# Unit-1

1. **Which of the following statement is incorrect aboutelectrophiles?**
2. Electrophiles are positively charged or neutral species having vacantorbitals
3. The electrophiles are attacked by the most electron-populated part of onenucleophile
4. Chemical species that do not satisfy the octet rule such as carbenes and radicals are electrophiles.
5. Electrophiles arelewisbases **Ans-d**

# Which of the following is not anelectrophile?

a)(CH3)4N+

b) Cl2 c)HBr

d)Br2 **Ans-a**

# In the given molecule where will electrophile willattack



* 1. I
	2. II
	3. III
	4. IV

# Ans-a

1. **Which of the following is rate determining step in electrophilicsubstitution reaction?**
2. Generation of electrophile
3. Attack by an electrophilic reagent on benzene rin**g** c)Formation of product

d) All ofthementioned. **Ans-b**

# Which of the following is most readily undergo electrophilicattack?



1. I
2. II
3. III
4. IV **Ans-a**

# Which of the following act as catalysis in the nitration ofbenzene?

1. Conc. HCl
2. Dil.HCl
3. Conc.H2SO4
4. Dil.H2SO4 **Ans-c**

# Fumingsulphuric acid is thesolutionof % SO3 in conc. H2SO4.

1. 10
2. 9
3. 8
4. 7 **Ans-d**

# Which of the following is the necessary condition fordesulphonation?

1. Remove volatile hydrocarbon by steamdistillation
2. Low concentration of water
3. High concentration of sulphonatingagent
4. A large excess of fumingsulphuricacid **Ans-a**

# Which of the following act as electrophile inhalogenation?

1. Nitroniumion
2. Sulphoniumion
3. Haloniumion
4. Acyliumion **Ans-c**

# Aromaticbromination catalyzed by the Lewis acid thalium acetategives

1. Paraisomer
2. Orthoisomer
3. Metaisomer
4. Para andorthoisomer **Ans-b**

# The reaction in which benzene reacts with alkyl halide in the presence of alewis acid as a catalyst to produce alkylbenzene is knownas

1. Nitration
2. Halogenation
3. Friedel-Crafts Acylation
4. Friedel-CraftsAlkylation **Ans-d**

# Which of the following is not a product of the reaction of benzene with CH3Cl and AlCl3?

1. Toulene
2. Isopropylbenzene
3. O-xylene
4. P-xylene **Ans-b**

# The product of Friedel-Crafts Acylation reactionsare

1. Alkylbenzene
2. Alkylamine
3. Arylketone
4. Halobenzene **Ans-c**

# How will you convert benzene into n-propylbenzene?

a)Friedel-Crafts Alkylation b)Friedel-Crafts Acylation

1. Friedel-Crafts Alkylation followed by clemmensenreduction
2. **Friedel-Crafts Acylation followedbyclemmensenreduction** **Ans-d**

# Which one is not act as Neighbouring group

1. O
2. S
3. N
4. F **Ans-d**

# TheNeighbouring group act as

1. Internalnucleophile
2. Externalnucleophile
3. Both
4. None **Ans-a**

# Theshape of intermediate inNGP

1. 3 or 5 membered cyclicintermediate
2. 4 membered cyclicintermediate
3. 3 membered cyclicintermediate
4. None oftheabove **Ans-a**

# The role of NGP in areaction

1. Increase the reactionrate
2. Carryout thereaction
3. Decrease the rate of thereaction
4. None **Ans-a**

# NGP actas

* 1. annucleophile
	2. anelectrophile

# an internalnucleophile

* 1. anexternalnucleophile **Ans-b**

# Acetolysis of 7-norbornenyltosylate is 1011 times faster than that of 7-norbornyl tosylate and it is due tothe

1. Presence of bicyclicring
2. SN2attack
3. Presence of anchimericassistance
4. Frontsideattack **Ans-c**

# A low concentration of nucleophile favoursthe

* 1. SN2reaction
	2. SN1reaction
	3. Both SN1 and SN1reaction
	4. None ofthementioned **Ans-b**

