Mrc. Environmenal Scince (489)

1289

14P/290/28

Question Booklet No.....

	-		(To b	e fille	d up	bu the	candi	date b	u blu	e/black ball-point pen)
Roll No.			1	<del>-</del>	<del>-</del>	<del>-</del>			<del>-</del>	
Roll No.	e digii	ls in u	vords	)						
Serial No	o. of C	MR A	Inswe	r Shee	et					•••
Day and	Date									(Signature of Invigilator)

#### INSTRUCTIONS TO CANDIDATES

(Use only blue/black ball-point pen in the space above and on both sides of the Answer Sheet)

- 1. Within 10 minutes of the issue of the Question Booklet, check the Question Booklet to ensure that it contains all the pages in correct sequence and that no page/question is missing. In case of faulty Question Booklet bring it to the notice of the Superintendent/Invigilators immediately to obtain a fresh Question Booklet.
- 2. Do not bring any loose paper, written or blank, inside the Examination Hall except the Admit Card without its envelope.
- 3. A separate Answer Sheet is given. It should not be folded or mutilated. A second Answer Sheet shall not be provided. Only the Answer Sheet will be evaluated.
- 4. Write your Roll Number and Serial Number of the Answer Sheet by pen in the space provided above.
- 5. On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.
- 6. No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR sheet and also Roll No. and OMR Sheet No. on the Question Booklet.
- 7. Any change in the aforesaid entries is to be verified by the invigilator, otherwise it will be taken as unfair means.
- 8. Each question in this Booklet is followed by four alternative answers. For each question, you are to record the correct option on the Answer Sheet by darkening the appropriate circle in the corresponding row of the Answer Sheet, by ball-point pen as mentioned in the guidelines given on the first page of the Answer Sheet.
- 9. For each question, darken only one circle on the Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.
- 10. Note that the answer once filled in ink cannot be changed. If you do not wish to attempt a question, leave all the circles in the corresponding row blank (such question will be awarded zero mark).
- 11. For rough work, use the inner back page of the title cover and the blank page at the end of this Booklet.
- 12. Deposit only the OMR Answer Sheet at the end of the Test.
- 13. You are not permitted to leave the Examination Hall until the end of the Test.
- 14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such punishment as the University may determine and impose on him/her.

[ उपर्युक्त निर्देश हिन्दी में अन्तिम आबरण-पृष्ठ पर दिये गए हैं]

[No. of Printed Pages: 28+2

## No. of Questions/प्रानों की संख्या : 180

Time/समव : 2 Hours/पण्टे

Full Marks/quits: 360

Note:

- (1) Attempt as many questions as you can. Each question carries 3 marks. One mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question.
- (2) If more than one alternative answers seem to be approximate to the correct answer, choose the closest one.
- (3) This Question Booklet comprises two Sections, viz., Section—A and Section—B.

Section—A: This is compulsory.

Section—B: This contains three Sub-section having questions of three disciplines viz., **Physics** (Sub-section B-1), **Life Science** (Sub-section B-2) and **Geology** (Sub-section B-3).

A candidate is required to attempt only one from these three Sub-sections.

#### SECTION-A

#### BASIC ENVIRONMENTAL SCIENCES

(Compulsory for all)

1

taich gas forms the main constituent of contained by best ?

- (1) Nitrogen
- (2) Oxygen
- (3)

(P.T.O.)

2.	Which pollutant is haemoglobin?	nteracts with haemo	oglobin and displa	aces oxygen to form carboxy-
	(1) CO <sub>2</sub>	(2) CO	(3) O <sub>2</sub>	(4) O <sub>3</sub>
<b>3.</b>	Each ecological fa	actor to which organ	nism's response h	nas maximum and minimum
	(1) law of toleran	ce	(2) law of min	imum
	(3) law of maxim	um	(4) law of con	servation
4.	Air pressure can l	be determined by,		
	(1) Anemometer	(2) Barometer	(3) Hydromete	r (4) Psychometer
5.	Maximum thermor	meter contain by		
	(1) alcohol	(2) mercury	(3) water	(4) borine water
6.	Which one is the	important chemical	species in the str	ratosphere?
	(1) Nitrogen	(2) Ozone	(3) Oxygen	(4) Carbon dioxide
7.	Which contaminar	nt is related with Bl	nopal Disaster?	
	(1) Methyl isocyna		(2) Phosgene	
	(3) Carbaryl			
	(s, sarana).		(4) All of the	above
8.	Which one is bioti	c in origin?		
	(1) Soil texture	(2) Rainfall	(3) Light	(4) CO <sub>2</sub> in soil
(166)			,	

