ASSIGNMENT QUESTIONS DEC 2024 EXAMINATION

DECEMBER 2024 ASSIGNMENT QUESTIONS

B.Sc CHEMISTRY

SEMESTER – I

NAME OF THE COURSE: GENERAL CHEMISTRY - I (JMCH11)

1. (a) Periodic trends for atomic size- Atomic radii, Ionic, crystal and Covalent radii; ionization energy, electron affinity, electronegativity.

   (b) Types of organic reactions- addition, substitution, elimination and Rearrangements.

2. (a) Band theory-mechanism of conduction in solids; conductors, insulator, semiconductor – types, applications of Semiconductors.

   (b) VSEPR theory - shapes of molecules of the type AB_2, AB_3, AB_4, AB_5, AB_6 and AB_7.

ALLIED PHYSICS –I JEPH11

1 (a)   What is simple harmonic motion. Explain the composition of two SHM at right angles.

(OR)

   (b)   Describe the different types of elastic constants & Explain the principle behind bending of beam.

2 (a)   What is a Heat engine? Explain Carno't's cycle with its efficiency?

(OR)

(b)   State and prove Demorgan's Theorem.

NAME OF THE COURSE: Food Chemistry (JSCH11)

1. (a) Sources of food, types, advantages and disadvantages.

   (b) First aid for poison consumed victims.

2. (a) Food Additives and Food Colours.

   (b) Addiction to alcohol and Diseases of liver.

NAME OF THE COURSE: Foundation Course in Chemistry (JFCH11)

1.   (a) Shapes of s,p and d orbitals.

     (b) Magnetic properties-Paramagnetic-Diamagnetic-Ferromagnetic.

2.   (a) Structural Isomerism: Chain isomerism, Functional isomerism, Positional isomerism and Meta isomerism.

     (b) General characteristics of Wave – Wavelength – Frequency – Amplitude – Wave number.

SEMESTER – II

NAME OF THE COURSE: General Chemistry – II (JMCH21)

1.   (a) Buffer solutions – types, mechanism of buffer action in acid and basic
           buffer, Henderson-Hasselbalch equation.
                                    (OR)
        (b) Noble gases: Position in the periodic table. Preparation, properties and
           structure of XeF_2, XeF_4, XeF_6 and $XeOF_4$; uses of noble gases.

2.   (a) General methods of preparation, properties and reactions; acidicnature
          of terminal alkynes and acetylene.
                                    (OR)
       (b) Electrophilic substitution reactions - General mechanism of aromatic
          electrophilic substitution - nitration, sulphonation, halogenations.

ALLIED PHYSICS –II JEPH21

1   a)   Define interference. Elaborate the principle of interference in thin films.

                                    (OR)

     b)   What is photo elective effect? Derive Einstein's photoelectric equation.

2   (a)   Explain difference between nuclear fission and fusion process.

                                    (OR)

     (b)   Derive Length contraction, Time dialation and Mass –Energy equivalence..

NAME OF THE COURSE: Dairy Chemistry (JSCH21)

1. (a) Milk-definition-general composition of milk- constituents of milk - physical
       properties of milk.
                                    (OR)

   (b) Pasteurization – types of pasteurization - Bottle, Batch and HTST (High

       Temperature Short Time).

2. (a) Butter - definition -composition - theory of churning – desi butter - salted butter,

       estimation of acidity and moisture content in butter.

                                    (OR)

   (b) Ice cream -definition-percentagecomposition-types-ingredients-manufacture of

       ice– cream.

NAME OF THE COURSE: Cosmetics and Personal grooming (JSCH22)

1. (a) Nutrition of the skin, skin care and cleansing of the skin

    (OR)

    (b) Conditioner –types – ingredients

2. (a) Composition, advantages and disadvantages of lipstick, eyeliner and mascara.

    (OR)

    (b) Bleach -types – advantages– disadvantages

SEMESTER – III

NAME OF THE COURSE: General Chemistry – III (JMCH31)

1. (a) Collision frequency, Collision diameter, meanfree path and viscosity of gases.

(OR)

(b) Liquid crystals- classification and applications.

2. (a) Nuclear energy, Nuclear fission and fusion, Disposal of Radioactive waste and safety measures.

(OR)

(b) Thiols- Nomenclature, structure, preparation and properties.

NAME OF THE COURSE: PROGRAMMING LANGUAGE C (JECS31)

1. (a) How will you manage input and output operation in C? Explain with examples.

(OR)

(b) Elaborate about Decision making and Looping in C.

2. (a) Explain sting Handling Functions with examples?

(OR)

(b) Write about the C tokens..

NAME OF THE COURSE: Entrepreneurial Skills in Chemistry – III (JSCH31)

1. Food adulteration

(b) Classification of Dyes

2. (a) Preparation of jam, squash and jelly.

(b) Preparation of candles, soap, detergents.

NAME OF THE COURSE: Pesticide Chemistry – III (JNCH31)

1. (a) Brief introduction to classes of pesticides.

(b) Pesticides residues in atmosphere, entry into atmosphere, action of pesticides, effects on environments.

2. (a) Analysis of pesticide residues- sample preparation, extraction of pesticide residues.

(b) Organophosphates and phosphothionates.