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SARDAR PATEL UNIVERSITY

M.Sc. Chemistry (Semester-III) Examination

PS03ECHE01-(Synthetic Dyes and Pigments)

27th April, 2015

Time: 02.30 TO 05.30 P.M. **Total Marks: 70**

Q.1 Select the correct answer from the following. **08**

1. The plot of absorption as a function of_____ is called absorption spectra.

   (a) Frequency (b) Wavelength (d) Emission (d) Photon
2. The complementry colour to blue colour is _____.

   (a) yellow (b) red (c) green (d) orange

3. Hypsochromic shift is also known as _____.

   (a) blue shift (b) black shift (c) red shift (d) violet shift
4. As the energy required for Π- Π* transition decreases λ shifted to _____ wavelength.

   (a) shorter (b) 0.75-20 μm (c) longerer (d) zero
5. Nitrobenzene is_____.

   (a) An Auxochrome (b) Chromophore (c) Chromogen (d) A dye
6. Security marks and features that are not visible under normal light are made with____.

   (a) Fluorescein (b) Luminescent pigments (c) Special dyes (d) All of above

7. _____ from the following is an inorganic pigment.

   (a)charcoal (b) fast red (c) (d) zero
8. UV region lies between _____ nm.

   (a) 200-400 (b) 400-600 (c) 600-800 (d) 800-1000

Q.2 Write the answer of the following in short.(Any Seven) **14**

1. Explain Leather dye.
2. Discuss effect of conjugation on colour of the dye.
3. Explain vat dyeing process for cotton.
4. Describe red shift.
5. Explain photochromism.
6. Explain the novel chromophore.
7. Explain constitution of indigo dyes.
8. Explain cyanine type chromophore..
9. Write a note on bleaching process.

Q.3	(A)	Classify dyes according to their mode of Application.	06
	(B)	Write Different dying processes for textiles.	06
		OR	
	(B)	Explain Auxochrome - chromophore theory in brief.	06
Q.4	(A)	Explain type of fibers and basic operations in dying process.	06
	(B)	Give synthesis of Any three from the following. (I) congo red (II) malachite green. (III) Indigo. (IV) crystal violet. (V) Azine dye	06
Q.5	(A)	Explain the general approach to achive NIR system. Discuss applications of near infrared dyes.	06
	(B)	Explain donor-acceptor chromophore.	06
		OR	
	(B)	Discuss the colour and constitution relationship in azoacetoacetanilide pigments.	06
Q.6	(A)	Write a brief note on FBA.	06
	(B)	Classify pigments and give explanation of each class.	06
		OR	
	(B)	Explain azo pigments and lake. Write some inorganic pigments.	06

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