9.	The characteristics of photochemical	amog is	
	(1) oxidising (2) reducing	(3) inert (4) None of these	
10.	The time required for a population to	o double in sine in known as	
	(1) exponential growth	(2) doubling time	
	(3) doubling rate	(4) growth rate	
11.	Which one is the acid associated with	h soil?	
	(1) Acetic acid (2) Humic acid	(3) Nitric acid (4) Sulphuric acid	
12.	Role of micro-organisms is		
	(1) to act as scavenger	(2) pollution indicator	
	(3) removal of pollutants	(4) All of these	
13.	The nuclear accident occurred at Chewith	ernobyl, Ukraine on 28th April, 1996 is rel	ated
	(1) I-131 (2) Cs-137	(3) Th-238 (4) U-238	
14.	Sechi disc is used for the measurem	nent of	
	(1) turbidity of waters	(2) BOD in water	
	(3) moisture content	(4) light	
15.	SPM may lead to		
	- American conse	(2) skin distant	
•	asthma	(4) Indenty manager is a second	
166)		3	

16.	Th	e Nati	onal Forest	Polic	y first adopte	d in 189	4 revised in	1952 wa	s again revised in
	(1)	1986	o ·	(2)	1974	(3)	1988	(4)	1972
17.	Th	e tem	ecological	pyra	mid was give	n by			
	(1)	Elto	n	. (2)	Odum	(3)	Haeckel	(4)	Smith
18.	wı	hen so	me work is	done	, there will be	some w	vaste heat; t	his is in a	ccordance with
	(1)	1st	law of ther	mody	ynamics	(2)	2nd law of	thermod	ynamics
	(3)	3rd	law of ther	mod	ynamics	(4)	entropy		
19.	Inc	dia pr	oduces whi	ich n	nineral in lar	gest am	ount in the	world?	
	(1)	Iron		(2)	Aluminium	(3)	Mica	(4)	Manganese
20.	DI	OT acc	umulates i	n wh	nich tissue of	the bo	dy?		•
	(1)	Bone	es .	(2)	Blood	(3)	Fat	(4)	Muscles
21.	Ca	nc <del>e</del> pt	of the bios	spher	e reserve wa	s evolve	d in 1986	by .	
	(1)	MAB	Programm	ne of	UNESCO	(2)	IUCN		
	(3)	Proje	ect Tiger			(4)	Save the C	crocodile 1	Project
22.	Wh	at do	es 'CBD' st	and	for?				
	(1)	Cons	servation of	Bio	logical Divers	ity			
	(2)	Com	mittee for ]	Biolo	gical Diversit	y			
	(3)	Conv	ention on	Biolo	gical Diversit	y	•		
	(4)	Coun	cil for Biol	logica	al Diversity				
(166)						4			

23.	How	many hot spot	8 <b>Z</b> Q	nes are there	e in th	c	world?		•	
	(1)	20	(2)	15 .	(3)	1	25 '	(4)	35	
24.	Larg	gest Tiger reserve	e in	India is						
	(1)	Indravati (MP)		,	(2)	)	Simlipal (Odisha	1)		
,	(3)	Dudhwa (UP)			(4)	)	Nagarjuna Sagar	r, H	yderabad (Al	P)
25.		anisms occupyir wn as	ng s	ame ecologic	cal nic	h	e in different ge	ogra	aphical regio	ns are
	<b>(1)</b>	ecological equiva	alen	ta, .	(2)	)	spatial niche			
	(3)	trophic niche		• :	(4)	)	None of these			
<b>26</b> .	The	nuclear bomb	xplo	oded over Na	igaşaki	i	n Second World	War	contained	
	(1)	U-235	(2)	Pu-239	(3	)	U-233	(4)	Pu-233	-
27.	The	largest island i	n th	e world is						
	(1)	Sri Lanka	(2)	Greenland	(3	1)	Madagascar	(4)	Australia <sup>,</sup>	•
28.	The	e major source o	f su	lphur dioxid	ė in at	m	osphere is		•	
	(1)	diesel	(2)	petrol	(3	3)	coal	(4)	wood	,
29.	The	inner core of the	he e	arth is main	dy com	p	osed of			
	(1)	Cu and Zn	(2)	Ni and Fe	(3	3)	Ca and Al	(4)	Na and Cl	
<b>30.</b>	Wb	ich of the follow								
		Weol	(2)	Starch	·	3)	Natural rubber	(4)	Cellulose	L
146	<b>7</b>			•	5		,			

### CHEMISTRY

# (Compulsory for all)

31.	Water boils at 10	00 °C under pres	sure of	
	(1) 780 mm .	(2) 760 mm	(3) 790 mm	(4). None of these
32.	The entropy of a	perfect crystallin	e solid on absolute zer	o is
	(1) <b>zero</b>	(2) positive	(3) negative	(4) None of these
33.	The element which	th will be closer	to the ideal solution	
	(1) normal soluti	on	(2) dilute soluti	on
	(3) saturated solu	ution	(4) super-satura	ted solution
34.	The first metal us	sed by man was		•
	(1)- gold	(2) silver	(3) copper	(4) iron
35.	Gobar gas contair	ns mainly		
	(1) ethane	(2) methane	(3) acetylene	(4) butane
36.	Which of the follo	wing is used as	a refrigerant?	
	(1) Ammonia	(2) Ether	(3) Acetone,	(4) Nitrogen
37.	Gasoline is the na	ume given to the	same substance	
	(1) crude oil	(2) natural gas	s . (3) petrol	(4) diesel oil

