Lesson Plan (2020-21)

Name of Assistant/ Associate Professor: Mr. Amit Saini

Class: B.Sc III Sem. 5 Subject: Fuel Chemistry

Lesson Plan: From November 2020 to February 2021

November2020	
Weak of Month	Topic Covered
Week 1 (2nd November to 7th November)	Review of energy sources, Classification of fuels and calorific value
Week 2 (9th November to 15 November)	Coals: uses of coal and it's composition, carbonisation of coal
Week 3 (16th to 21 November)	Coal gas,producer gas and water gas - Composition and uses
Week 4 (23 to 28 November))	Fractionation of Coal tar, uses of coal tar bases chemical
Week 5 (1st to 5th December)	Requisite of a good metallurgical coke,
Week 6 (7th to 12th December)	Coke gasification - hydro gasification and catalytic gasification
Week 7 (14th to 19th December)	Coal liquification and solvent refining ,Composition of crude petroleum
Week 8 (21st to 26th December)	Refining and different type of petroleum products and their applications
Week 9 (28th to 31st December)	Fractional distillation , cracking- thermal and catalytic cracking
Week 10 (1st & 2nd January)	Reforming petroleum and non petroleum fuels, fuel from waste, Synthetic fues, clean fuels.
Week 11 (4th to 9th January)	petrochemicals: vinyl acetate, propylene oxide, Isoprene,Butadiene, Toluene and it's derivatives Xylene
Week 12 (11th to 16th January)	Lubricants: Classification of lubricants ,lubricating oil
Week 13 (18th to 23rd January)	Solid and semisolid lubricants, synthetic lubricants.
Week 14 (25th to30th January)	Properties of lubricants: viscosity index, cloud point , pore point and their determination
Week 15 (01 to 06 Feb.)	Revision and Test unit 1
Week 16 (08 to 13 Feb.)	Revision and Test unit 2
Week 17 (15 to 20 Feb.)	Revision and full syllabus Test
Week 18 (22 to 29 Feb.)	Seminars, Test, Revision

Head of Department

Signature of Teacher

Lesson Plan (2020-21)

Name of Assistant/ Associate Professor: **Mr. Amit**

Class: **B.Sc III Sem. 5** Subject: **Polymer Chemistry**

Lesson Plan: **From November 2020 to February 2021**

November2020	
Weak of Month	**Topic Covered**
Week 1 (2nd November to 7th November)	Classification of polymer, Polymer nomenclature,
Week 2 (9th November to 15 November)	Molecular forces and chemical bonding in polymers
Week 3 (16th to 21 November)	Texture of polymers
Week 4 (23 to 28 November))	Nature and structure of polymers
Week 5 (1st to 5th December)	Criteria of Synthetic Polymer formation , Classification of polymerization process, relation ship between functionality Extent of reaction, polyfunctional systems
Week 6 (7th to 12th December)	Properties of Polymer Prepration,structure, properties and application of following polymers polyolefins,polystyrene,styrenecopolymer, PVC, ACRYLIC polymers, polyamides and related polymers
Week 7 (14th to 19th December)	Polycarbonates ,phenol formaldehyde resins, polyurethanes, silicone polymers,polydienes, conducting polymers
Week 8 (21st to 26th December)	Kinetics of polymerization- Mechanism and kinetics of step growth,radical chain growth, ionic chain and coordination polymerization
Week 9 (28th to 31st December)	Mechanism and kinetics of copolymerisation, polymerization techniques Determination of crystalline melting point and degree of crystallinity Morphology of crystalline polymers, factor affecting glass transition temperature
Week 10 (1st & 2nd January)	Determination of molecular weight of polymers End group analysis,viscometer
Week 11 (4th to 9th January)	Light scattering and osmotic pressure methods Molecular weight distribution and it's significance Polydispersity index
Week 12 (11th to 16th January)	Polymer solution: criteria for polymer solubility, solubility parameter
Week 13 (18th to 23rd January)	Thermodynamics of polymer solutions, entropy ,enthalpy and free energy change of mixing of polymers solutions
Week 14 (25th to30th January)	Flory- Huggins theory Lower and upper critical solutions temperature
Week 15 (01 to 06 Feb.)	Revision polymer 1 Test polymer 1st book
Week 16 (08 to 13 Feb.)	Revision polymer 2 Tests of polymer 2nd book
Week 17 (15 to 20 Feb.)	Revision and test full syllabus
Week 18 (22 to 29 Feb.)	Seminars, Test, Revision

Head of Department

Signature of Teacher