



Name

1- ہر سوال کے سامنے چار دائرے دئے گئے ہیں، صرف صحیح جواب والا دائرہ بھریں۔

2- دائروں کو شیڈ (بھرنے) کے لئے نیچے والے رنگ کا کار استعمال کریں۔

Roll No

3- جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہوگا۔

Time Allowed: 20 Minutes

SECTION - A

Marks : 18

- 1 Un-saturation in an organic compound is determined by which spectroscopic technique? ☒ IR ☐ UV ☐ NMR ☐ Mass Spectrometry
- 2 Three-way catalytic converter reduces the emission of: ☐ CO ☐ NO ☐ HCs ☒ All these
- 3 Carboxylic acids are weaker acids than: ☐ Water ☐ Alcohols ☐ Phenols ☒ Mineral acids
- 4 A compound that forms a red precipitate with Fehling's solution, is: ☒ Acetaldehyde ☐ Acetone ☐ Butanone ☐ Benzophenone
- 5 The crowding around alpha carbon of alkyl halide favours: ☐ Addition ☐ Substitution ☒ Elimination ☐ Oxidation
- 6 The relatively more stable alkene is: ☐ 1-butene ☐ Isobutylene ☐ Cis-2-butene ☒ Trans-2-butene
- 7 Bimolecular elimination reaction of Alkyl halides is: ☐ Zero order ☐ 1st order ☒ 2nd order ☐ 3rd order
- 8 The most reactive alkyl halide of the given is: ☐ R - F (245) ☐ R - Cl ☐ R - Br ☒ R - I
- 9 Cyclohexane is a hydrocarbon: ☐ Acyclic ☒ Alicyclic ☐ Heterocyclic ☐ Aromatic
- 10 When sodium extract gives yellow precipitate with AgNO_3 which is insoluble in NH_4OH , indicates the presence of: ☐ N ☐ S ☐ Cl ☒ I
- 11 In transition metal complexes, the metal cation acts as: ☒ Lewis acid ☐ Lewis base ☐ Nucleophile ☐ None of these
- 12 An alkaline earth metal that does not react with H_2O , is: ☒ Be ☐ Mg ☐ Ca ☐ Ba
- 13 Water (H_2O) is a ligand: ☐ Mono-dentate ☒ Bi-dentate ☐ Tetra-dentate ☐ Hexa-dentate
- 14 Tin and lead can show +2 oxidation state due to: ☐ High Ionization Energy ☐ Lower E.N ☐ Filled d-d orbitals ☒ Inert pair effect
- 15 A spectroscopic technique used for determination of functional group is: ☒ UV/Visible ☐ NMR ☐ IR ☐ Mass
- 16 Molecular mass of which polymer is not an integral multiple of the mass of its monomer? ☐ Polyethene ☐ Polystyrene ☐ Polyvinyl chloride ☒ Nylon- 6,6
- 17 An Aldehyde that is more reactive towards nucleophilic addition, is: ☒ HCHO ☐ CH_3CHO ☐ $\text{C}_2\text{H}_5\text{CHO}$ ☐ $\text{C}_3\text{H}_7\text{CHO}$
- 18 Oxidation of ethyl alcohol with acidified sodium dichromate gives: ☐ Acetone ☐ Formic acid ☒ Formaldehyde ☐ Acetaldehyde

P-325
PR XII (A-I-A) 25
CHEMISTRY (New)
Inter Part-II
(Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 40 minutes.

Section – B

Marks: 40

Answer any TEN parts. Each part carries FOUR marks.

- Q.1 What is Ozone layer and its role in upper atmosphere?
- Q.2 How polyethene and polyvinyl chloride can be prepared?
- Q.3 What is meant by coagulation of protein and rancidification of fats?
- Q.4 What is meant by carboxylation (carbonation) of Grignard's reagent?
- Q.5 How carboxylic acids can be converted into acid amides and acid anhydrides?
- Q.6 How ethers can be prepared by Williamson's Synthesis?
- Q.7 Why primary alkyl halides usually follows SN^2 mechanism?
- Q.8 What is Geometrical isomerism? Write the two conditions for Geometrical isomerism?
- Q.9 How 1-butyne and 2-butyne can be differentiated?
- Q.10 What is the origin and chemical composition of petroleum?
- Q.11 How and why binding energy of transition metal varies across the periods?
- Q.12 Why transition metals exhibit variable oxidation states?
- Q.13 Define electron affinity. How it varies down the group in Halogens?

Section – C

Marks: 27

Note: Attempt any THREE questions. All questions carry equal marks.

- Q.14 Explain the thermal stability of nitrates, carbonates and hydrogen carbonates of Alkali metals in terms of polarizing ability of their positive ions.
- Q.15 What is stereo-isomerism? Discuss in detail optical and geometrical isomerism.
- Q.16 What are amines? Discuss basicity and chemical reactions of amines with aldehydes, ketones and acid halides?
- Q.17 What are phenols? Explain the structure and acidic behavior of phenols.