SCHEME OF VALUATION

(Scoring Indicators)

Revision: **2015** Course code: **TED (15)-2004**

Course Title: **ENGINEERING CHEMISTRY-II**

Qst. No.	Scoring Indicator	Split up score	Sub total	Total
	PART A			
I (1.)	Statement of Pauli's exclusion principle	2	2	
(2.)	Definition of corrosion	2	2	
(3.)	Definition of Galvanic cell Any one example	1 1	2	
(4.)	Definition of functional groups	2	2	
(5.)	Definition of Calorific value	2	2	5×2=10
	PART-B			
II(1.a)	Any four difference between orbit and orbital	4	4	6
(1.b)	Principle quantum number, azimuthal quantum number, magnetic quantum number, spin quantum number	2	2	
(2.a)	Labelled diagram for electroplating of nickel over steel spoon Electrode reaction	2 2	4	6
(2.b)	Any two conditions for corrosion	2	2	
(3.a)	(i) $-NH_2$ (ii) –COOR (iii) –COOH (iv) –CHO	1 1 1 1	4	

Dr.SOUMYA.S
Assistant Professor
Department of Chemistry
Government Polytechnic College
Attingal-695 101

(3.b)	Vulcanization is the process of heating raw rubber with Sulphur at 373-415K	2	2	6
(4.a)	Four regions of atmosphere	2		
	Explanation	2	4	
				6
(4.b)	Nuclear fuels explanation	1		
	Two examples	1	2	
(5.a)	Any two merits	2		
	Any two demerits	2	4	
				6
(5.b)	Shape of Px, Py and Pz orbits	2	2	
(6.a)	Any two difference of anodizing and electroplating	4	4	
				6
(6.b)	Cathodic protection explanation	2	2	
(7.a)	(i) Phenol and formaldehyde	1		
	Any one use	1		
	(ii) Caprolactum	1		
	Any one use	1	4	
(7.b)	Borosilicate glass explanation	2	2	6
	PART-C			
III(a)	Statement of Hund's rule of maximum multiplicity	2		
	Electronic configuration of nitrogen	2	6	6
	Electronic configuration of neon	2		
(b)	Electronic configuration of potassium	2	6	6
	Write all four quantum number present in outermost shell of potassium	4		
(c)	Any four postulates of Bohr's atom theory	4	4	4

IV (a)	Explanation of coordinate bonding	2		
	Any one example of coordinate bonding	1		
	Explanation of hydrogen bonding	2		
	Any one example of hydrogen bonding	1	6	6
(b)	Statement of Heisenberg's uncertainty principle	2		
	Mathematical expression	2		
	Explanation of terms	1	5	5
(c)	Illustration of ionic bond formation	2		
	Two examples	2	4	4
V (a)	Construction of H_2-O_2 fuel cell with diagram	3		
	Cell reactions	3	6	6
(b)	Definitions of electrolysis	2		
	Any three applications of electrolysis	3	5	5
(c)	Any four factors affecting rusting	4	4	4
VI (a)	Any four difference between metallic and electrolytic conductors	4		
	Any two examples for metallic and electrolytic conductors	2	6	6
(b)	Definition of electrochemical series	2		
	Any three applications of electrochemical series	3	5	5
(c)	Explanation of rusting	2		
	Mechanism	2	4	4
VII (a)	Definition of refractories	2		
	Classification of refractories: Acidic, Basic and Neutral	3		
	Examples for each	1	6	6
(b)	Definition of addition polymerization with example	2.5		

	Definition of condensation polymerization with example	2.5	5	5
(c)	Any four difference	4	4	4
VIII(a)	Four classifications			
	i. Elastomers	1		
	ii. Fibers	1		
	iii. Thermoplastics	1		
	iv. Thermosetting plastics	1	4	
	Examples for each	2	2	6
(b)	i. Catenation capacity	1		
	ii. Tetravalancy	1		
	iii. Strength of C-C bond	1		
	iv. Multiple bond formation	1		
	v. Isomerism	1	5	5
(c)	Any four advantages of optical fibers	4	4	4
IX (a)	Definition of cracking	2		
	Any four difference between thermal cracking and catalytic cracking	4	6	6
(b)	Green house effect definition	2		
	Any three consequences	3	5	5
(c)	Any four principles of green chemistry	4	4	4
X (a)	Definition of fuel	2		
	Classification	3		
	Explanation with two examples for each	1	6	6
(b)	Definition of water pollution	2		
	Any four major water pollutants	3	5	5
(c)	Any four difference between classical smog and photochemical smog	4	4	4