3 <b>8</b> .	Acetyl salicylic acid is commonly used	l as
	(1) tear gas	(2) chemical fertilizer
	(3) paint	(4) pain reliever
39.	The rate at which a substance reacts	us proportional to
	(1) mass (2) weight	(3) volume (4) active mass
<b>40</b> .	When iron rusts, its weight	
	(1) increases (2) decreases	(3) remains same (4) None of these
<b>41.</b>	Electrical conductivity in a metal is o	iue to
	(1) movement of free elements	(2) positive and negative ions
	(3) positive ions only	(4) negative ions only
42.	Synthetic detergent is	•
	(1) a mixture of sodium salts of aro	matic and sodium chloride
	· (2) a mixture of sodium carbonate a	and sodium chloride
	(3) sodium salts of fatty acid	•
	(4) calcium salts of hydrochloric aci	i <b>d</b>
43.	Dry ice at room temperature gives	
,	(1) water (2) CO <sub>2</sub> gas	(3) salty water

(166)

	•	
44.	Entropy change of a system depen	ds on
	(1) pressure (2) volume	(3) temperature (4) None of the
45.	Artificial rain is produced by seeding	ng clouds with
•	(1) potassium iodide	(2) silver iodide
	(3) silver nitrate	(4) copper sulphate
46.	The chief constituent of animal bor	nes is
	(1) magnesium carbonate	(2) calcium sulphate
	(3) calcium phosphate	(4) magnesium phosphide
47.	The power used for developing finge	erprint on a multicolored surface is
	(1) gold dust	(2) charcoal
	(3) manganese dioxide	(4) florescent powder
48.	For welding, the gas used is	
	(1) methane (2) ethane	(3) ethylene (4) acetylene
49.	Malachite is the mineral of	•
	(1) copper (2) iron	(3) calcium (4) magnesium
50.	Nitrogen fertilizer having maximum	amount of nitrogen is
	(1) ammonium chloride	(2) potassium nitrate
	(3) ammonium sulphate	(4) urea

51.	The wrong statem	ent is		
	(1) Enzymes are	specific in their act	ions	
	(2) Enzymes are	capable of initiating	chemical reaction	
	(3) Enzymes are	proteins		
,	(4) Enzymes are	sensitive to heat		
52.	Which of the follo	wing has never bee	n used as a sulpha drug?	
	(1) sulphapyridin	e	(2) sulphanilamide	
	(3) sulphathiazole	•	(4) None of the above	
<b>53.</b>	The element which	h is present in all o	organic compounds is .	
	(1) hydrogen	(2) carbon	(3) oxygen (4) n	itrogen
.54.	Phosphorus is kep	pt under water beca	use	
	(1) it is highly so	ensitive in air		
	(2) it is highly se	ensitive in water		
	(3) water forms a	protective coating	on it	
	(4) None of these			
55.	A manmade eleme	ent is .	•	
	(1) plutonium	(2) U-235	(3) thorium (4) ra	adium
25.	and a accuse w	rill hydrolyse to give	a solution that is	
	(I) acidic	(2) basic	(3) neutral	
(166)			9	

<b>57.</b>	Oxygen is prepared in the laboratory by	<b>y</b> .
	(1) heating potassium chlorate	(2) heating potassium oxalate
•	(3) heating non-metallic oxides	(4) heating sand
58.	A chemical bond formed by the sharing	g of electrons between the reacting atoms
	(1) an ionic bond	(2) a covalent bond
	(3) a polar bond	(4) a dative bond
59.	Alpha particles are electrically charged	
	(1) hydrogen atom	(2) neutrons
	(3) helium atoms	(4) X-rays
60.	Specific heat of perfect gases are function	ions only of
	(1) heat (2) volume	(3) pressure (4) temperature
61.	Ionic theory of electrolysis was given by	y
	(1) Archimedes (2) Arrhenius	(3) Boyle (4) Charles
62.	Air is	
	(1) a compound (2) a mixture	(3) an element (4) None of these
63.	The element present in the largest amo	ount in rocks and minerals is
	(1) gold (2) carbon	(3) hydrogen (4) silicon
(166)	10	•

is

• • • • • • • • • • • • • • • • • • • •	benyaration of nations is done before	dining diem for local winds is								
	(1) to preserve the essence in full a	strength								
	(2) to prevent microbial growth									
	(3) to remove bacteria									
	(4) to add nutrients in the fruit									
65.	The chemical substance present in	bones and teeth is								
	(1) calcium sulphate	(2) calcium phosphate								
	(3) calcium borate	(4) calcium chloride								
66.	The pH of acid gastric juice would	be								
	(1) 7 (2) below 7	(3) above 7 (4) None of these								
67.		nitrate was repeatedly used as a nitroger ops, the soil was left with excess of potassium i								
	(1) neutral (2) dry	(3) alkaline (4) acidic	1							
68.	Fixation of nitrogen refers to									
	(1) conversion of atmospheric nitro	(1) conversion of atmospheric nitrogen into nitrogenous compounds								
	(2) nitrogen cycle in nature									
	(3) liquefaction of nitrogen									
	meanfacturing nitrogen from ai	ir								
. •	•									