# The rate of nucleophilic substitution reactions are higher in the presenceof

1. Electron withdrawinggroups
2. Electron releasinggroups
3. Both electron withdrawing and releasinggroups
4. None ofthementioned **Ans-a**

# ChooseMichael addition reactions from thefollowing

1. Diethyl malonate with methylcrotonate.
2. Diethyl malonate with diethylfumarate.
3. Mesityl oxide with diethylmalonate.
4. alltheabove **Ans-d**

# Michael additionmeans

* 1. nucleophilicaddition
	2. electrophilicaddition
	3. nucleophilicsubstitution
	4. electrophilicsubstitution **Ans-a**

# In Michael addition reaction the nucleophile actas

* 1. Michael donor it represents electron withdrawinggroup
	2. Michael acceptor it represents electron withdrawing group
	3. Michael donor it represents electron donatinggroup
	4. Michael donor it represents electrondonatinggroup **Ans-a**

# Find out the nucleophilic donor in Michaeladdition

1. Cyanoacetamide b)acralidehyde
	1. acrylonitrile
	2. Chinnamaldehyde **Ans-a**

# Find out the nucleophilic acceptor in Michaeladdition

* 1. acralidehyde b)Cyanoacetamide c)malonicester
1. acetoaceticester **Ans-a**

# 28.C6H5CHO+ClCH2COOC2H5 →?

* 1. **α,β epoxyesters**
	2. α,β epoxyresins
	3. Both2&b
	4. None oftheabove **Ans-a**

# Condensation of aldehydes and ketone into α,β epoxy esters in the presence of base is called as

* 1. Darzencondensation
	2. darzen addition C)Claisenreaction

d)Michaeladdition **Ans-a**

# The hydrolysis of glycidic estergives

* 1. glycidicacids
	2. glycidylalcohol
	3. Botha&b
	4. None **Ans-a**

# Darzen reaction undergo in the presence of

* 1. Base b)acid c)heat

d)light **Ans-a**

1. The hydrolysis of glycidic ester reaction carried out in the presenceof a)Alkali

b)Base c)water

d)Acid **Ans-a**

1. 

# Mention the above reaction’s name

* 1. DarzenReaction
	2. Wittigreaction
	3. Wittig hornerreaction
	4. Stobecondensation **Ans-a**

KCN 34.**C6H5CHO+C6H5CHO** →**?**

a) Benzoin b)aldehydes c)adduct

d)None oftheabove **Ans-a**

# The first step of the Benzoin condensation ,benzaldehydeform

* 1. Cyanohydrin b)Cyanide C)Sodiumcyanide

d)Potassiumcyanide **Ans-a**

# The order of decreasing stability of the following cationsis?

**(I) CH3C+HCH3 (II) CH3C+HOCH3 (III) CH3C+HCOCH3**

1. III > II > I
2. I > II > III
3. II > I > III
4. I > III > II **Ans-c**

# Which of the following is most stable intermediate?

a)

b)

c)

d)

# Ans :C

38.5. Which intermediate is involved in the reaction given below?

a) free radical b)carbene c)carbocation

d)caranion **Ans-b**

1. Arrange the following intermediate into decreasing order of stability.

a)I>III>II>IV b)II>III>IV>I c)III>IV>II>I

d) I > III > IV > II **Ans-b**

1. What is the correct decreasing order of stability of following cation?



a)II>III>I>IV b)IV>II>III>I c)IV>III>I>II

d) III > I > II> IV **Ans-b**

# What is the correct decreasing order of stability of following cation?



a)I>II>III>IV b)I>IV>II>III c)I>III>II>IV

d) IV > III > II > I **Ans-c**

# Which carbocation is the most stable?

a)

b)

c)

d)

