



PB-003-1103007 Seat No. _____

M. Sc. (Chem.) (Sem. III) (CBCS) Examination

May / June - 2018

C-(OP)-303 : Organo-pharmaceutical Chemistry

(Heterocyclic Chemistry)

(New Course)

Faculty Code : 003

Subject Code : 1103007

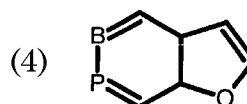
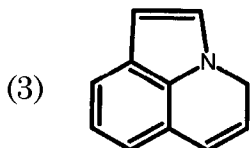
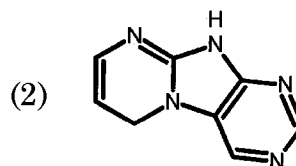
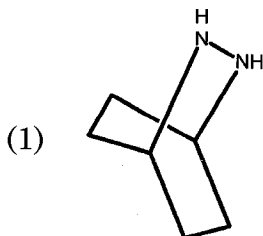
Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) All questions carry equal marks.
(2) All questions are compulsory.

1 Answer the following : (Any Seven) 14

- Write any two methods for the synthesis of isoxazole.
- Discuss at least two methods for the preparation of tetrazole.
- Discuss at least two methods for the synthesis of azetidine.
- Explain any one method for the synthesis of benzo-4-pyrones.
- Discuss the synthesis of Diazirine (any one).
- Write the synthesis of 1,4-dithicine.
- Give the synthesis of Indolizine (any one).
- Give any one method for the synthesis of thiepine.
- Give the names of following :



(j) Write the structures of following :

- (i) Azirino [2,3,-b] indole
- (ii) 2,7,-Dioxa-4-azabicyclo[3.3.1]nonane
- (iii) 5H-thieno[3,4,-b]carbazole
- (iv) Benzo[g]quinaxoline

2 Answer the following : (Any **Two**) **14**

- (a) Discuss at least two methods for the synthesis of pyrazole and draw their resonating structures.
- (b) Draw the resonating structure of thianaphthene and discuss their electrophilic substitution reactions.
- (c) Explain the chemical properties of 1,2,4-Triazole.

3 Give at least two methods for the synthesis of the following and draw their resonating structures : (Any **Three**) **14**

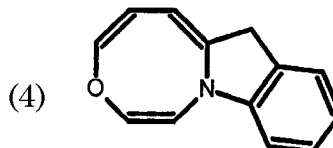
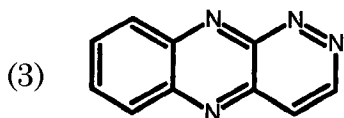
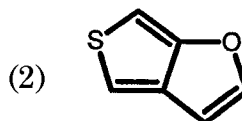
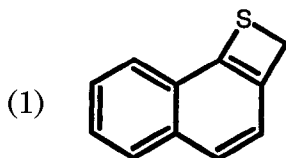
- (i) Quinazoline
- (ii) Pyrazine
- (iii) Carbazole
- (iv) Azocine

4 Answer the following : **14**

- (a) Discuss the chemical properties of Pyrimidine
- (b) Give at least two methods for the synthesis of Azepine.
- (c) Discuss the chemical properties of Cinnoline.

5 Answer the following : (Any **Two**) **14**

(a) (I) Write the name of following :



(II) Write the structures of following :

(i) Furo [3,4,-d] oxazole

(ii) Imidazo[2,1-b]oxazole

(iii) Triazolo [2,3-b] thiophene

(iv) Pyrano [3,2-b] indole

(b) Discuss the chemical properties of Diaziridine.

(c) Discuss the synthesis and resonating structures of Phenanthridine.