(166)

69.	Acid rain results	due to		
	(1) oxides of nitr	ogen and sulphur	dioxide	
	(2) ammonia			
	(3) carbon mono	xide		
	(4) oxides of nitr	rogen		
70.	The least prone t	o fire is		
	(1) Rayon	(2) Nylon	(3) Cotton	(4) Terycot
71.	The longest wave	length is possessed	l <b>by</b>	
	(1) infrared	(2) light rays	(3) X-rays	(4) Gamma rays
72.	The gas which is	preferred to be mi	xed with oxygen in	an oxygen tube is
	(1) argon		(2) carbon dio	
	(3) helium		(4) nitrogen	
73.	Which of the follo	owing is not a natu	ral polymer?	
	(1) Silk	(2) Rubber	(3) Plastic	(4) Cellulose
74.	Which of the follo	wing contains carb	on?	
	(1) Phosphorite	(2) Chromite	(3) Bauxite	(4) Lignite
(166)			10	

75.	Ozone is important to mankind, bec	ause	
	(1) it helps in releasing hydrogen in	nto atmosphere	
	(2) it helps in maintaining the temp	perature of earth	
	(3) it releases oxygen in the air		
	(4) it creates a protective covering a	against the ultraviolet i	ays
76.	Gamma radiations are used for		
•	(1) sterilizing food stuff	(2) controlling per	sts
	(3) cancer therapy	(4) All of these	
<b>77</b> .	If air is saturated, the relative hum	idity is 1 and the spec	ific humidity is
	(1) equal to one	(2) greater than o	one
	(3) less than one	(4) None of these	
78.	If a system can exchange both mat	ter and energy with th	e surrounding it is called
	(1) open system	(2) closed system	•
	(3) isolated system	(4) Homogenous	system
79.	The Carnot engine violate second law	of thermodynamics wh	en its efficiency become
	(1) 100% (2) 25%	(3) 50%	(4) 75%
<b>8</b> 0.	Heavy water is called heavy because	e it is	
	(1) a heavy liquid		
	(2) denser than water		
: ; :	an emide of heavier isotope of	oxygen	
	(4) an oxide of deuterium		
(166)		13	

81.	Low ionization er	ergy is characteris	tic of a	
	(1) metal	(2) non-metal	(3) metalloids	(4) inert gas
82.	India's first majo	r steel plant was en	ected at	
	(1) Durgapur	(2) Jamshedpur	(3) Bhadravathi	(4) Raurkela
83.	The gas used for	artificial ripening	of fruit is	
	(1) ethylene		(2) barbitaric aci	id
	(3) benzoic acid		(4) None of these	•
84.	The sugar that y	ields only glucose v	hen hydrolyzed is	
	(1) maltose	(2) sucrose	(3) lactose	(4) fructose
.85.	The enzyme which	h catalyzes the hyd	rolysis of proteins is	•
	(1) insulin	(2) steapsin	(3) amylopsin	(4) None of these
86.	The partial pressu	ure of any compone	nt in a gas mixture i	is proportional to
	(1) the mole frac		(2) the total pres	
	(3) the square of	mole fraction	(4) None of these	:
87.	There is deviation	from Boyle's law,	when the gas is at	•
	(1) low pressure		(2) medium press	sure
	(3) high pressure		(4) high temperat	ture
(166)		•	14	

88.	Radioactive element which has been for	ind to have large reserves in India is
	(1) Thorium (2) Uranium	(3) Radium (4) Plutonium
<b>89</b> .	Color of solid iodine is	
	(1) steel gray	(2) violet
	(3) yellowish green	(4) reddish brown
90.	White phosphorous is	
	(1) a mild poison	(2) a strong poison
	(3) non-poisonous	(4) None of the above
	SECTIO	N—B
	PHYSICS (Sub-	Section B-1)
	[ Optio	nai )
91.	The electromagnetic wave which has hi	ghest frequency is
	(1) infrared radiation	(2) radio waves
	(3) cosmic rays	(4) Gamma rays
92.	A police van sounding its siren in move sound from siren relative to its normal	ing away from an observer. The pitch of the
	(1) higher (2) lower	(3) same (4) None of these
98.	The speed of sound will be highest in	
•	humid air at 30 °C	(2) dry air at 30 °C
	(3) humid air at 0 °C	(4) dry six six 🖟 ℃
(166)	15	