# Ans:b

1. **Which one among the following carbocations has the longest half-life?**

a) b)

c)

d)

# Ans:a

1. **The general formula ofnitrenes**

••

* 1. R-N: b)R-N2
1. R-NH
2. None oftheabove **Ans-a**

# Nitrenes are actas

* 1. **anelectrophile**
	2. nucleophile
	3. Catalyst
	4. reactioninhibitors **Ans-a**

# Pickout the most stableintermediate

* 1. Carbene b)Nitrene c)freeradicals

d)carbocations **Ans-b**

# The reason for higher stability of Nitrene overcarbenes

* 1. large amount of 2s character in the orbital that is occupied by the lone pair of electrons innitrenes
	2. Tripletcarbeneismorestablethansingletcarbenebecauseithastwounpairedelectrons
	3. lower than singlet carbene and triplet carbene is present in ground state which is more stable than excited state but singlet carbene is present in excitedstate
	4. alltheabove **Ans-d**

# The most common methods of generating nitrenes

* 1. photolytic or thermaldecomposition
	2. elimination c)rearrangement

d)pyrolysis **Ans-a**

# carbenes are generatedfrom

* 1. [diazoalkanes](http://en.wikipedia.org/wiki/Diazoalkane)
	2. [photolytic,](http://en.wikipedia.org/wiki/Photolysis)
	3. thermal and [transition metal](http://en.wikipedia.org/wiki/Transition_metal)-catalyzedroutes
	4. alltheabove **Ans-d**

# The formation of cyclopropane by the addition of carbenoids to an alkene or alkyne is called

* 1. simon-smith reaction b)Darzenaddition
1. Michaelreaction
2. 1,3 dipolaraddition **Ans-a**

# The intermediate formed in simon-smithreaction

* 1. CH2I2
	2. ZnI2
	3. I—CH2Zn—I
	4. Zn(Cu) **Ans-c**

# The hybridization ofcarbene

* 1. sp2 b)Sp3 c)Sp

d)None **Ans-a**

# pickout the addition reactions ofalkenes

1. Electrophilic Addition of Hydrogen Halides....
2. Addition of Strong Brønsted Acids. c)Electrophilic Addition of Halogens toAlkenes.

d)alltheabove **Ans-d**

# Alkenes generally undergo

* 1. addition b)substitution c)elimination

d)None **Ans-a**

# Hydroboration reaction isa

* 1. Oxidation b)reduction
1. Redox
2. None **Ans-a**

# Hydroboration reaction isa

* 1. two-step hydration reaction that converts an alkene into analcohol
	2. two-step hydration reaction that converts an alkene into analdehyde
	3. two-step hydration reaction that converts an alkene into anketone
	4. alltheabove **Ans-a**

# Hydroxylation is

* 1. Oxidation
	2. reduction c)Redox

d) None **Ans-a**

# Hydroxylation reactionis

* 1. **carbon–hydrogen (C-H) bond oxidizes into carbon–hydroxyl (C-OH)bond.**
	2. two-step hydration reaction that converts an alkene into analdehyde
	3. two-step hydration reaction that converts an alkene into anketone
	4. alltheabove **Ans-a**

# Hydroxylation of alkenesis

* 1. anoxidationreactionwhereacarbon-carbondoublebondconvertstoacarbon-hydroxyl bond

bond

* 1. reduction of c=cbond
	2. an oxidation reaction where a carbon-carbon double bond converts to aaldehyde
	3. None **Ans-a**

# The hybridization ofNitrenes

* 1. sp2
	2. Sp3 c)Sp

d)None **Ans-c**

# Unit 2

1. **Dicyclohexylcarbodiimide is act asa**
	1. Oxidizingagent
	2. reducing agent c)catalyst d)None

# Ans -a

1. **DCC oxidize alcoholinto**
	1. Primaryalcohols
	2. Secondaryalcohols
	3. carbonylcompound
	4. None of theabove

