ₃
41.	The number of structur (A) 3	ral isomers possible for pe (B) 5	entane (C)	e is 6	(D) 7
42.	An ester CH ₃ COOC ₂ treatment with hot co compounds 'A', 'B' a (A) CH ₃ OH, CH ₃ CO	$_{2}H_{5}$ on treating with NaC oncentrated $H_{2}SO_{4}$ gives nd 'C' are OH, $CH_{2} = CH_{2}$	OH g comj (B)	ives the compound pound 'C', 'B' is c C_2H_5OH , CH_3COO	A and B. 'A' on further constituent of vinegar. The PH, $CH_2 = CH_2$
	(C) CH_3COOH, CH_3	ОН, НСООН	(D)	$CH_3OH, CH_2 = CH$	I ₂ , CH ₃ COOH
43.	The following reaction $CH_4 + Cl_2 \xrightarrow{\text{sunlight}} CH_4 + Cl_2 \text{sunligh$	n is an example of CH ₃ Cl + HCl			
	(A) substitution react(C) dehydration react	ion ion	(B) (D)	Addition reaction oxidation reaction	
44.	The element with a su (A) Be	nallest atomic radius is (B) C	(C)	В	(D) O
45.	The hydride of the carbon is CH_4 and the oxide is CO_2 . The element which can form similar hydride and oxide as of carbon is				
	(A) Cu	(B) Mn	(C)	Si	(D) Ru
46.	Detergents are (A) Potassium salt of long chain carboxylic acid (B) Ammonium salt of long chain carboxylic acid (C) Magnesium salt of long chain carboxylic acid (D) Calcium salt of long chain carboxylic acid				
47.	Which of the followint (A) Al_2O_3	g oxide is acidic? (B) ZnO	(C)	MgO	(D) CO ₂
48.	Which of the followin (A) Hg	g metal(s) melts by keepin (B) Ga	ng the (C)	m on palm? Cs	(D) both (B) and (C)
49.	Which of the followin (A) Boron	g is hardest natural substat (B) Graphite	nce? (C)	Diamond	(D) Fullerene
50.	The difference between (A) $\frac{1}{2}$ H ₂ O	en the water of crystallizati (B) $\frac{3}{2}$ H ₂ O	on of (C)	$\frac{5}{2}H_2O$	of paris is (D) 2H ₂ O

SECTION - 3 (BIOLOGY)

51.	A fertilized ovule develops into a in an a (A) seed (B) fruit	angiosperm plant (C) flower	(D) cotyledon
52.	How many molecules of pyruvic acid are former (A) 1 (B) 2	d from one glucose molect (C) 3	ule, by glycolysis? (D) 4
53.	The most important chlorophyll present in plant (A) Chlorphyll a (B) Chlorophyll c	s reaction center is (C) Chlorophyll b	(D) Chlorophyll d
54.	Select an example of natural vegetative propaga(A) Cutting(B) Stem tuber	tion (C) Tissue culture	(D) Cryopreservation
55.	Which among the following are correctly match(A) Adenine-Cytosine(C) Guanine-Thymine	ed purine pairs? (B) Cytosine-Uracil (D) Guanine-Adenine	
56.	Which of the following is the correct sequence to inside)?(A) Pericycle, cortex, endodermis, epiblema(C) Epiblema, cortex, endodermis, pericycle	of layers in typical monoc (B) Epiblema, endoderr (D) Epiblema, pericycle	cot root (from outer surface nis, cortex, pericycle e, cortex, endodermis
57.	Alleles are(A) homologous chromosome(C) alternate forms of same gene	(B) chromosome that ha(D) linked genes	ave crossed over
58.	Which of the following absorb UV rays?(A) DNA only(C) DNA and protein both	(B) Proteins only(D) Denatured DNA on	ly
59.	Lack of oxygen in muscles often leads to cramp(A) conversion of pyruvate to ethanol(C) non conversion of glucose to pyruvate	s among cricketers. This r (B) conversion of pyruv (D) conversion of pyruv	esults due to vate to glucose vate to lactic acid
60.	Pollination with the help of wind is called (A) Hydrophily (B) Anemophily	(C) Entomophily	(D) Ornithophily
61.	Accumulation of non-biodegradable pesticides (A) Bio-degradation (B) Bio-magnification	in different tropic levels is (C) Bio-concentration	called (D) Bio-deposition
62.	Acid rain is caused due to(A) Chemical pollution(C) Air pollution	(B) Soil pollution(D) Water pollution	
63.	Rise in the water level from X to Y in the given	experimental set – up den	nonstrates

- (A) aerobic respiration
- (B) anaerobic respiration
- (C) photosynthesis
- (D) chemosynthesis

