

Objective  
Paper Code  
**8487**

Intermediate Part Second - 103  
**CHEMISTRY (Objective) GROUP - I**  
Time: 20 Minutes Marks: 17

Roll No. : \_\_\_\_\_



**Q.No.1** You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill the relevant circle in front of that question number on computerized answer sheet. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero marks in that question. Attempt as many questions as given in objective type question paper and leave other circles blank.coa

**FBD-92-22**

S.#	Questions	A	B	C	D
1	During nitration of benzene, the active nitrating agent is:	NO <sub>2</sub>	HNO <sub>3</sub>	NO	NO <sub>2</sub> <sup>+</sup>
2	For which Mechanism, the first step involved is the same?	E1 and E2	E2 and S <sub>N</sub> 2	S <sub>N</sub> 1 and E2	E1 and S <sub>N</sub> 1
3	Which enzyme is not involved in fermentation of starch?	Diastase	Zymase	Urease	Invertase
4	Cannizzaro's reaction is not given by:	Acetaldehyde	Formaldehyde	Benzaldehyde	Trimethyl acetaldehyde
5	Acetic acid was first isolated from:	Milk	Vinegar	Butter	Red ant
6	Which is an addition polymer?	Nylon 6-6	Terylene	Polystyrene	Epoxy resin
7	Phosphorus helps the growth of:	Root	Leave	Stem	Seed
8	The pH range of the acid rain is:	7 - 6.5	6.5 - 6	6 - 5.6	Less than 5
9	Half of the atmospheric mass is concentrated in the lower:	5.6 km	10.6 km	15.6 km	20.6 km
10	Among alkali metal ions, minimum hydration energy is shown by:	Li <sup>+</sup>	Na <sup>+</sup>	Rb <sup>+</sup>	K <sup>+</sup>
11	The oxide of beryllium is:	Acidic	Basic	Neutral	Amphoteric
12	Which element is not present abundantly in earth's crust?	Si	Al	Na	O
13	Which catalyst is used to contact process?	V <sub>2</sub> O <sub>5</sub>	Fe <sub>2</sub> O <sub>3</sub>	SO <sub>3</sub>	Ag <sub>2</sub> O
14	Chlorine heptaoxide (Cl <sub>2</sub> O <sub>7</sub> ) reacts with water to form:	Hypochlorous acid	Chloric acid	Perchloric acid	Chlorine and oxygen
15	Coordination number of Pt in [Pt Cl(NO <sub>2</sub> )(NH <sub>3</sub> ) <sub>4</sub> ] is:	02	04	01	06
16	Which set of hybrid orbitals has planar triangular shape?	sp <sup>2</sup>	sp <sup>3</sup>	sp	dsp <sup>2</sup>
17	Vinyl acetylene combines with HCl to form:	Poly acetylene	Chloroprene	Benzene	Divinyl acetylene

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**CHEMISTRY ( Subjective ) GROUP - I**

Time: 02:40 Hours

Marks: 68

FBD-9122

**SECTION - I****2. Write short answers to any EIGHT parts.**

16

- Why the size of cation is smaller than that of parent atom?
- ZnO oxide is amphoteric oxide. Justify with two reactions.
- Write any two uses of gypsum in industry.
- Write two major problems during manufacturing of NaOH in diaphragm cell.
- Write four uses of borax.
- Why are liquid silicones preferred over ordinary organic lubricants?
- Write any four uses of  $H_2SO_4$ .
- Write four similarities of oxygen and sulphur.
- Why does damaged tin plated iron get rusted quickly?
- What is sacrificial corrosion?
- What are fertilizers? Why they are needed?
- Write any four essential qualities of good fertilizer.

**3. Write short answers to any EIGHT parts.**

16

- Why iodine has metallic luster?
- Give any four uses of bleaching powder.
- Define functional group and give two examples.
- What is metamerism? Give example.
- What is Clemmensen reduction? Give one example.
- How is mustard gas prepared? Give its use.
- How does ethyne react with water in the presence of  $HgSO_4/H_2SO_4$ ?
- Write a method for preparation of ethyl magnesium bromide in laboratory.
- What are  $\beta$ -eliminations reactions?
- Differentiate between conjugated and derived proteins.
- Write structure of cholesterol.
- Give two difference between DNA and RNA.

**4. Write short answers to any SIX parts.**

12

- What happens when  $Cl_2$  is passed through benzene in sunlight?
- Convert benzene into glyoxal.
- Give IUPAC name: (a)  $CH_3-CH(OH)COOH$  (b)  $CH_2(OH)-CH_2(OH)$
- Define fermentation. Give its necessary conditions.
- Convert ethanal into ethanol.
- What are Zwitter ions? Give example.
- What is glacial acetic acid? Why is it called so?
- How acid rain affects our environment? Briefly discuss.
- What are leachates? Briefly explain.

**SECTION - II** Attempt any THREE questions. Each question carries 08 marks.

- (a) Discuss the position of hydrogen on top of group IA. (four similarities and four differences) 04  
(b) Write applications of aluminium. (any eight) 04
- (a) Write the formulas of these minerals: (i) Dolomite (ii) Asbestos (iii) Epsom salt (iv) Sylvite 04  
(b) Define corrosion. Explain electrochemical theory of corrosion. 04
- (a) What is orbital hybridization? Explain structure of ethane on the basis of  $sp^3$ -hybridization? 04  
(b) Explain mechanism of  $S_N1$  reactions with a suitable example. 04
- (a) Describe the Kolbe's electrolytic method for the preparation of alkenes along with mechanism. 04  
(b) Explain Cannizzaro's reaction with the help of mechanism of formaldehyde. 04
- (a) What are Friedel craft alkylation reaction? Give its mechanism. 04  
(b) Give the reaction of phenol with: (i)  $HNO_3$  (ii)  $H_2SO_4$  (iii)  $CH_3COCl$  (iv)  $Br_2$  water 04