# Ans - c

**3.RCOOH+R’OH+ ?** →**RCOOR,completethereactionwiththefollowing**

1. DCC
2. LiAlH4
3. NaBH4 d)SeO2

# Ans –a

1. **TheroleofDicyclohexylcarbodimideinthereactionRCOOH+R’OH+** →

**RCOOR**

* 1. Dehydrating agent b)Oxidizingagent
1. Catalyst
2. none of theabove

# Ans–a 5.RCOOH+R’OH+DCC →RCOOR,thecarboxylicacidact as

a) nucleophile b)Electrophile c)Catalyst d)None

# Ans –a

1. **Pickout the product which occurred from oxidation reaction of Carboxylic acid to esters with the reagent of DCC+ DMSO + Aceticanhydride**
	1. amide
	2. Dicyclohexylurea
	3. Both a&c d)None

# Ans – c

1. **The oxidation of methylene groupgives**
	1. carbonylcompounds
	2. ester
	3. alcohols
	4. alltheabove **Ans- c**

# The oxidation reaction of methylene group to carbonyl compound in the presenceof

* 1. Maganesesalts
	2. cobalt salts c ) both a&b d)None

# The oxidation of aryl methane reaction iscalled

* 1. Etardreaction
	2. Oxidation of methylene reaction c)oxidation of olefin reaction d)None

# The oxidation of Heterocyclic bound methyl groupgives

* 1. aldehyde
	2. ester
	3. alcohols d)none

# Etard reaction will be done in the presenceof

* 1. chromylchloride
	2. Magnesiumchloride
	3. Copperchloride

# Ans -c

**Ans –a**

**Ans–a**

d)none

# Ans-a

1. **The oxidative cleavage of alkenegives**
	1. carbonylcompounds
	2. ester
	3. alcohols d)none

# Ans –a

1. **For the effective oxidative cleavage of alkene is done at low temperature with the helpof**
	1. ozone
	2. chromylchloride
	3. copper chloride d)none

# Ans –b 14.The oxidative cleavage of alkene treated with dimethyl sufide to give the product

a)aldehyde b)Ketone **c)Both &c** d)none

# Ans-c

1. Pick out which is not an oxidizingagent
2. LiAlH4
3. DMSO c)DCC

d) SeO2

# Ans- a

1. The product of Ozonolysisis
	1. aldehyde andketone
	2. primary alcohol c)secondaryalcohol

d)ester **Ans–a**

# In ozonolysis, disubstituted alkenecarbon

* 1. oxidatively cleaved to ketone b)oxidatively cleaved to aldehyde c)oxidatively cleaved toformaldehyde d)None

# Ans-a

1. **In ozonolysis, monosubstituted alkenecarbon**
	1. oxidatively cleaved to ketone b)oxidatively cleaved to aldehyde c)oxidatively cleaved toformaldehyde d)None

# Ans- b

1. **In ozonolysis, unsubstituted alkenecarbon**
	1. oxidatively cleaved to ketone b)oxidatively cleaved to aldehyde c)oxidatively cleaved toformaldehyde d)None

# Molecular formula of DCC oxidizingagent

a)(C6H11N)2C

1. C21H20O4
2. C20H30O2
3. C31H20O2

# The structure DCC seemslike

* 1. allene b)alkene c)benzene d)None

# The symmetry ofDCC

* 1. C2 b)C3V C)C2V

d)None

# Gilman’s reagent is

* 1. oxidising agent b) reducing agent c) catalystd)None

# Ans-c

**Ans-a**

**Ans-a**

**Ans-a Ans-a**

1. **Gilman’s reagent is**
	1. R2CuLi
	2. R3CuLic)RCuLi d)none
2. R2CuLi is generally usedfor
	1. oxidising α,β unsaturated compounds b)reducuing α,β unsaturated compounds c)redoxreaction

