

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,  
LONERE – RAIGAD -402 103**

**First Periodic Test of Semester-I Examination – October – 2017**

**Model Answer**

**Branch: M. Pharm (Pharmaceutical Chemistry)**

**Sem.:- I**

**Subject with Subject Code: Chemistry of Natural Product (MPC103T)**

**Date: 12/10/2017**

**Time: 1:30 Hr.**

**Marks: 30**

**Instructions: All questions are compulsory (Marks)**

**Q.No.1 Solve any Five out of seven (10)**

a.) Which of the following compounds is characteristic of Rauwolfiae radix?

- A) Physostigmine B) Quinidine C) Reserpine D) Cytisine

**Ans. (C)**

b.) Which of the following is an alkaloid with a Purine skeleton?

- A) Hygrine B) Theobromine C) Ephedrine D) Strychnine

**Ans. (B)**

c.) Ergot is the.....of the fungus Claviceps purpurea.

- A) Vegetative form B) dried sclerotium C) ascospore D) conidiospore

**Ans. (B)**

d.) Macrolide antibiotics contain

- A) a large macrolcyclic lactone ring B) a macrolide ring  
C) some sugar D) all answers are correct.

**Ans. (D)**

e.) Which of the following explanations is why morphine can be separated from its accompanying Alkaloids?

- A) Morphine contains a piperidine ring.  
B) Morphine contains two methoxy groups.  
C) Morphine contains a phenolic hydroxyl group whereas the accompanying alkaloids have none.  
D) Morphine does not contain phenolic hydroxyl group whereas the accompanying alkaloids contain one.

**Ans. (C)**

f.) Erythromycin is acid sensitive. Which of the following processes is responsible for this instability ?

- A) The acid catalysed hydrolysis of the lactone.  
B) The acid catalysed intramolecular hydrolysis of the lactone aided by alcohol.  
C) The acid catalysed intramolecular formation of a ketal involving the ketone and the two alcohol groups.  
D) The acid catalysed intramolecular formation of a ketal involving the ketone and the diol .

**Ans. (C)**

g.) The semi-synthetic preparation of azithromycin involves a Beckmann rearrangement of the following intermediate. The rearrangement involves the oxime and one other functional group in the structure. Which functional group is involved?

- A) The alcohol at position 11
- B) The alcohol at position 6
- C) The alcohol at position 12
- D) The alcohol in the desoxamine rings

**Ans. (B)**

**Q.No. 2 Attempt any two of the following: (10)**

a.) Write a note on Extraction of Alkaloids

**Ans.** Enlist all extraction method and explain in detail of any two

b.) Write an elaborate account on chemical and pharmacological profile of Reserpine

**Ans.** Explain Chemical profile with structure 5 marks and Pharmacological profile 5 marks.

c.) Write a note on Cephalosporine

**Ans.** Discuss in detail from sources, classification, SAR, mechanism and Therapeutic Uses.

**Q.No 3. Attempt any one of the following (10)**

a.) Describe in brief chemistry of flavonoids, how are flavonoids isolated?  
Explain with example of Quercetin.

**Ans.** Chemistry of flavonoids 2.5 marks, Explanation of isolation method in short 2.5 marks.  
Chemistry and isolation of Quercetin flavonoids 5 marks

b.) Write method of extraction, characterization and structural elucidation of Morphine.

**Ans.** Extraction 2.5 marks, Characterization 2.5 marks and structural elucidation of morphine  
Discuss of UV, IR, NMR and MASS spectra for 5 marks.