



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY
Question Paper

B.Sc. Honours Examinations 2020
(Under CBCS Pattern)
Semester - III
Subject: CHEMISTRY
Paper : SEC 1-T

Full Marks : 40 (Theory-25 + Practical-15)
Time : 2 Hours

*Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.*

(Analytical Clinical Biochemistry)
Group - A

(Answer any **one** question from this group) **(1×15=15)**

1.
 - (a) What is the enzyme role of NAD^+ in metabolic path way ?
 - (b) Discuss the diagnostic and therapeutic application of enzyme ?
 - (c) What is denaturation of protein ?
 - (d) What is anaemia ? which amino acid sequence defect causes it ?
 - (e) Write compositions of wax and glycoprotein ? 3×5

2.
 - (a) How are hydrophobic lipids such as cholesterol and other molecules transported through the body in aqueous body fluids (such as blood)?
 - (b) Describe the secondary structure of protein.
 - (c) Describe Krebs cycle ? **(5 + 5 + 5)**

3. (a) State the Structural feature of DNA proposed by Watson-Crick.
(b) State role of RNA in protein replication ?
(c) Write the composition of RNA ? What are the main differences between RNA and DNA. (5 + 5 + 5)

Group - B

(Answer any *one* question from this group) (1×10=10)

4. (a) What is green therapy ? Explain with example.
(b) What is general sugar level in humane body ? Give few symptoms that cause Sugar level alternation ? (5 + 5)
5. (a) Name a human enzyme and state its function ?
(b) Give an example of enzyme catalysed organic reaction which has industrial use ?
(c) State lock and key mechanism helps to explain enzyme catalysed reaction? (3 + 3 + 4)

Paper - SEC 1-P

(Analytical Clinical Biochemistry)

(Practical)

Discuss any *one* of the follwing in details :

1 × 15 = 15

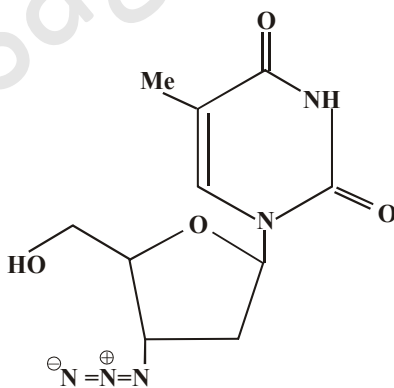
1. Qualitative and quantitative analysis of Carbohydrates.
2. Determination of the iodine number of oil.
3. Determination of cholesterol using Liebermann-Burchard reaction.

Paper - SEC 1-T
(Pharmaceutical Chemistry)
Group - A

(Answer any *one* question from this group)

(1×15=15)

1.
 - (a) Describe source and deficiency effect of Vitamin C and A ?
 - (b) Describe industrial process for the synthesis of ethanol from Glucose.
 - (c) Explain the significance of antiviral drugs and antifungal drugs with suitable example ?
 - (d) Explain any four important Indian Medicinal Plants and their medicinal use ?
 - (e) Explain relative structural activity. (3×5)
2.
 - (a) Explain the term "Drug resistance". Write explanatory notes on Drug resistance. (6)
 - (b) Discuss an example of industrial application of an aerobic oxidation process. (4)
 - (c) How a lead discovery takes important role in Pharmaceutical chemistry ? (5)
3.
 - (a) Write an explanatory notes on antibiotics. (5)
 - (b) How chiral synthesis takes important role in pharmaceutical chemistry. Discuss with a classic example. (5)
 - (c) State the use of Zidovudine (ZDV) ? Give possible synthesis using retrosynthetic analysis. (5)

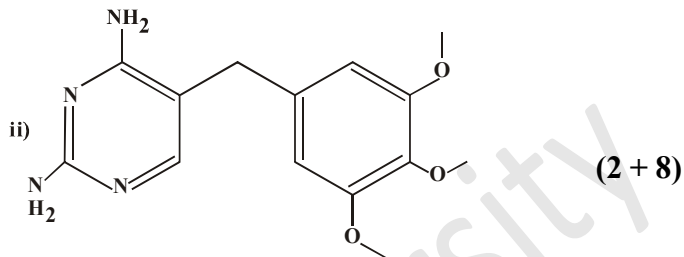
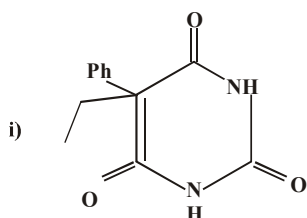


Group - B

(Answer any *one* question from this group)

(1×10=10)

4. (a) Define retrosynthetic analysis with a suitable example ?
- (b) Using retrosynthetic approach how compounds will you synthesize the following compounds.



5. (a) What are linear synthesis and convergent synthesis. (5)
- (a) Make a comment where racemic mixture may be used as drug molecule or where racemic mixture may not be used as drug molecule. (5)

Paper - SEC 1-P

(Pharmaceutical Chemistry)

(Practical)

Write down the preparation and analysis of any *one* of the following in details : 1 × 15 = 15

- (i) Aspirin
- (ii) Magnesium bisilicate (antacid)
