

Seat No.:

No. of Printed Pages: 01



A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE
(AUTONOMOUS) (Grant-in-Aid)
Affiliated to Sardar Patel University
VALLABH VIDYANAGAR-388120



Bachelor of Science (Semester-6) Internal Theory Examination March- 2026

US06MAICH01: SYNTHETIC DYES AND PHARMACEUTICALS

Date: 06/03/2026, Friday

Time: 10:45 AM to 12:15 PM

Total Marks: 30

Note: Figures to the right indicate full marks.

Q-1 Write the most appropriate answer from the following multiple-choice questions. [6]

1. A bathochromic shift refers to...
(a) Shift to shorter wavelength
(b) Shift to longer wavelength
(c) Increase in solubility
(d) Decrease in dye affinity
2. Which of the following is a natural Anthraquinone dye?
(a) Alizarin
(b) Congo red
(c) Methylene blue
(d) Indigo
3. Which functional group is found in azo dyes?
(a) $-C=O$ group
(b) $-OH$ group
(c) $-N=N-$ group
(d) $-NH_2$ group
4. The primary protein responsible for drug binding in plasma is...
(a) Hemoglobin
(b) Myoglobin
(c) Fibrinogen
(d) Albumin
5. Drug toxicity refers to...
(a) Beneficial effect of a drug
(b) Harmful effect produced by a drug
(c) Drug absorption process
(d) Drug excretion process
6. Vitamin C deficiency leads to...
(a) Rickets
(b) Scurvy
(c) Beriberi
(d) Night blindness



Q-2 Write note on Witt's theory for colour. [6]
OR

Q-2 Discuss various fastness properties of dyes. [6]

Q-3 Write a note on Anthraquinone dyes. [6]
OR

Q-3 Write a note on Reactive dyes. [6]

Q-4 Write the synthesis of Sulphathiazole and Phthalylsulphathiazole. [6]
OR

Q-4 Explain effect of alkyl group when it substitutes active hydrogen in drug. [6]

Q-5 Discuss occurrence, properties and deficiency diseases of vitamin-A. [6]
OR

Q-5 Discuss occurrence and deficiency diseases of Vitamin-D. [6]

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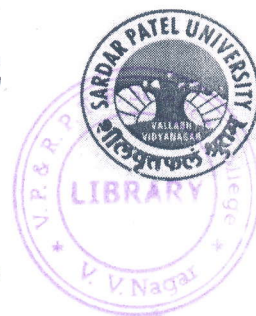
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**Bachelor of Science (Semester-6) Quiz - 2026**  
**US06MAICH01: Synthetic Dyes and Pharmaceuticals**

Date: 06/03/2026, Friday

Time: 20 minutes

Total Marks: 15

**Q-1 Fill in the blanks with appropriate answer given in the bracket. [08]**

1. A bathochromic auxochrome is a group that ..... the depth of colour.  
(increases / decrease)
2. .... is a substance that can impart color to a substrate by chemical or physical bonding.  
(Pigment / Dye)
3. .... form covalent bonds with the fiber, making them highly wash-fast.  
(Disperse dyes / Reactive dyes)
4. Azo dyes contain a ..... group in their structure. ( $-N=N-$  /  $-NH-NH-$ )
5. .... is the major drug-binding protein in the body. (Albumin / Myoglobin)
6. Sulphathiazole is synthesized by condensation of ..... with sulphanilamide.  
(p- aminofuran / p-aminothiazole)
7. .... is the primary male sex hormone (Testosterone / Estrogens)
8. .... occurs in fish liver oils and dairy products; its deficiency causes rickets.  
(Vitamin E / Vitamin D)

**Q-2 Whether the following statement is true or false. Write your answer in the box. [07]**

1. Bathochromic shift is also called a blue shift. [ ]
2. Diazotization is the process of converting a primary aromatic amine into a diazonium salt. [ ]
3. Alizarin is an example of an azo dye. [ ]
4. A prodrug is an inactive compound that is metabolized in the body to produce the active drug. [ ]
5. p-Acetamol and Ibuprofen are examples of analgesic and anti-inflammatory drugs. [ ]
6. Vitamin C occurs naturally in milk, and its deficiency leads to Beriberi. [ ]
7. Vitamins A, D, E, and K are fat-soluble vitamins. [ ]