94.	In astronomical telescope, the o	bjective is
	(1) of equal focal length to the	eye piece
	(2) of greater focal length	
	(3) of smaller focal length	
	(4) All of the above	
95.	One gram of ice at 0 °C is conver- internal energy of the system is	ted into water at the same temperature. The change in
	(1) 80 cals (2) 540 cal	s (3) 40 cals (4) None of these
96.	More dew is formed on grass th	nan on metallic utensils, because
	(1) grass being a good radiator e	nables the water vapor in the air to condense on it
	(2) grass is a good conductor	
	(3) grass attract dew drops on	account of photosynthesis
	(4) there is transpiration in pla	unts .
97.	The wood which is used in rails	way sleepers
	(1) Green heart wood	(2) Mahogany
	(3) Mahallic wood	(4) Jarrah and Barri
98.	Freshly laid eggs and stale eggs	can be distinguished by
	(1) ultraviolet	(2) phosphorescence
	(3) fluorescence	(4) X-rays
(166)		
(200)	,	16

	ranway tracks are banked on cur	ves so that
	(1) the train may not fly off in the	e opposite direction
	(2) necessary centripetal force may weight of the train	be obtained from the horizontal component of the
	(3) to avoid frictional force between	en tracks and wheels
	(4) necessary centrifugal force may weight of the train	be obtained from the horizontal component of the
100.	The law involved in cleaning a car	pet by beating it with a stick
	(1) first law of motion	(2) second law of motion
	(3) law of conservation of mass	(4) law of conservation of energy
101.	If the velocity of a moving object becomes	is halved to its kinetic energy, then its velocity
• .	(1) one-fourth (2) half	(3) double (4) four times
102.	When a ship enters a sea from a	river its level
•••	(1) rises (2) falls	(3) remains same (4) None of the above
103.	The principle of dynamo was disc	overed by
	(1) Max Plenck	(2) Albert Einstein
	Method Wilseling 10. "	(4) Newton (4)
(166)		17

104.	A tape recorder's	tape is coated	with a			
	(1) ferromagnetic	substance pow	der			
	(2) paramagnetic	substance power	der			
	(3) diamagnetic s	ubstance powde	er			
	(4) None of the a	bove				
105.	Humidity of air					
	(1) does not sho temperature	ow any consis	tent beh	avior with th	e change in	atmospheric
	(2) is not affected	by the change	in atmos	pheric temper	ature	
	(3) decreases with	increase in at	mospheric	temperature		
	(4) increases with				·	
106.	A long glass tube is tube. Strong reson above the surface of the tuning fork is	anices are obser	rved at tu	M Sliccessive 1	enothe 0.50	1 0 5 4
	(1) 400 Hz	(2) 450 Hz	(3)	475 Hz	(4) 500 Hz	
107.	A body of mass 100 by the gravitationa	kg is dropped (	to the gro	und from a hei	ght of 10 m. Th	e work done
	(1) 98 Joules	(2) 980 Joule	:s (3)	9800 Joules	(4) 0 (zero)	
108.	Ampere-sec is a ur	nit of				
	(1) strength of cur	rent	(2)	quantity of e	lectricity	
	(3) power			energy	-coulding	
166)			.,	~~~		
,			18			

109.	When viewed in gre	en light a flag th	at is re	d-green will ap	opear to be
	(1) black and white	e	(2)	white and yell	low
	(3) black and green	n.	(4)	green and yell	low
110.	A person can see the lens of power	e objects only at d	istance	greater than 4	0 cm. He is advised to use
	(1) -2·5 D	(2) -1·5 D	(3)	+2·5 D	(4) +1·5 D
111.	Pyrometer is used	to measure			
	(1) high pressure		(2)	low pressure	
	(3) high temperatu	re	(4)	low temperatu	are
					:
112.	Three semiconductor follows. The correct	_	in the	increasing ord	er of their energy gap as
	(1) silicon, telluriu	m, germanium	(2)	silicon, germa	nium, tellurium
	(3) tellurium, silico	on, germanium	(4)	tellurium, ger	manium, silicon
113.					is 226 K gm per kilo mol. le per second will be
	(1) 3·61×10 <sup>19</sup>	(2) 3·61×10 <sup>13</sup>	(3)	3.61×10 <sup>10</sup>	(4) 3.61×10 <sup>8</sup>
114.	A solid sphere of m			on a horizonta	l surface without alipping.
•	7:10	(2) 1:2	(3)	2:7	M 3:8
(166)			19	• .	(P.T.O.)

