

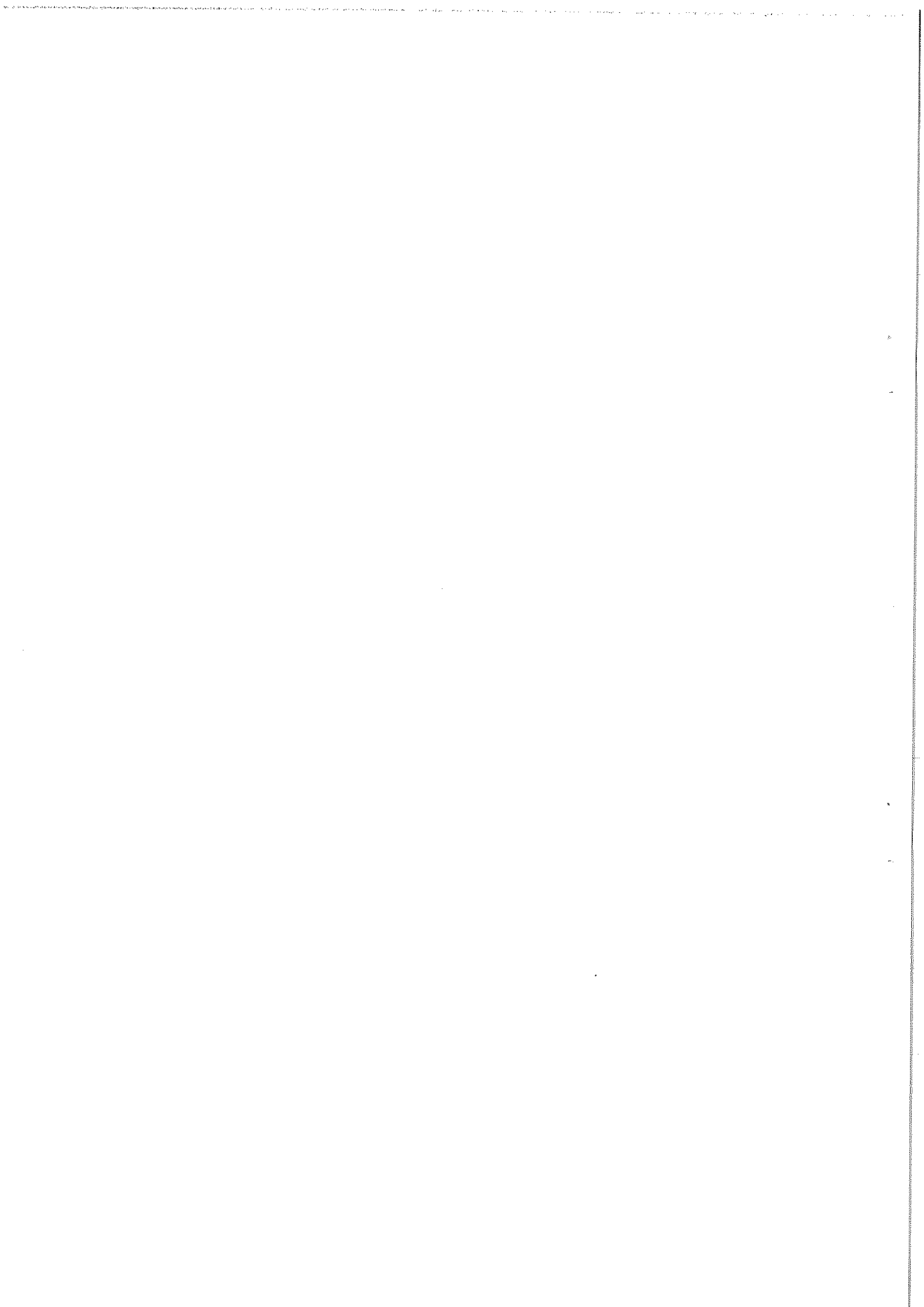
**THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF PHARMACY
ACADEMIC YEAR 2019/2020 – SEMSETER I**



**BACHELOR OF PHARMACY HONOURS
BPU4243 MEDICINAL CHEMISTRY II
FINAL EXAMINATION
DURATION: THREE HOURS**

DATE: 15th September 2020

TIME: 01.30 PM – 04.30 PM



Part B (40 marks)

1. Benzimidazoles is a class of Anthelmintics.

1.1 Name three other classes come under chemical classification of Anthelmintics (03 marks)

I.....

II.....

III.....

