Marking scheme: Engineering Chemistry

End Semester examination

Question number	Sub question number	Marking Scheme
Q.1	a)	definition-1 mark, 2 factors-1mark,4 types with oxidation reactions – 4 marks (1 mark each-1/2 mark identification,1/2 mark reaction)
	b)	Principle – 1mark, sacrificial anodic protection and impressed current cathodic protection- 2 ½ marks each (figure-1mark,explanation-1 ½ mark)
	c)	Any four factors with explanation – 4 marks only title – 1/2 M each
Q.2	a)	hydrogen evolution mechanism and oxygen absorption mechanism – 3 marks each(figure-1 mark, reaction -1 mark, explanation – 1 mark)
	b)	Definition – 1mark. Figure, process, reactions, 2advantages and 2applications- 1mark each (total- 5 marks)
	c)	Any four factors with explanation – 4 marks only title- 1/2 M each
Q.3	a)	Defination- 1 mark, working with reactions- 2 marks, figure-1 mark, two advantages-1 mark, two disadvantages-1 mark
	b)	electrode reactions of dry cell -2 marks, two advantages -1 mark, two disadvantages – 1 mark Primary – 1M Secondary – 1M
	c)	Four features- 4 marks (1 mark each)
Q.4	a)	charging and discharging electrode reaction-4 marks (2 marks each), two advantages – 1 mark,two disadvantages – 1 mark.
	b)	four merits- 2 marks (0.5 mark each) four demerits-2 marks (0.5 mark each)
	c)	electrode reactions-2 marks, four applications-2 marks (0.5 mark each) charging / Discharging / overall - 2 M
Q.5)	1	(c) Electrodialysis
	2	(a) $-S0_3H$
	3	(b) $Na_20.AI_20_3.xSi0_2.yH_20$
	4	(b) Castor oil
	5	(a) Methyl orange
	6	(b) Increase
	7	(a) Indicator electrode
	8	(d) 1.1 V
	9	(b) Ethane
	10	(c) Bathochromic shift
	11	(c) Trans esterification
	12	(c) 20 - 25%
	13	(c) n-heptane
	14	(d) All of these
	15	(a) High, moderate
	16	(b) Phenol
	17	(a) Bulky group increases T_g
	18	(c)only monomer and initiator
	19	(b) thermosetting
	20	(b) conducting polymer