115.	Mean-free path is defined as the
	(1) distance between two molecules
	(2) distance between two molecular collisions
	(3) average distance between two molecules
	(4) average distance between two molecular collisions
116.	What extinguishes a fire quicker?
	(1) Boiling water (2) Cold water
	(3) Both are equally effective (4) None of the above
<b>117.</b>	When the adhesive force between a liquid and a glass is greater than the cohesive forces between the liquid molecules, the meniscus of liquid in a capillary tube is
	(1) concave in shape (2) convex in shape.
	(3) flat (4) pyramidical
118.	One Giga Volt is equal to
	(1) $1.0 \times 10^9$ volts (2) $1.0 \times 10^7$ volts
	(3) $1.0 \times 10^{11}$ volts (4) $1.0 \times 10^6$ volts
119.	To make the longest possible throw, the cricketer is advised to make an angle of
	(1) 60° (2) 45° (3) 35° (4) 0°
120.	If we want to change a galvanometer into ammeter, extra resistance required is
	(1) low resistance in parallel (2) high resistance in parallel
	(3) low resistance in series (4) high resistance in series
( <b>166</b> )	20

## LIFE SCIENCE (Sub-Section B-2)

# [Optional]

121.	The famous book	The 1	Micrographia was	writ	ten by		
	(1) Robertson	(2)	Darwin	(3)	Brown	(4)	Robert Hook
122.	The diameter of th	e DN	A molecules are	und	the axis is		
	(1) 10 A	(2)	20 A	(3)	3·4 A	(4)	34 A
123.	Which among of th	e fo	llowing is not a	satu	rated fatty acid?	•	
	(1) Palmitic acid	(2)	Stearic acid	(3)	Oleic acid	(4)	Myristic acid
124.	Who first of all ob	serve	d plasmoderma?	•			
	(1) Strasburger	(2)	Tangel	(3)	Yamada	(4)	Wyssling
125.	What does planetic	gar	nete mean?				
	(1) Flagellated			(2)	Non-flagellated	gam	ete :
	(3) Isogamete		•	(4)	Zoosporangium		
1 <b>26</b> .	Vitamin B <sub>5</sub> is also	kno	wn as				
	(1) Niacin	(2)	Riboflavin	(3)	Phylloquinone	(4)	Thiotic acid
197.	Dark reaction of p	hoto	synthesis is also	kno	wn as		
	(1) Hill reaction		•	(2)	Blackman reac	tion	
•	(3) AMP pathway			(4)	Glyoxylate cycl	e	4.
(166)			21	l			

128.	Which one of the following does not belong to quantitative characters?						
	(1) Frequency (2) Density	(3) Abundance (4) Phenology					
129.	The first stage of Lithosere is	. •					
	(1) crustose lichen stage	(2) phytoplankton stage					
	(3) moss stage	(4) foliose lichen stage					
130.	Which one of the following structures ecosystem?	links biotic and abiotic components of the					
	(1) Biochemical structure	(2) Phenotypical structure					
	(3) Genotypic structure	(4) All of the above					
131.	A cross between F1 generation and rec	essive parent is known as					
	(1) monohybrid	(2) back cross					
	(3) dihybrid	(4) mass selection					
132.	Which one of the following is considered	ed to be the vehicle of inheritance?					
	(1) RNA (2) Nucleolus	(3) Chromosome (4) Vitamins					
133.	Emasculation mean						
	(1) removal of flower	(2) removal of petals					
	(3) removal of anthers	(4) removal of stigma					
134.	Hormones are destroyed mainly in the						
	(1) liver (2) heart	(3) stomach (4) intestine					
(166)	. 22						

135.	The phytohormone	s are	also known as		•		•	
	(1) growth hormon	nes		(2)	growth of pro	growth of promoting substances		
	(3) growth factors	(3) growth factors			All of the abo	All of the above		
136.	Multiples forms of enzymes with the sam			ne ca	talytic activity	but di	fferent structure ar	
	(1) holoenzymes	(2)	isoenzymes	(3)	prosthetic	(4)	apoenzymes	
137.	In albuminous see	ds, f	ood is stored in					
	(1) Plumule	(2)	Testa .	(3)	Endosperm	(4)	Cotyledon	
138.	The infectious part	ticle	of virus is called	<b>d</b> .				
	(1) capsid	(2)	nucleocapsid	(3)	virion	(4)	envelope	
139.	Casparian strips a	re for	und in the radia	al wa	lls of			
	(1) endodermal ce	lls		(2)	epidermal cell	8		
	(3) pith cells			(4)	hypodermal co	ells		
140.	The time lapsing b	ctwe	en inoculation a	ınd a	ppearance of s	ympto	oms is known as	
	(1) invasion		:	(2)	systemic infec	tion		
	(3) incubation per	iod		(4)	syndrome			
141.	one of the	follow	ing is not an a	ctive	factor for soil?			
• 5 .	(1) Temperature			(2)	Wind			
	(3) Biosphere affect	cts		(4)	Parent materia	<b>4</b> .		
166)			23	3				

