

(4)

Ügykeáde Devegée Deeká[s Fme ökeáj nw:

DeCepete $C_6H_{12}O_2$

(i) emeües $\delta 1.1$ (6H)

(ii) emeües $\delta 2.1$ (3H)

(iii) emeües $\delta 2.6$ (2H)

(iv) emeües $\delta 3.9$ (1H)

(c) What is chemical shift in NMR spectroscopy? What factors influence chemical shift? 4

veef/ekáde Ügykeáde Devegée JeCekáce ceW emeüefreka yeoueele keüee n? Jen keáwe meskeáj keá nQpees j emeüefreka yeoueele keás öYeeüele keáj les n?

3. (a) How many signals (ignoring the splitting pattern) would you see in the ¹H NMR spectra of following compounds : 5

(i) Butanone

(ii) Cyclobutane

(iii) 2-propanol

(iv) p-xylene

öesüve veef/ekáde Ügykeáde Devegée mhke ceW/revüeeKele Üem/ekáelWkeá ekeáeves emeüeve öehle n?les mhueüSke keáa Dehes#ee keáj W

(i) yÜesüve

(ii) meeFkeüeeÜesüve

(iii) 2-öechesüve

(iv) hejje peeFueere

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(Printed Pages 8)

Roll No. _____

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B.Sc. (Part-III) Examination, 2015

CHEMISTRY

Paper-II

(Organic Chemistry)

Time Allowed : Three Hours] [Maximum Marks : 75

Note : (i) Answer five questions in all.

(ii) Question No. 1 is compulsory.

(iii) Answer one question from each unit.

(iv) All parts of every question must be attempted at one place.

(i) kejue heeüe öelMveüWkeá Göej öeüpeS~

(ii) öelMve meb 1 Deüve/eeüe&nw

(iii) öelÜekeá FkeáF&mes Skeá öelMve keáe Göej öeüpeS~

(iv) öelÜekeá öelMve keá meYeer Yeeie Skeá peien keáüpeS~

1. Give the answer of the following : 3×10

öürevüeeKele keá Göej öeüpeS :

(a) What are Carbohydrates and how are they classified?

keáeyean eF [S keüee netes nQ leLee Gvekeás ekeáme öekeáj me Jeieüeele ekeáüee peelee n?

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(b) Write in increasing order of basicity.

Aniline, Pyridine, Pyrrole, Ammonia

#eejedleee kaá yekles nš >áce celledueeKES :

Sáveueere, ehejer[ere, heefjesue, Deceestrellee

(c) Name a Ziegler Natta Catalyst. What are the main advantages of using it?

Skeá peieuej veše GIbej kaá keá veece yeléeFS- Gmekeá Gheueeie Éeje keáme mescekúe ueYe netes nP

(d) Define nucleotides and nucleosides giving examples.

vúetkeáreDeesef [Deej vúetkeáreDeeueef [keás GoenjCe okeáj heej Yeekele keáepes-

(e) What is invert sugar? Explain with example.

Fveješ&Mkeájje keálee nP GoenjCe otes nš mecePeeFS-

(f) How will you distinguish intermolecular and intramolecular hydrogen bonding by 'HNMR spectroscopy?

Dešve Úgyeááde Devegeeo Jecááce ebevee Éeje DevlejeDeCepá Deej Devle: DeCepá nef [épeve yevOe keá ebeveo keáj eies?

(g) Why the methyl protons in toluene and acetophenone do not give the same value of delta?

Šeefúe Deej Smešááávee celledueeFue Dešve keáellvenel [siše keá meceve eeeve otes nP

(h) Write the chemical structure of Crystal violet.

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ekámšue Jeeueš keá mejúvee meke eueeKES-

(i) Explain Polyesters with example.

GoenjCe mehne heueeSmšj mecePeeFS-

(j) Explain the mechanism of cleansing action of soaps and detergents.

meeyere SJob Deheceepkeá keá mJelúkeájCe keár eáúeeleeeDe mecePeeFS-

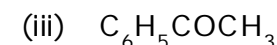
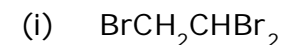
Unit - I

Fkeáf- I

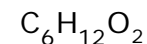
2. (a) What is n+1 rule? use this rule to predict the splitting pattern of the following compounds.

