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TH241275MINC

Reg. No.....

Name.....

FYUG PROGRAMME EXAMINATIONS, NOVEMBER 2024**(2024 Admission Regular)****SEMESTER I – MINOR C COURSE (CHEMISTRY)****CH1DSCB101B24- FUNDAMENTALS OF CHEMISTRY- I****Time: 1.5 Hours****Maximum Marks: 50****PART A****I Answer all questions (MCQ). Each question carries 1 mark**

Q.No:	QUESTIONS	CO	LEVEL
1.	Select the circular path along which the electrons are revolved according to Bohr's atomic model. a) Elliptical b) Orbits c) Squares d) Rectangles	1	U
2.	Predict the displacement mechanism operates in organic molecule with extended chain of conjugated bonds. a) Inductive effect b) Resonance effect c) Hyperconjugation d) Electromeric effect.	2	U
3.	Select the electron releasing group. a) $-\text{NO}_2$ b) $-\text{CH}_3$ c) $-\text{CHO}$ d) $-\text{COOH}$	3	U
4.	Identify the type of bond formed between Nitrogen and Boron in $\text{NH}_3\text{-BF}_3$. a) Ionic bond b) Coordinate bond c) van der Waal's bond d) Covalent bond	4	U

5.	Identify the elements classified under the category of the representative elements in the periodic table. a) s and d block elements b) s and p block elements c) s and f block elements d) d and f block elements	4	U
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(5x1=5)

II. Answer all questions in one word. Each question carries 1 mark

Q.No:	QUESTIONS	CO	LEVEL
6.	Recognize the rule which states that no two electrons in an atom can have the same value for all four quantum numbers.	1	R
7.	Indicate the experiment which explains the particle nature of light.	1	U
8.	Identify the atomic orbital having two lobes supported by a point of zero probability called a node.	1	U
9.	Recall the products of homolytic fission.	3	R
10.	Contrast oxidation number and valency of an element.	4	U

(5x1=5)

PART B

III. Answer any six questions in one paragraph. Each question carries 5 marks.

Q.No:	QUESTIONS	CO	LEVEL
11.	Describe photoelectric effect and its significance.	1	U
12.	Explain the limitations of Bohr's atomic model.	1	U
13.	Describe Aufbau principle and exceptional electronic configuration of Chromium and Copper.	1	U
14.	"Bohr's atomic model could explain the atomic spectrum of hydrogen". Review the statement.	1	U

15.	Illustrate sp^3 hybridization with suitable example.	2	U
16.	Explain the structure and stability of carbanions.	3	U
17.	Compare the physical and chemical properties of metals and non-metals in the periodic table.	4	Ap
18.	The atomic number of an element is 21. Predict the following about the element. a) electronic configuration b) group c) block d) period	4	Ap

(6x5=30)

PART C

IV. Answer any one question. The question carries 10 marks.

Q.No:	QUESTIONS	CO	LEVEL
19.	a) Explain the cause of diagonal relationship shown by elements of period 2 and period 3 taking one example. b) Explain the periodic trends in electronegativity and ionization energy along a period and group.	4	Ap
20.	a) "Chloro acetic acid is stronger than acetic acid". Review the statement. b) Explain Baker-Nathan effect.	3	U

(1x10=10)

CO : Course Outcomes Level : R – Remember, U – Understand, Ap- Apply, An- Analyze,
E- Evaluate, C- Create