1.2 Write three drugs come under benzimidazoles (03 marks)

I.....

II.....

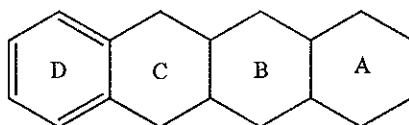
III.....

1.3 Draw the basic structure of benzimidazole (04 marks)

1.4 Briefly explain the mechanism of action of benzimidazole? (05 marks)

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02. The structure given below is the basic skeleton of tetracycline.

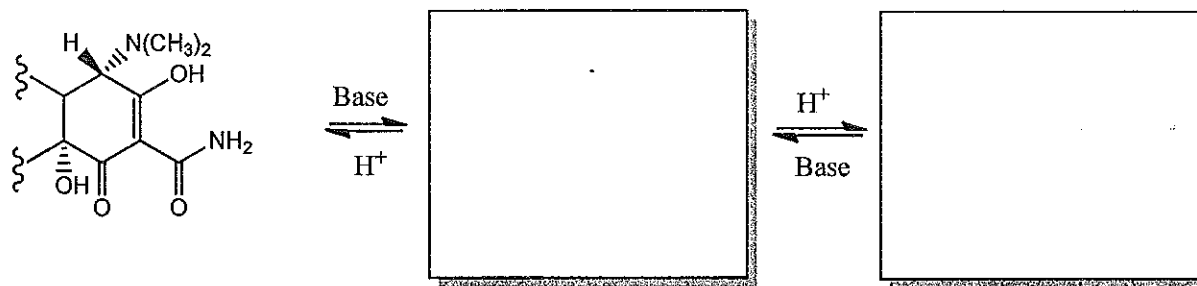


2.1 Assign the numbers for the above skeleton.

(04 marks)

2.2 Complete the following reaction.

(08 marks)

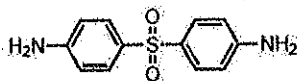


2.3 State the name of the above reaction.

(03 marks)

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03. Structure of Dapsone is given below.



3.1 State the chemical class of Dapsone. (03 marks)

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.....
.....

3.2 State a medicinal property of Dapsone. (03 marks)

I.....
II.....

3.3 Draw the structure of para amino benzoic acid. (05 marks)

3.3 State one structural similarity and one structural difference between Dapsone and para amino benzoic acid. (04 marks)

Similarity:

Difference:

Index Number

4.

4.1 Name four classes of DNA crosslinking agents. (04 marks)

I.....

II.....

III.....

IV.....

4.2 What is DNA methylation? (03 marks)

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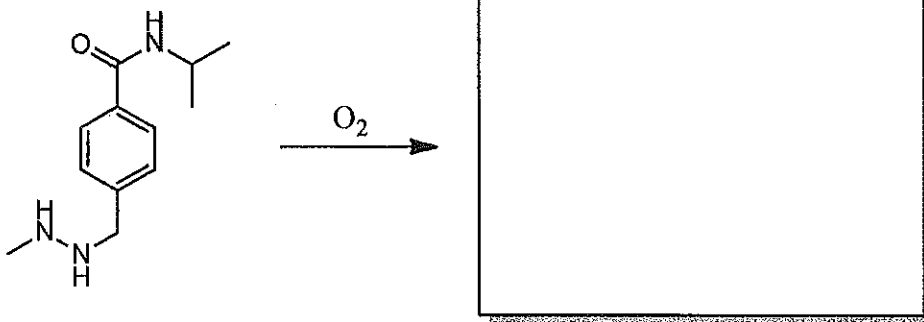
4.3 Name three examples for DNA methylators. (06 marks)

I.....

II.....

III.....

4.4 Draw the metabolic intermediate of following drug (02 marks)



Part C (30 marks)

1.

1.1 Draw the basic structure of penicillin (05 marks)

1.2 List two structural features of penicillin (02 marks)

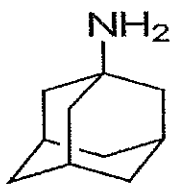
1.3 β -Lactamase can hydrolyze penicillin. Using the basic structure of penicillin draw the chemical reaction for the β -lactamase catalyzed hydrolysis of penicillin (08 marks)

2.

2.1 Name four acellular agents. (04 marks)

2.2 State three classes of agents that interfere with viral nucleic acid replication. (03 marks)

2.3 Amantadine is an antiviral drug and it can be synthesized from adamantane. Explain how it is synthesized? (08 marks)



Amantadine