142.	Animals which can withstand wider range of salinity are referred to as					d to as	
	(1) Stenohaline	(2)	Euryhaline	(3)	Saltiness	(4)	All of these
143.	Which one of the	follow	ing is not simp	ole pr	otein?		
	(1) Albumins	(2)	Globulins	(3)	Prolamines	(4)	Glycoproteins
144.	In which part of n	nitoch	nondria ATP is	gener	ated?		
	(1) Matrix	(2)	·Cristase	(3)	Oxysome	(4)	All of these
145.	The shape of meta	sentr	ric chromosome	is			
	(1) T-shaped	(2)	S-shaped	(3)	V-shaped	(4)	Rod shaped
146.	First completely te	rresti	rial vertebrate w	7 <b>as</b>			
	(1) Cotylosaurs	(2)	Pterosaurs	(3)	Dinosaurs	(4)	All of the above
147.	Mesozoic era is con	nside	red to be specia	al ago	e of		
	(1) reptiles	(2)	man	(3)	fishes	(4)	birds
148.	Eternity of life mea	ine					
	(1) life is nothing			(2)	immortality of l	ife	
	(3) life originated	in so	il and air	(4)	life is created b	y G	od
149.	According to Darwi	n, th	e variations are	:			
	(1) mutants	(2)	sports	(3)	variants	(4)	factors
150.	•						
	(1) Cretaceous					(4)	Cambrian
166)			04				
-			24				

#### GEOLOGY (Sub-Section 3-3)

# [Optional]

151.	Tem	perature is max	cimu	m at							
	(1)	Equator			(2)	Tropics		•			
	(3)	Northern hemis	pher	re ·	(4)	Southern hemis	spher	re			
152.	The	The earth crust below the ocean is composed of									
	(1)	sedimentary roo	ck		(2)	metamorphic ro	ck				
	(3)	basaltic rock			(4)	granite rock					
153.	The	star closest to	cart	h is							
	(1)	Sirius	(2)	North star	(3)	Sun	(4)	Proxima century			
154.	Fos	sils are evidence	e of								
	(1)	the composition	ı of	earth's crust	(2)	the folding of e	arth	's crust			
	(3)	living things of	lon	g a <b>g</b> o	(4)	life on other pl	anet	•			
155.	Pla	nt and animal r	ema	ins preserved in	rocl	cs are called					
	(1)	fossils	(2)	stalactites	(3)	humus	(4)	minerals			
156.	An	earthquake is r	ecor	ded by a							
	(1)	Spectroscope	(2)	Scismograph	(3)	Thermometer	(4)	Barometer .			
107.		a boot proof that	dino	saurs once lived	on th	ne earth can be fo	ound	from a study of			
		living animals			(2)	scientific book					
	(3)	plants			(4)	fossils					
(166)				25	5			(P.T.O.)			

158.	The important agent of erosion is							
	(1) winds	(2) streams	(3) waves	(4) glaciers				
159.	Who discovered th	at earth moves ar	ound the sun?	•				
	(1) Newton	(2) Galileo	(3) Copernicus	(4) Archimedes				
160.	Avalanches are	-						
	(1) turbulent wind	is .						
	(2) large sand stor	rms ·						
	(3) valleys created	by large-scale ero	osion of mountains					
	(4) large snow fall	s flowing along st	eep slopes					
161.	Equinox means							
	(1) when the night	t is longest						
	(2) when the days are longest							
	(3) two periods wh	en day and night	are equal					
	(4) None of these							
162.	The Nebular Hypot	thesis' was propos	ed by					
	(1) Kant		(2) Laplace					
	(3) Kant and Lapla	ace together	(4) Kant and Lap	lace independently				
163.	The radial extent of	f the core is						
	(1) 2886 km .	(2) 3486 km	(3) 1227 km	(4) 4113 km				
164.	Water occupies what percent of the earth's surface?							
	(1) 10	(2) 29	(3) 70	(4) 99				
166)		,	26					
		2	26					

165.	The atmosphere of the early earth likely contained little or no							
	(1) nitrogen			(2)	oxygen			
	(3) carbon dioxide			(4)	methane			
1 <b>66</b> .	The largest mineral	gro	up is the					
	(1) carbonate group	p		(2)	silicate group			
	(3) sulfate group			(4)	oxide group			
167.	A common chemica	d se	dimentary rock i	8				
	(1) slate	(2)	shale	(3)	limestone	(4)	sandstone	
168.	Bauxite is an impo	rtan	t ore of					
	(1) copper	(2)	iron	(3)	aluminium	(4)	tin	
1 <b>69</b> .	The principle use of which metal is in photographic materials?							
	(1) Silver		Copper		Platinum		Bismuth	
170.								
2.0.	(1) volcanoes		earthquakes	(3)	earth crust	(4)	sand dunes	
			_					
171.	The largest reservo	ır oi	unirozen ireshw	ater	. 18			
	(1) groundwater		•	(2)	freshwater lake	8		
	(3) rivers and stre	ams	•	(4)	the atmosphere	:		
172.	The salinity of sea	wat	ers can be deter	mine	ed by the ratios	of		
	(1) Na/K	(2)	Ca/Na	(3)	C/C	(4)	Rb/Sr	

P.T.O.)

