This Question Paper contains 4 Printed Pages.

# 19E(A)

## **GENERAL SCIENCE**, Paper - I

(Physical Science) (English version)

#### Parts A and B

Time : 2 hrs. 45 min.]

#### [Maximum Marks: 40

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#### Instructions :

1. This paper contains Part-A and Part-B.

- Answer the questions under Part-A on separate answer book. Write the answers to the questions under Part-B on the question paper itself and attach it to the answer book of Part-A.
- Answer all the questions. Internal choice is given to the questions under Section- III.
- In the duration of 2.45 hrs., 15 minutes of time is allotted to read the Question paper.

Part - A

### Time : 2 hours

#### Instructions :

- (i) Part-A comprises Three sections I, II and III.
- (ii) All the questions are compulsory.
- (iii) There is no over-all choice. However, there is an internal choice to the questions under section-III.

#### SECTION - I

 $4 \times 1 = 4$ 

- NOTE: (i) Answer all the questions.
  - (ii) Answer each question in 1 or 2 sentences.
  - (iii) Each question carries ONE mark.
- Let heat is not lost by any other process between two objects in thermal contact, "Net heat lost (by hot body) = Net heat gain (by cold body)."

above statement indicates a principle. Write the name of that principle.

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B

P.T.O.

- Pose a question to understand the difference between plane mirrors and 2. curved mirrors.
- A teacher asked to give an example for Dobereiner's triad. Ramu wrote them 3. as "Li, Na, Mg". In these three, identify which element does not belongs to this triad ?
- Imagine and write what type of ion can be formed generally by an atom of 4. element with low ionisation energy, low electron affinity with high atomic size ?

#### SECTION - II

 $5 \times 2 = 10$ 

NOTE: (i) Answer all the questions.

- (ii) Answer each question in 4 or 5 sentences.
- (iii) Each question carries Two marks.

5.	Temperatures of two cities at differe	nt times are giver	as follows :
	Time		

Time → City ↓	At 6 AM	At 11.30 AM	At 6 PM
Á	– 3° C	300 K	5°C
В	271 K <sup>·</sup>	27° C	270 K

On the basis of above table, answer the following questions.

- In which city, the morning temperature at 6 o'clock is relatively high ? (1)
- At what time, both cities are having the equal temperature ? (2)
- While doing an experiment with a mirror to get an image, Gayathri got 6. magnification value m as +1.5.

Based on the above statement, answer the following.

- Which mirror she used for this experiment ? (a)
- Write any two characteristics of the image formed at this magnification (b) value.

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- 7. Write the material that you use to find out the value of refractive index of a prism. What is the necessity of the graph in this experiment ?
- Imagine, which one in each of the following pairs is large in size relatively with other ? Explain.
  - (X) Na, Al (Y) Na, Mg<sup>+2</sup>



9.



 $C_2H_3$ 

Based on the diagram, answer the following.

- Write the name of the compound.
- (2) Write the name of functional group in the structure.



- SECTION III Answer all the questions.
- (ii) Answer each question in 8-10 sentences.
- (iii) There is internal choice for each question.
- (iv) Only one option from each question is to be attempted.
- (v) Each question carries FOUR marks.

10. Write the role of lenses in our daily life.

#### OR

A house has 3 tubelights, 2 fans and a television. Each tubelight draws 40 W. The fan draws 80 W and the television draws 60 W. On an average, all the tubelights are kept on for five hours, two fans for 12 hours each and the television for five hours a day. Find the cost of electric energy used in 30 days at the rate of Rs. 3.00 per KWH. 11.  $2Al + Fe_2O_3 \rightarrow Al_2O_3 + 2Fe$ 

19E(A)

B

(Al = 27u, Fe = 56u, O = 16u are the atomic masses)

How much of Iron, we can get if 54 kg of Aluminium is used ?

OR

Write Bohr's model of Hydrogen atom and it's limitations.

 Write the procedure of a lab activity to understand lateral shift of light rays through a glass slab.

#### OR

Write an activity to know the reaction of bases with metals.

13. Which device is used to convert mechanical energy into electrical energy ? Draw a neat diagram and label the parts of this device.

OR

Write the name of the method we use to separate the ore or impurity in which one of them is magnetic substance. Draw a neat diagram indicating the method. This Question Paper contains 4 Printed Pages.

## 19E(B)

## **GENERAL SCIENCE**, Paper - I

(Physical Science) (English version)

#### Parts A and B

Time : 2 hrs. 45 min.]

[Maximum Marks : 40

Instruction : Write the answers to the questions in this Part-B on the Question paper itself and attach it to the answer book of Part-A.

Part - B

Time : 30 min.

Marks: 10

20×1/2=10

- 1

PTO.

