

**Code No: R7504**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD**

**III Year B. Pharmacy II Semester Examinations, DEC.-JAN., 2011-2012**

**CHEMISTRY OF NATURAL DRUGS**

**Time: 3 hours**

**Max. Marks: 80**

**Answer any five questions**

**All questions carry equal marks**

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1. (a) Explain the structural features of morphine molecule and discuss the effect of Structural modifications on its biological activity.  
(b) Classify Ergot alkaloids giving their structures. Describe their pharmacological actions, therapeutic uses and toxic effects [8+8]
2. (a) What are Tropane alkaloids? Mention their biological actions and uses. Give Relationship between Tropine and Pseudotropine.  
(b) Write a brief note on Smooth muscle relaxants.  
(c) Write the structure, clinical uses and mechanism of action of Reserpine. [5+5+6]
3. (a) Define and classify Terpenoids with suitable examples. State and explain Isoprene, Special isoprene and gem-dialkyl rules.  
(b) Give the source and structures of citral. Show how it is related to neral and how it can be converted in to citronellol, geranic acid, alpha- terpeniol and ionones. [8+8]
4. (a) Give an account of the steroidal anti-inflammatory agents covering their Chemistry, SAR, uses and side effects.  
(b) Discuss the nomenclature and stereochemistry of steroids. [8+8]
5. (a) Write the structures and functions of Bile acids.  
(b) Discuss the mechanism of action, SAR and uses of cardiac glycosides.  
(c) Write a note on steroidal contraceptive agents. [16]
6. (a) Write the structural features, source and physiological role of insulin and glucagons.  
(b) Discuss the mechanism of action, SAR and uses of progesterones. Write the synthesis of progesterone from Diosgenin. [8+8]
7. Write the structure and uses of the following:  
(a) Camphor  
(b) Spiranolactone  
(c) Stigmasterol  
(d) Levallorphan  
(e) Atropine  
(f) Thymol  
(g) Oestrone  
(h) Hydrocortisone. [16]
8. Write a brief notes on  
(a) Thyroid hormones  
(b) Synthetic oestrogens  
(c) Narcotic antagonists [16]

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