[A-13] SEAT No._____ No. of printed pages : 02

SARDAR PATEL UNIVERSITY

B. Sc. (SEMESTER IV) EXAMINATION
(UNDER CBCS) JUNE 2010 BATCH
Tuesday, 9th April, 2019
Time : 10:00 a.m. to 1:00 p.m.
US04CCHE02 : APPLIED ASPECTS OF CHEMISTRY
TOTAL MARKS : 70

Note: (i) All questions are to be attempted. (ii) Figures to the right indicate marks.

Q.1 Choose the correct option for the following : [10]

(i) Which of the following stop the polymerization.?
(a) Initiator (b) Monomer (c) Inhibitors (d) catalyst

(ii) Which of the following is used as electric insulator ?
(a) Polystyrene (b) Bakelite (c) Teflon (d) None of these

(iii) Explosives mixture of RDX, TNT and aluminium is known as ---------- .
(a) Cyclonite (b) Torpex (c) PETN (d) Non living

(iv) Which of the following is fat soluble vitamin ?
(a) B (b) C (c) A_1 (d) K

(v) Which of the following is water soluble vitamin ?
(a) A (b) C (c) D (d) K

(vi) Urea contains ____ percentage of nitrogen:
(a) 15 (b) 22 (c) 19 (d) 45

(vii) Carbon,hydrogen and Oxygen are called _____ nutrients.
(a) natural (b) artificial (c) essential (d) minor

(viii) _____ is known as plaster of paris.
(a) Lime (b) Dolomite (c) calcinated gypsum (d) Brominated lime

(ix) The quality of cement produced depends generally on the rate of _____ .
(a) Cooling (b) Heating (c) Setting (d) None of these

(x) Tars and oils obtained are about ___ of wood.
(a) 11% (b) 13% (c) 31 % (d) 6 %

Q-2 Answer the following (Attempt any six) : [12]

(i) Give the classification of diene.
(ii) Give the synthesis of vulcanized rubber.
(iii) Write the characteristics of a good vehicle.
(iv) Write advantages of DDT.
(v) Define vitamins & provitamins.
(vi) What are essential requirements of fertilizers ?
(vii) Write the names of various forms of gypsum.
(viii) Write the uses of coal.

(P.T.O)

Q-3	[A]	Give an account of coordination polymerization.	[4]
	[B]	Give the classification of polymers.	[4]
		OR	
Q-3	[A]	Give an account of ionic polymerization.	[4]
	[B]	Define free radical polymerization. Give reaction mechanism of free radical polymerization of vinyl chloride.	[4]
Q-4	[A]	Give the classification of Insecticides based on their mode of action.	[4]
	[B]	Give the synthesis and uses of RDX.	[4]
		OR	
Q-4	[A]	Give the classification of Insecticides based on their chemical nature.	[4]
	[B]	Give the preparation and properties of PETN.	[4]
Q-5	[A]	Discuss the occurrence and synthesis of Vitamin A_1.	[4]
	[B]	Discuss the physiological functions and synthesis of Vitamin K.	[4]
		OR	
Q-5	[A]	Give a detailed classification of vitamins.	[4]
	[B]	Discuss the physiological functions and synthesis of Vitamin C.	[4]
Q-6	[A]	Discuss the manufacturing process of Urea.	[4]
	[B]	Write a note on : Ammonium phosphate.	[4]
		OR	
Q-6	[A]	Discuss the manufacturing process of ammonium nitrate.	[4]
	[B]	Discuss classification of fertilizer.	[4]
Q-7		Write a notes on gypsum and plaster of Paris.	[8]
		OR	
Q-7		Discuss the manufacturing processes and uses of Lime.	[8]
Q-8	[A]	Describe the measurement of calorific value of coal using bomb calorimeter.	[4]
	[B]	Write the analysis of coal.	[4]
		OR	
Q-8	[A]	Explain the formation of coal in different stages.	[4]
	[B]	Discuss the estimation of carbon and hydrogen in coal by ultimate analysis.	[4]

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