#### SECTION - IV

NOTE :

- Answer all the questions.
   Each question carries <sup>1/2</sup> mark.
- Marks will not be awarded in any case of over-written, rewritten or erased answers.
- Write the CAPITAL LETTER (A, B, C, D) showing the correct answer for the following questions in the brackets provided against them.
- 14. When water is boiling, its temperature ....
   [

   (A) remains constant
   (B) increases

   (C) decreases
   (D) can't say

15. The spoilage of food can be prevented by using vitamins like ... and ... [ ]

- (A) B, C (B) C, E
- (C) B, E (D) A, E

19E(B)

B

20.	Sho	rt sightedness is known as .	and	d le	ens is used to corr	ect	
		visibility.				I	]
	(A)	Myopia, Convex	(B)	Hyper	metropia, Convex	TEN.	
	(C)	Hypermetropia, Concave	(D)	Myopi	ia, Concave		
21.	The	eye lens adjusts its focal ler	ngth be	etween	cm to cm.	ſ	]
	(A)	22.7;25	(B)	2.27;	2.42		
	(C)	2.26; 2.5	(D)	2.27;	2.5		
22.	Mat	ch the following.				1	J
	(1)	Between the aqueous hum and the lens, there is a mu diaphragm.			(X) Retina	14	
	(2)	Small hole in a muscular of where diaphram lies betwee aqueous humour and the e	en the		(Y) Pupil		
	(3)	The place where the image at back side of eye ball.	e form	8	(Z) Iris		
	(A)		(B)	(1) - X	(Z) Iris (2) - Z, (3) - Y (2) - Y, (3) - X	n	
23.	(A) (C)	at back side of eye ball. (1) - X, (2) - Y, (3) - Z	(B) (D)	(1) - X (1) - Z	X, (2) - Z, (3) - Y X, (2) - Y, (3) - X	n	
23.	(A) (C) The	at back side of eye ball. (1) - X, (2) - Y, (3) - Z (1) - Z, (2) - X, (3) - Y	(B) (D)	(1) - X (1) - Z	X, (2) - Z, (3) - Y X, (2) - Y, (3) - X	n	1
23.	(A) (C) The	at back side of eye ball. (1) - X, (2) - Y, (3) - Z (1) - Z, (2) - X, (3) - Y scientist who explained spli	(B) (D) itting (	(1) - X (1) - Z	X, (2) - Z, (3) - Y X, (2) - Y, (3) - X spectra	n t	1
23.	(A) (C) The into	at back side of eye ball. (1) X, (2) - Y, (3) - Z (1) Z, (2) X, (3) - Y scientist who explained spli finer lines is	(B) (D) itting (B)	(1) - X (1) - Z of line s	X, (2) - Z, (3) - ¥ X, (2) - Y, (3) - X spectra nerfeld	n t	1
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	(A) (C) The into (A) (C) An e	at back side of eye ball. (1) X, (2) Y, (3) Z (1) Z, (2) X, (3) Y scientist who explained split finer lines is Max Planck Moseley example for Mendeleev's and	(B) (D) itting ( (B) (D) omalou	(1) - X (1) - Z of line s Somm Lewis 18 serie Sodiu	X, (2) - Z, (3) - Y , (2) - Y, (3) - X spectra merfeld s is	n t	1
24.	(A) (C) The into (A) (C) An ( (A) (C)	at back side of eye ball. (1) X, (2) - Y, (3) - Z (1) Z, (2) X, (3) - Y scientist who explained spli finer lines is Max Planck Moseley example for Mendeleev's and Tellurium, Iodine	(B) (D) itting ( (B) (D) omalou (B) (D)	(1) - X (1) - Z of line s Somm Lewis Is serie Sodiu Sodiu	X, (2) - Z, (3) - Y X, (2) - Y, (3) - X spectra nerfeld as is m, Potassium	n t	]
24.	(A) (C) The into (A) (C) An e (A) (C) Ame	at back side of eye ball. (1) X, (2) - Y, (3) - Z (1) Z, (2) X, (3) - Y scientist who explained spli finer lines is Max Planck Moseley example for Mendeleev's and Tellurium, Iodine Eka Boron, Eka Silicon	(B) (D) itting ( (B) (D) omalou (B) (D)	(1) - X (1) - Z of line s Somm Lewis Is serie Sodiu Sodiu table ?	X, (2) - Z, (3) - Y X, (2) - Y, (3) - X spectra nerfeld as is m, Potassium	n t	]
24.	(A) (C) The into (A) (C) An e (A) (C) Ame	at back side of eye ball. (1) X, (2) - Y, (3) - Z (1) Z, (2) X, (3) - Y scientist who explained split finer lines is Max Planck Moseley example for Mendeleev's and Tellurium, Iodine Eka Boron, Eka Silicon ong the following, which is r	(B) (D) itting ( (B) (D) omalou (B) (D) nore st (B)	(1) - X (1) - Z of line s Somm Lewis Is serie Sodiu Sodiu table ?	X, (2) - Z, (3) - Y X, (2) - Y, (3) - X spectra nerfeld as is m, Potassium	n . t	]
24.	<ul> <li>(A)</li> <li>(C)</li> <li>The into</li> <li>(A)</li> <li>(C)</li> <li>An o</li> <li>(A)</li> <li>(C)</li> <li>Amo</li> <li>(A)</li> <li>(C)</li> </ul>	at back side of eye ball. (1) X, (2) - Y, (3) - Z (1) Z, (2) X, (3) - Y scientist who explained split finer lines is Max Planck Moseley example for Mendeleev's and Tellurium, Iodine Eka Boron, Eka Silicon ong the following, which is r Li	(B) (D) itting ( (B) (D) omalou (B) (D) nore st (B)	(1) - X (1) - Z of line s Somm Lewis Is serie Sodiu Sodiu table ? Be	X, (2) - Z, (3) - Y X, (2) - Y, (3) - X spectra nerfeld as is m, Potassium		] ] ]

