

19E (B)

GENERAL SCIENCE, Paper-I

(Physical Sciences)

(English Version)

Parts A and B

Time : 2½ Hours

Maximum Marks : 50

Part B

This Question Paper contains 4 printed pages.

Attach Part 'B' question paper to the main answer book of Part 'A'.

Time : 30 Minutes

Marks : 15

Instructions :

1. Answer **all** questions.
2. Each question carries ½ mark.
3. Answers are to be written in the question paper only.
4. Marks will not be awarded in case of any overwriting and rewriting or erased answers.

I. Write the CAPITAL LETTER showing the correct answer for the following questions in the brackets provided against them. 10 x ½ = 5

1. The maximum height reached by a body when it is projected upwards with a velocity u is []

(A) u/g

(B) $u^2/2g$

(C) $2u/g$

(D) $u/2g$

2. In the following, which is not a diamagnetic substance? []

(A) Air

(B) Nickel

(C) Water

(D) Bismuth

19E (B)

3. In a resonating air column experiment, the first resonance occurs when the length of the air column is 10 cm. Then the second resonance occurs at []
(A) 5 cm (B) 20 cm
(C) 30 cm (D) 40 cm
4. A solid angle is measured in []
(A) candela (B) lumen
(C) steradians (D) radians
5. The unit of self-inductance is []
(A) ohm (B) ampere
(C) volt-sec (D) Henry
6. The formula of epsom salt is []
(A) $CaCO_3$ (B) $MgCO_3$
(C) $BaSO_4$ (D) $MgSO_4 \cdot 7H_2O$
7. 4 ml of alcohol is mixed with 36 ml of water. Calculate the volume percentage of this solution. []
(A) 10 (B) 20
(C) 30 (D) 40
8. Saturated hydrocarbons are also called []
(A) paraffins (B) olefins
(C) alkynes (D) none of these
9. First synthetic dye was prepared by []
(A) Aspidin (B) Flemming
(C) Perkin (D) C. V. Raman
10. Cement is a mixture of []
(A) sodium silicate and gypsum
(B) calcium carbonate and sand
(C) sand and clay
(D) calcium aluminates and calcium silicates

19E (B)

II. Fill in the following blanks with suitable answers.
Each question carries $\frac{1}{2}$ mark.

10 x $\frac{1}{2}$ = 5

11. The weight of 400 grams stone is
12. Time of ascent is directly proportional to
13. Radio waves have wavelengths from to
14. The use of X-rays in medical diagnosis is called
15. The permeability of free space μ_0 =
16. The wave equation for the electron is proposed by
17. The body fluid whose pH is greater than "7" is
18. Example for the C-O-C functional group is
19. Calories required for bicycling for one hour are
20. Structure of aspirin drug is

19E (B)

III. Match the following. Each question carries $\frac{1}{2}$ mark.

Physics

$5 \times \frac{1}{2} = 2\frac{1}{2}$

Group 'A'

Group 'B'

- | | | |
|-------------------------|---------|--|
| 21. α - particle | [] | (A) Negative charge |
| 22. β - particle | [] | (B) Number of protons |
| 23. γ - particle | [] | (C) Different number of protons |
| 24. Atomic number | [] | (D) Positive charge |
| 25. Mass number | [] | (E) Electrically neutral |
| | | (F) Total number of protons and neutrons |

Chemistry

$5 \times \frac{1}{2} = 2\frac{1}{2}$

Group 'A'

Group 'B'

- | | | |
|-------------|---------|--------------|
| 26. $-OH$ | [] | (A) Aldehyde |
| 27. $-CHO$ | [] | (B) Amine |
| 28. $-COOH$ | [] | (C) Alcohol |
| 29. $-NH_2$ | [] | (D) Ester |
| 30. $-COOR$ | [] | (E) Acid |
| | | (F) Ether |