

Sig. of Supdt.....

KT-XII-18-I
Chemistry (Part - II)
 Fresh/Reappear

Roll.No.....

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Time allowed: 3 Hrs Code: 33

Chemistry (Part - II)

Marks: 85

Fresh / Reappear

Note: There are three sections of the paper, A, B & C. Attempt Section - A on the same paper and return it to the Superintendent within the given time. No marks will be awarded for cutting, erasing or over writing. Mobile phone etc. are not allowed in the examination hall.

Time: 20 Mins

Section "A"

Marks: 18

Q.1 Write the correct option i.e. A, B, C or D in the empty box provided opposite each part.

- i. The first element of any period in periodic table has the ☐ B
 A. Smallest size B. Largest size C. Highest electro-negativity D. Highest electro-affinity
- ii. Magnesium burns in steam with a white flame producing ☐ D
 A. $\text{Mg}(\text{OH})_2 + \text{H}_2\text{O}$ B. $\text{MgO} + \text{H}_2\text{O}$ C. $\text{Mg}(\text{OH})_2 + \text{H}_2$ D. $\text{MgO} + \text{H}_2$
- iii. An oxide of giant structure and higher boiling point is ☐ D
 A. P_4O_{10} B. Cl_2O_7 C. SO_3 D. SiO_2
- iv. Due to presence of unpaired electrons, transition metal compounds are usually ☐ D
 A. Diamagnetic B. Ductile C. Colorless D. Coloured
- v. A compound that can show cis-trans isomerism, is ☐ D
 A. 1,1 - $\text{C}_2\text{H}_4\text{Cl}_2$ B. 1,2 - $\text{C}_2\text{H}_4\text{Cl}_2$ C. 1,1 - $\text{C}_2\text{H}_2\text{Cl}_2$ D. 1,2 - $\text{C}_2\text{H}_2\text{Cl}_2$
- vi. The more basic among the following is ☐ D
 A. NH_3 B. CH_3NH_2 C. $(\text{CH}_3)_2\text{NH}$ D. $(\text{CH}_3)_3\text{N}$
- vii. The reaction of alcohols with carboxylic acids, produces ☐ D
 A. Aldehydes B. Ketones C. Ethers D. Esters
- viii. All acid derivatives can be change into corresponding acids by ☐ C
 A. Alcoholysis B. Ammonolysis C. Hydrolysis D. Hydngenolysis
- ix. Deficiency of iron causes ☐ A
 A. Cirrhosis B. Anemia C. Hemachromatosis D. Hemosiderosis
- x. Incomplete combustion of carbonaceous compounds mainly produces ☐ C
 A. O_2 B. O_3 C. CO D. CO_2
- xi. Catalytic dehydrogenation of isopropyl alcohol produces ☐ C
 A. Ethanal B. Propanol C. Acetone D. Propylene
- xii. First ionization energy of phosphorus is higher than sulphur due to ☐ C
 A. Smaller size B. High reactivity C. Half filled orbitals D. Partially filled orbitals
- xiii. All elements of 3d - series can show a common oxidation state of ☐ A
 A. +2 B. +3 C. +4 D. +5
- xiv. Mass spectrometer separates different isotopic ions on the basis of ☐ D
 A. Mass B. Charge C. e/m D. m/e
- xv. To show chain isomerism, an alkane molecule must contains at least ☐ B
 A. Three carbons B. Four carbons C. Five carbons D. Six carbons
- xvi. Triglycerides which are liquids at room temperature are ☐ B
 A. Fats B. Oils C. Waxes D. All of these
- xvii. Delayed wound healing is caused by deficiency of ☐ C
 A. Iron B. Calcium C. Zinc D. Manganese
- xviii. A molecular that has equivalent protons, is ☐ D
 A. CH_3NH_2 B. CH_3OH C. $\text{C}_2\text{H}_6\text{Cl}$ D. $(\text{CH}_3)_4\text{Si}$

Section "B"

Marks: 40

Q.2 Attempt any TEN parts. Each part carries equal marks.

- i. How chromium (VI) ions can be reduced with zinc and mineral acids?
- ii. Why electron affinity of chlorine is higher than fluorine?
- iii. What is the composition and origin of petroleum?
- iv. Benzene preferably gives substitution rather than addition reaction. Why?
- v. How 1-butyne and 2-butyne can be differentiated by simple chemical test?
- vi. Why tertiary alkyl halides usually follow SN^1 mechanism?
- vii. Why phenol is more acidic than alcohol?
- viii. Formic acid is stronger acid than acetic acid. Give reason.
- ix. What is the role of ozone layer in upper atmosphere?
- x. How does pH affect the reactivity of enzymes?
- xi. What are addition and condensation polymers?
- xii. What are the finger print and functional group regions of infrared spectrum?
- xiii. Why vegetable oil is sensitive to rancidity?

Section "C"

Marks: 27

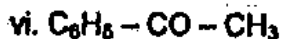
Note: Answer any THREE questions. All questions carries equal marks.

- Q.3 a. Compare and contrast the physical properties of group IA and IIA metals.
 b. Explain the catalytic behavior of transition metals.

- Q.4 a. Compare SN^1 and SN^2 mechanisms.
 b. How acetic acid can be converted into:
 (i) Ethanol (ii) Ethanamide (iii) Ethanoyl chloride (iv) Ethyl chloride

- Q.5 a. What is green house effect? How is it causing global warming?
 b. How proteins can be classified into various classes?

- Q.6 a. Write IUPAC names of the following compounds.



- b. How alkenes can be prepared from alcohols and alkyl halides?