



HDY-003-1103007 Seat No. _____

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

November / December – 2017

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

Faculty Code : 003

Subject Code : 1103007

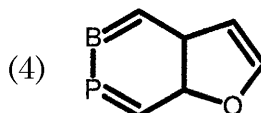
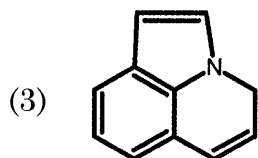
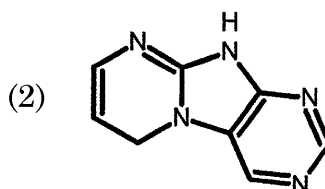
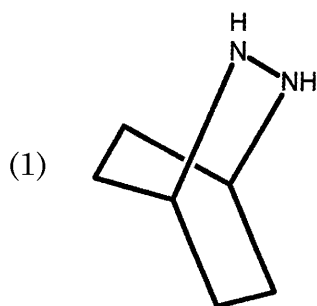
Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

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

1 Answer the following : (Any **Seven**) 14

- (a) Discuss at least two methods for the synthesis of azetidine
- (b) Explain any one method for the synthesis of benzo-4-pyrones.
- (c) Write any two methods for the synthesis of isoxazole.
- (d) Discuss at least two methods for the preparation of tetrazole.
- (e) Give the synthesis of Indolizine (any one).
- (f) Give any one method for the synthesis of thiepine.
- (g) Give the name of following:



- (h) Write the structure of following :
- Azirino [2,3,-*b*] indole
 - 2,7,-Dioxa-4-azabicyclo[3.3.1] nonane
 - 5H-thieno[3,4,-*b*] carbazole
 - Benzo[*g*]quinaxoline
- (i) Discuss the synthesis of Diazirine (any one).
- (j) Write the synthesis of 1,4-dithicine.

2 Give at least two methods for the synthesis of the followings and draw their resonating structure : (Any **Three**) **14**

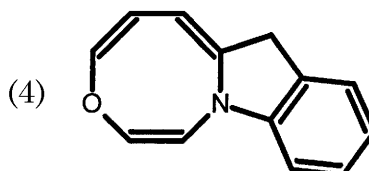
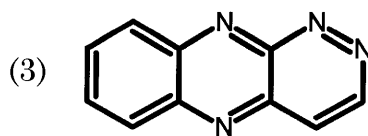
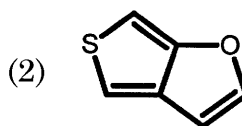
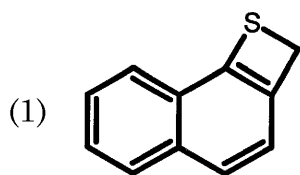
- Carbazole
- Pyrazine
- Quinazoline
- Azocine

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

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

4 Answer the followings : (Any **Two**) **14**

- Discuss the chemical properties of Diaziridine.
- Discuss the synthesis and resonating structure of Phenanthridine.
- (I) Write the name of following;



(II) Write the structure of following:

- Furo[3,4-*d*]oxazole
- Imidazo[2,1-*b*]oxazole
- Triazolo (2,3-*b*)thiophene
- Pyrano[3,2-*b*]indole

- 5** Answer the following : (Any **Two**) **14**
- (a) Give at least three methods for the synthesis of Azepine.
 - (b) Discuss the chemical properties of Cinnoline.
 - (c) Discuss the chemical properties of Pyrimidine
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