Respiring seeds

KOH

64.	acts as oxygen carrier and it does not allow free oxygen to accumulate inside the nodule of					
	(A) Haemoglobin	(B) Iron	(C) Leghemoglobin	(D) a-globin		
65.	Select the INCORRE(A) Protection of for(B) Encouraging age(C) Encouraging def(D) Educating people	ECT option with respect to rests from pests and patho ro-forestry forestration e about hazards of defore	o conservation and mana ogens station	agement of forest?		
66.	The highest number (A) Mosses	of species in the world is (B) Algae	represented by (C) Lichens	(D) Fungi		
67.	In mitosis the centron (A) Prophase	nere divides at (B) Metaphase	(C) Anaphase	(D) Telophase		
68.	According to five kin Kingdom	ngdom system of classific	cation, unicellular eukar	yotic organisms are included in		
	(A) Monera	(B) Protista	(C) Fungi	(D) Both (A) and (B)		
69.	$\frac{1}{(A) \text{ Potassium}}$ is the core c	component of chlorophyll (B) Magnesium	(C) Calcium	(D) Phosphorus		
70.	Organisms like licher (A) CO ₂	ns are very sensitive to (B) SO ₂	pollution. (C) CH ₄	(D) O ₂		
71.	Which of the followi (A) Parenchyma	ng tissues has dead cells? (B) Sclerenchyma	(C) Collenchyma	(D) Meristematic		
72.	The products of double fertilization are(A) zygote and antipodals(C) antipodals and synergids		(B) zygote and prin(D) primary endosp	(B) zygote and primary endosperm nucleus(D) primary endosperm nucleus and ovule		
73.	The storage product (A) fat	of most algae is (B) starch	(C) glycogen	(D) cellulose		
74.	The 'Dark Reaction' in photosynthesis is called s(A) can take place in absence of light(C) cannot take place in presence of light		so because it (B) needs only darkness (D) occurs more rapidly in night			
75.	The niche of the population is the(A) place where it lives(C) set of conditions that interacts		(B) geographical ar(D) geographical ar	(B) geographical area that it covers(D) geographical area and its functional role		
76.	Leucopenia is (A) uncontrolled increase in WBC count (C) excess platelets count		(B) uncontrolled increase in RBC count(D) less production of WBC			
77.	Salivary amylase con (A) Glucose	werts starch into (B) Maltose	(C) Fructose	(D) Sucrose		
78.	Blood cells are destruction (A) spleen and panch (C) liver and spleen	oyed in reas	(B) spleen and kidn(D) Intestine and m	ey uscles		

79.	Striated muscles are fo (A) Arms (C) Upper part of pha	ound in rynx	(B) Legs(D) All of these		
80.	Intercalated discs are c (A) Smooth muscles	characteristically found in (B) Striated muscles	(C) Cardiac muscles	(D) All of these	
81.	The primary sexual or (A) penis	gans of males are the (B) ovaries	(C) testis	(D) vasa deferens	
82.	Main tissue that provid (A) cartilage	des structural framework to (B) bone	o our body is (C) blood	(D) tendon	
83.	Trypsin is the proteoly (A) Acidic pH	tic enzyme which acts in (B) Alkaline pH	(C) Neutral pH	(D) Any of these	
84.	If small pieces of sugarcane is immersed in boiling water and water is cooled, then the solution becomes sweet as (A) Disaccharides are converted into monosaccharides (B) Enzymes are inactivated in boiling water (C) Sucrose is broken to produce 2 molecules of glucose (D) Both (A) and (C)				
85.	 What are the by products formed during aerobic respiration? (A) Water and carbon dioxide are the end products (B) Carbon dioxide and ethyl alcohol are the end products (C) Carbon dioxide and pyruvic acid are the end products (D) Oxygen and water are the end products 				
86.	Each heart beat includes(A) one systole and one diastole(B) one systole and two diastole(C) two systole and one diastole(D) two systole and two diastole				
87.	What is the characteris(A) Loss of complete(C) Dryness of skin	stic feature of a child suffe body fat	ring from kwashiorkor? (B) Extreme thinning o (D) Oedema and swelli	f limbs ng of body parts.	
88.	Injury localized to hypothalamus will disrupt(A) regulation of body temperature(B) sensation of pain(C) sense of hearing(D) voluntary actions				
89.	Pulmonary veins (A) carry oxygenated blood from heart to lungs (B) carry impure blood from lungs to heart (C) carry oxygenated blood from lungs to heart (D) carry deoxygenated blood to lungs				
90.	Given diagram represents which type of blood cell?				

91.	The value of diastolic pressure in normal human adult is about				
	(A) 120 mm Hg (B) 50	mm Hg (C)	150 mm Hg	(D) 80 mmHg	
92.	Hormone testosterone is secret (A) sertoli cells (C) interstitial cells or Leydig	ted by (B) cells (D)	follicular cells germ cells		
93.	Which one of the nitrogenous (A) Ammonia (B) Ur	waste substance is excr rea (C)	reted by human body ⁴ Uric acid	? (D) Creatinine	
94.	Which one of the following is a(A) Iodopsin – Sensitive to gra(C) Erythropsin – Sensitive to	mismatched w.r.t its fu een light (B) o red light (D)	nction? Cyanopsin – Sensiti Rhodopsin – Sensiti	ve to blue light ve to violet light	
95.	Respiration is regarded as: (A) Catabolic process (B) Re	eduction process (C)	Anabolic process	(D) Synthetic process	
96.	Secondary sexual characters in (A) oxytocin (B) est	trogen (C)	by testosterone	(D) progesterone	
97.	 In mammals, the ovary is concerned with (A) production of ovum (B) production of hormones (C) development of secondary sexual characters (D) all of these 				
98.	Main muscle of inspiration is a (A) Diaphragm (B) Int	associated with tercostal muscle (C)	Lungs	(D) Ribs	
99.	Respiratory control centre is pr (A) Medulla (B) Po	resent in ons (C)	Cerebrum	(D) Cerebellum	
100.	Main metabolic hormone of the (A) Thyroid hormone (B) Co	e body is orticoids (C)	Growth hormone	(D) Insulin	