[3]

	A A Lawrence of	and lens is used to correct		
20.			1	]
	the visibility.	(B) Hypermetropia, Convex		
	(A) Myopia, Convex	and i Comparito		
	(C) Hypermetropia, Concave	(D) Myopia, Concave		
		at the same own to cm.	1	1
21.	The eye lens adjusts its focal	length between cm to cm.		
	(A) 22.7;25	(B) 2.27; 2.42		
	(C) 2.26; 2.5	(D) 2.27; 2.5		
	ATT		1	1
00	Match the following.		L	
22.	- it - encourse ht	umour (X) Retina		
	<ol> <li>Between the aqueous in and the lens, there is a</li> </ol>	muscular		
	diaphragm. (2) Small hole in a muscula	ar diaphragm, (Y) Pupil		
	(2) Small hole in a muscul	stween the		
	where diaphram lies be	he ave lens		
	aqueous humour and t	TIE CYC ACTUM		
		(Z) Ins		
	(3) The place where the in	nage forms (Z) Ins		
	(3) The place where the in at back side of eye ball	nage forms (Z) mis		
	at back side of eye ball	nage forms (Z) mis	n	
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	<ul> <li>at back side of eye ball</li> <li>(A) (1) - X, (2) - Y, (3) - Z</li> <li>(C) (1) - Z, (2) - X, (3) - Y</li> <li>(3) The scientist who explained into finer lines is</li> <li>(A) Max Planck</li> <li>(C) Moseley</li> <li>24. An example for Mendeleev</li> <li>(A) Tellurium, Iodine</li> <li>(C) Eka Boron, Eka Silic</li> <li>25. Among the following, whit (A) Li</li> </ul>	Ange forms (Z) Ins (E) (1) - X (2) - Z, (3) - Y (D) (1) - Z, (2) - Y, (3) - X (D) (1) - Z, (2) - Y, (3) - X (B) Sommerfeld (D) Lewis (B) Sodium, Potassium con (D) Sodium, Calcium (B) Be	n	[]

[3]

 Statement 1 : The VSEPR theory proposed by Sidgwick, Powell. E 1 Statement 2 : The VSEPR theory was further improved by Sidgwick, Gillespie. (A) Both 1, 2 are correct. (B) Only Statement 1 is right. Only statement 2 is right. (C) (D) Both statements are false. 27. Among the following, correct pair is ..... ſ (A) BeCl<sub>2</sub> - Bond angle 120° (B) BF<sub>3</sub> - Bond angle 180° (C) NH<sub>3</sub> - Bond angle 104° 27' (D) CH<sub>4</sub> - Bond angle 109° 28' 6Ω, 6Ω, 6Ω are connected in parallel, the resultant resistance is .... L 1 (A) 1/6 (B) 6 (C) 18 (D) 2 The induced current will appear in such a direction that it opposes 29. the change in the flux in the coil, is known as ... 1 (A) VSEPR theory (B) Lenz's law (C) Faraday's law (D) Ohm's law SI unit for magnetic flux is ... (A) Weber (B) Volt (C) Ampere (D)Coulomb 31. Froth floatation is the method mostly used for the purification of ... ore. [ (A) Sulphide (B) Oxide (C) Carbonate (D) Nitrate The general formula of Alkene is ..... 32. ] (A) C<sub>n</sub>H<sub>2n</sub> (B) C<sub>n</sub>H<sub>2n+1</sub> (C) C<sub>n</sub>H<sub>2n-2</sub> (D) C<sub>n</sub>H 33. Correct order of priority for choosing and naming a principal characteristic. 1 (A)  $-COOH > -CHO > R - OH > -NH_2 > C = O > COOR$ (B)  $-COOH > -COOR > C = O > R - OH > - NH_2 > CHO$ (C)  $-COOH > -COOR > -CHO > >C = O > R - OH > -NH_2$ (D)  $-COOH > -CHO > -COOR > C = O > R - OH > -NH_2$ 19E(B) **MARCH**, 2019 в