173.	Bombay South wind starts from						
	(1) South	(2)	North	(3)	East	(4)	West
174.	Which of the follow	wing r	ocks is least r	esista	unt for use as a	buil	ding material?
	(1) Marble	(2)	Slate	(3)	Quartzite	(4)	Basalt
175.	The angular veloci	ty of e	earth is				
	(1) 3·65×10 <sup>-8</sup>	(2)	4·19×10 <sup>-7</sup>	(3)	2·6×10 <sup>-4</sup>	(4)	None of these
176.	Conservation of na	atural	resources mea	ns			
	(1) complete utiliz	ation	of natural reso	ource	8		
	(2) less utilization	of na	tural resource	8			
	(3) less and effect	ive uti	lization of nat	ural	resources		
	(4) rational use of						
177.	The point of origin	of ear	rthquakes is c	alled			
	(1) Epicentre	(2)	Focus	(3)	Centre	(4)	Seismic vertical
178.	The deepest surface	e on a	an oceanic sur	face	is		
	(1) oceanic ridge			•	oceanic trench		
	(3) continental slo	pe			continental rise		
179.	The coastline of India is about						
	(1) 3100 km	(2)	100 km	(3)	5100 km	(4)	6100 km
180.	The earth is composed of ——— major plates.						
	(1) 21	(2) 1	18	(3)	8	(4)	6
			**:	*		-	
			28				D/4/1960

## अभ्यर्थियों के लिए निर्देश

(इस पुस्तिका के प्रथम आवरण-पृष्ठ पर तथा उत्तर-पत्र के दोनों पृष्ठों पर केवल नीली या काली बाल-प्वाइंट पेन से ही लिखें)

- 1. प्रश्न पुस्तिका मिलने के 10 मिनट के अन्दर ही देख लें कि प्रश्नपत्र में सभी पृष्ठ मौजूद हैं और कोई प्रश्न छूटा नहीं है। पुस्तिका दोषयुक्त पाये जाने पर इसकी सूचना तत्काल कक्ष-निरीक्षक को देकर सम्पूर्ण प्रश्नपत्र की दूसरी पुस्तिका प्राप्त कर लें।
- 2. परीक्षा भवन में *लिफाफा रहित प्रवेश-पत्र के अतिरिक्त,* लिखा या सादा कोई भी खुला कागज साथ में न लायें।
- 3. उत्तर-पत्र अलग से दिया गया है। इसे न तो मोड़ें और न ही विकृत करें। दूसरा उत्तर-पत्र नहीं दिया जायेगा, केवल उत्तर-पत्र का ही मूल्यांकन किया जायेगा।
- 4. अपना *अनुक्रमांक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पेन* से निर्धारित स्थान पर लिखें।
- 5. उत्तर-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये वृत्तों को गाढ़ा कर दें। जहाँ जावश्यक हो वहाँ प्रश्न-पुस्तिका का क्रमांक तथा सेट का नम्बर उचित स्थानों पर लिखें।
- 6. ओ॰ एम॰ आर॰ पत्र पर अनुक्रमांक संख्या, प्रश्न-पुस्तिका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्न-पुस्तिका पर अनुक्रमांक सं॰ और ओ॰ एम॰ आर॰ पत्र सं॰ की प्रविष्टियों में उपरिलेखन की अनुमित नहीं है।
- 7. उपर्युक्त प्रविष्टियों में कोई भी परिवर्तन कक्ष निरीक्षक द्वारा प्रमाणित होना चाहिये अन्यथा यह एक अनुचित साधन का प्रयोग माना जायेगा।
- 8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिये आपको उत्तर-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को उत्तर-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार पेन से गाड़ा करना है।
- 9. प्रत्येक प्रश्न के उत्तर के लिये केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों को गाढ़ा करने पर अथवा एक वृत्त को अपूर्ण भरने पर वह उत्तर गलत माना जायेगा।
- 10. ध्यान दें कि एक बार स्याही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का उत्तर नहीं देना चाहते हैं, तो सम्बन्धित पंक्ति के सामने दिये गये सभी वृत्तों को खाली छोड़ दें। ऐसे प्रश्नों पर श्रून्य अंक दिये जायेंगे।
- 11. रफ़ कार्य के लिये प्रश्न-पुस्तिका के मुखपृष्ठ के अन्दर वाले पृष्ठ तथा अंतिम पृष्ठ का प्रयोग करें।
- 12. परीक्षा के उपरान्त केवल *ओ०एम०आर० उत्तर-पत्र* परीक्षा भवन में जमा कर दें।
- 13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर जाने की अनुमित नहीं होगी।
- 14. यदि कोई अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का/की, भागी होगा/होगी।