3

n+1 ebevee keálee nP Fme ebevee keá beueeie keáj les nš ebevee Úemfkeáellkeá emheueešúe Dešve yeléeFS :



(b) Suggest a structure consistent with the following 'HNMR data. Molecular formula



5

(i) Singlet at $\delta 1.1$ (6H)

(ii) Singlet at $\delta 2.1$ (3H)

(iii) Singlet at $\delta 2.6$ (2H)

(iv) Singlet at $\delta 3.9$ (1H)

Gme Úemfkeá keár mejúvee oepes epemekeá 'H veefkeááde

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(c) What are enamines? Illustrate the alkylation of a ketone via enamine. 4

Sveeceeve keñlee nñ Sveeceeve Éeje ekeameer keaas ve kea SukeaaFueltive keas mecePeeFS~

9. (a) Write short notes on : 2+2

efrecveeekKele hej ueleg eShedCueeb efueeKeS :

(i) Epoxy resin

Sheekameer jopevme

(ii) Mordant dye

ceep[CS jpeka

(b) Give the synthesis of each of the following : 2+2+3

efrecveeekKele DelUkea kea melleuseCe oepes :

(i) Methyl Orange

efeeLeeFue Deegype

(ii) Neoprene

vUeekeve

(iii) Alizarin

Ssuepej eve

(5)

(b) Explain the following terms as applied to 'HNMR spectroscopy : 7

(i) Relaxation process

(ii) Shielding and deshielding

(iii) Coupling Constant

DeeSove Uegyekeade Devegeeo JeCekeace efie%eeve kea Devegeej

efrecve keas mecePeeFS :

(i) efj uekameer efueeSi

(ii) heefj #eCe SJeB Deheefj BeCe

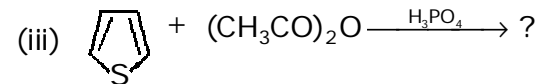
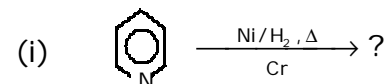
(iii) Uejeve efmLej eka

Unit-II

FkaeF-I I

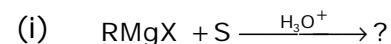
4. (a) Complete the following reactions : 6

efrecveeekKele DeefeealDeeDeel/keas heCe& keaceps :

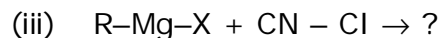
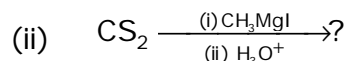


(b) Complete the following reactions : 5

efrecveeekKele DeefeealDeeDeel/keas heCe& keaceps :



(6)



5. (a) Pyridine is water soluble but pyrrole is not explain? 2
 chejer[are peue cell]egrevlMeecue nw ueskeave heeU e venek mecePeeFS-
- (b) Give the mechanism of the Bischlor Napieralski reaction. 6
 etlMeuej -venheJey euemkeker Deef escaUee keker of calUeeedee OeepeS-
- (c) Briefly describe the mechanism of Knorr Pyrrole synthesis. 3
 veerj heeJeyesre meluuseCe keae me#ehle cellJeCee keacepeS-

Unit-III

FkeaeF-III

6. (a) How has the size of ring in glucose been ascertained? 2
 iuckaepe mesJeuUe Deekaej keimes dreedMuele ekaUee ielUee nP
- (b) Write short notes on any two : 6
 (i) Mutarotation
 (ii) Acetals
 (iii) Degradation of aldoses
 (iv) Anomers and epimers

(7)

ekravner Oes hej me#ehle eShheCeeUeeB eUeeKeS :

(i) heej Jelea OeJeeCe leCee

(ii) Smeesue

(iii) Su[ape keae of «e[Meve

(iv) Sreesej leLee Sheeej

(c) What is the Lobry de Bruyn-Van Ekenstein rearrangement? 3

ueeyef of yelJeeFve-Jeeve SkeavmeSeFve hageelJevUeeme keUee nP

7. (a) Briefly outline the Merrifield solid phase peptide synthesis. 4

cej ehaeu [meceUe[Heape hehSeF[meluuseCe keker me#ehle #hej Kee oeepeS-

(b) What are nucleic acids? describe their functions. 4

vUeekeakea Decue keUee netes nP Gveka keaeUeeX keae JeCee keacepeS-

(c) The isoelectric point of neutral amino acids is less than 7. Explain. 3

Goemeere Deceeres Decueellkeae Deef meeF ueeskeSka ceve 7 me keace netee nw mecePeeFS-

Unit-IV

FkeaeF-IV

8. (a) Explain cationic polymerisation? 4
 OeeveUeeFkeae yengyekeaj Ce keUee nP

(b) Write the synthesis of fluorescein. 3
 Heeresj meere keae meluuseCe eUeeKeS-