D)none

# The oxidation of olefinic double bonds results in the formationof

* 1. epoxide b)aldehyde c)ketone d)None

# OsO4is an

* 1. Dehydratingagent
	2. Oxidizingagent
	3. Catalyst
	4. none of theabove

# OsO4is react with Me3CNH2itgives

**Ans-a**

**Ans-a**

**Ans-b**

**Ans-b**

* 1. **imidoderivative**
	2. nitride derivative c)diols

d)none

# OsO4is react NH3 itgives

* 1. imidoderivative
	2. nitride derivative c)diols

d)none

# Oxidation of alkenes with OsO4 gives

* 1. Diolb)aldehyde c)ketone d)None

# Ketones react with the reducing agent tomake

* 1. primary alcohols b) secondaryalcohols

c)tertiaryalcohols d) aldehydes

# The reducing agent used for the reduction of ketonesis

* 1. tetrafluorate b) tetra hydridoborate

c) tetraflouroborate d) tetrachloride

# The polar nature of Carbonyl group in ketone is dueto

* 1. very less electronegativedifference
	2. very large electronegativedifference
	3. presence ofhydgrogenbonding d) None

# Phenonesare

**Ans-a**

**Ans-b**

**Ans-a**

**Ans -b**

**Ans -b**

**Ans - b**

* 1. aldehydes in which carbonyl group is attached with benzyinering
	2. ketone in which carbonyl group is attached with benzenering
	3. phenols in which carbonyl group with alkylgroup
	4. Phenols in which carboxylic acidgroup

# Ans - b

1. **In 4 - tertiary butyl cyclohexanone compound the 3o-butyl gp ispresentin position**
	1. axial b)equatorial c) a&b d) None

# Ans - b

1. **In reduction of 3o-butyl cyclohexanone which is the majorproduct?**
	1. trans isomerb)cisisomer c) symmetric compoundd)None

# Chlorineis

* 1. oxidizingagent b) bleachingagent

c)Disinfectant d) All theabove

# 38.A reducingagent

a)gainselectrons b) loseselectrons

c) both a&b d) None

# 39.A reducing agents gets

a)Oxidisel b)reduced c) both a & b d)None

# Which of the following is not a reducing agent?

* 1. CO2 b)SO2 c) NO2 d) ClO2

# The reduction is the decrease in

* 1. Oxidationnumber b)charge c)Solubility d)None

# Ans - a

**Ans -d**

**Ans -b**

**Ans -a**

**Ans -a**

**Ans -a**

1. **LiAlH4& NaBH4 are serving as a source of hydride ion due to the presenceof**
	1. a polar metal -metalbond b) a nonpolar metal - hydrogenbond

c) a polar metal -hydrogenbond d) None

# LiAlH4 converts Carboxylic acidsto

* 1. aldehyde b)ketone c)2oalcohol d) 1oalcohol

# LAH reducesamides

* 1. acid b)alcohol c)animies d) None

# Ans -c

Ans -d

# Ans - c

1. **LAC reduces quartinary ammonium cations into**
	1. 1oammoniumcation b)2oamines **c)tertiaryamines** d) None

# Ans - c

1. **NaBH4 can be purified by recrystallization from50oC**
	1. DCC b)dithiane c)diglyme d) LAH

#  is used to reduce foxing in old books and documents

* 1. LAH b)Sodiumborohydride c) DIBAL d)Acetone

# Structure for tri tertiary butyl oxyaluminium hydrideis

**Ans -c**

**Ans -b**

* 1.
	2.
	3.
	4.

