PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2018
(Third Semester)

Branch - **CHEMISTRY**

ORGANIC CHEMISTRY - III

Time : Three Hours Maximum : 75 Marks

Answer ALL questions
ALL questions carry EQUAL marks (5 x 15 ~ 75)

! a Explain the aromaticity of inheterocyclic compounds. (6)

h Explain the aromaticity of naphthalene and anthracene using Frrost and Muslin diagram. (6)

c State HuckeTs and Craig's rule. (3)

OR

d Explain the aromaticity in (i) ferrocene (ii) azulene and (iii) annuienes. (5-t-

a Draw Jablonski diagram and explain various modes of dissipation of energy. (5)

b Give an account on photo reduction. (5)

c Explain Norrish type-II reaction.

OR

What is Paterno - Buchi reaction? Explain the mechanism using suitable example. (7)

e Explain the photolylic rearrangements of cyclohexdienone. (8)

a Discuss the mechanisms of the following rearrangements
(1) Beckman (ii) Favorski (iii) Curtius

OR

Name the rearrangements and write the mechanism of the following :
(!) RCoCl [1] CIENIE **-vRCOCHN$_2$ > RC I ECO()[!**
(ii) RCONH$_2$ ->RNCO -»NIT GO)

Give the meehanisn] of Baeyer-Viiliger oxidation. (5)

4 a What are Woodward ... Hoffmann rules? Analyse the stereochemical course of pcricyclie reactions with the help of them. (! 0)

Construct the correlation diagram for [2 + 2J cycloaddition and state the conditions under which the addition occurs. (5)

OR

With the help of correlation diagram, discuss the disrotatory and eonrotatorv interconversion of cyclobutene— butadiene system. (10)

d Discuss the structure of penicillin. (5)

5 a Give the conversion of cholesterol into testosterone. P)

b How will you prove (i) structure of ring system and (ii) position of -OH group in cholesterol? a;

. OR

Write note on the conformation aspects of A/B cis and A/B trams stem ‘ (10)

d Discuss the chemistrv of bile acids.