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SE-8256

B. E. III (Sem. V) (T.T./Chemical.) Examination

May / June – 2011

Production & Applications of Colourant & Auxiliaries

(Institute Elective - II) (New Course)

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. 3 (Sem. 5) (T.T./Chemical.)**

Name of the Subject :

☛ **Production & Applications of Colourant & Auxiliaries**

☛ Subject Code No. : **8 2 5 6** ☛ Section No. (1, 2,.....) : **1&2**

Seat No. :

Student's Signature

i) Answers to the **two** sections must be written in **separate** answer books.

ii) Figures to the **right** indicate **full** marks.

SECTION I

Q.1 **a)** Answer the following short questions: **(10)**

i) Enlist various unit processes.

ii) Heavy oils mainly contain _____in it.

iii) Give the structure of H-Acid

iv) Give the structure of J-Acid

v) Reactive dyes form hydrogen bond with the fibres. True or False. Justify.

vi) Define colour.

vii) Nitrobenzene on reduction gives _____

viii) _____and _____ fastness properties of direct dyes are poor.

ix) Give the structure of Picric acid

x) Which nitrating agents are mainly used in nitration?

b) Describe Dow and Cummene process in detail with chemical reactions. **(10)**

Q.2 a) Explain coal-tar distillation in detail with neat chart. **(10)**

b) Give definition of colour, intermidiates and primaries. **(05)**

OR

Q.2 What is reduction? Explain reduction unit process in detail with suitable examples. **(15)**

Q.3 Write short notes on **any three** of the following. **(15)**

a) Sulphonation

b) Witt's Theory

c) Non – textile uses of dyes.

d) Chlorination

SECTION II

Q.4 a) Answer the following objective questions. **(10)**

i) Give two names of printing auxiliaries.

ii) Name one buffer and one sequestering agent.

iii) Carrier is used for the dyeing of _____ fibre.

iv) Quaternary ammonium compounds form cationic surfactants, true or false?

v) What is HLB?

vi) Give two commercial examples of wetting agents.

vii) Give two names of carrier.

viii) Polyester can be dyed at boiling temperature with the use of _____.

ix) What is meant by LA-6 and NP- 10?

x) Give two names of discharging agents.

b) Give the classification of textile auxiliaries. Explain the role of surfactants in textile wet processing by discussing wetting, detergency and emulsification. **(10)**

Q.5	**a)**	Classify and define Cationic surfactants. Explain in detail the chemistry and applications of quaternary ammonium compounds.	**(10)**
	b)	Describe the preparation of Dodecyl benzene sulphonate.	**(05)**

OR

Q.5		Discuss the chemistry, preparation, properties and applications of nonionic surface active agents.	**(15)**
Q.6		Write short notes on **any three** of the following.	**(15)**
	a)	Leveling Agents	
	b)	Carrier	
	c)	Buffers	
	d)	Discharging agents in printing	