# Ans - a

1. **Tri TBAH converts acid chloride into**
	1. alcohols b)aldehydes c)ester d) None

# Sodium cyanoborohydride used in the reductionof

* 1. acids b)aldehydes c)ketones d)imines

# Ans -b

**Ans -d**

1. **Whatiselectionwithdrawingsubstitutentpresentinsodiumcyanoborohydride**
	1. borane b)hydride c)cyanide d) None

#  cause eye burns &wheezing

* 1. LiAlH4 b)NaBH4 c)NaBH3CN d)None

# Tri alkyltin hydride converts organic halides into

* 1. ketones b)alcohols c)acid d)hydrocarbon

#  is used as foamingagent

* 1. borazine b)benzene c)hydrazine d)None

# Ans -c

**Ans -c**

**Ans -d**

1. **is used as a rocketfuel**
	1. fluorine b)Neon c) Argon d)hydrazine

# Hydrazine as a fuel react and forms a safe solidcalled

* 1. hydrazoneb)hydrazil c)dihydrazine d)hydrazal

# The first rocket propellent used in world warII is

* 1. ethanal b)hydrogenperoxide c)hydrazine d) None

# Hydrazine is preparedby

* 1. oxidationprocess b) isomerisationprocess

c)peroxideprocess d) redox process

# On reduction using hydrazine the by productsare

* 1. H2&N2 b) N2&O2 c) N2gas&Water d) Nitrousoxide&Water

# Hydrazine is usedin

* 1. wolf -kishnerreduction b) Sand meyarreaction

c)Cannizaroreaction d) None

# Ans -c

**Ans -d**

**Ans -a**

**Ans -c**

**Ans -c**

**Ans -c**

**Ans –a**

**Unit-3**

1. **Which type of isomers are formed in rangementreactions**
	1. Structuralisomers b) Geometricalisomers

c)OpticalIsomers d) ConformationalIsomers

# Ans - a

1. **Which intermediate Carbocation is more stable in Pinacol - Pinacolonerearrangement?**
	1. 1o b)2o c)3o d) 4o

# Ans - c

3.

4.

5.


# Pinacol - Pinacolone rearrangementis

* 1. Intramolecular b) Inter molecular

c) Nonregionselective d) All theabove

# Ans - a

1. **The Vicinal diolscan be converted in to ketones (or) aldehydes by rearrangement**
	1. Hoffmann b)Pinacol-Pinacalone

c)Favorskii d) Reformatsky

# Wagner Meerwein rearrangementinvolve

* 1. ClassicalCarbocation b) Non Classical CarboCation

c)Nitrene d) Carbene

# CH3 CH2 Br+AlBr3 ?

* 1. CH3 - CH - CH3 b) CH3 CH2CH2CH2 Br Br

c) CH3 CH2CH2=CH2 d) CH3 CH = CH CH3

# Ans -b

**Ans -b**

**Ans -a**

1. 10.

1. 11.


# The intermediate in the favorskii rearrangementis

* 1. Nitrene b)benzyeme c)dioxigen d) cyclicpropanone

# Ans - d

1. **Which is the first molecular rearrangement identified as such by earlychemists?**
	1. Wolffrearrangement b) Pinacol - Pinacolonerearrangement

c)Favorskiirearrangement d) Hoffmannrearrangement

# Which Intermediate is formed in Wolff’sreaction?

* 1. Carbene **b)Ketene** c)CarboCation d)Carbanion

# Ans -b

**Ans -b**

1. **The Rearrangement involve the formation of cyclopropanone intermediateis?**
	1. Pericyclicreaction b) Favorskiirearrangement

c)Beckmannrearrangement d) Hoffmann rearrangement

# In which medium Favorskii rearrangementoccurs?

* 1. Acidic b)Basic c)Alkaline d)Neutral

# Ans -b

**Ans -b**

1. **Which type of Catalylic reaction does Dienone - phenol rearrangementbelong?**
	1. AcidCatalysed b)BaseCatalysed c)Acidic d)Neutial

# Ans - a

1. **Cine susbstitution involvedin**
	1. Beckmannrearrangement b) Favorskiirearrangement

c)Von-richterrearrangement d) Pinacol - Pinacolonerearrangement

# This reactionrepresent

* 1. Pinacol -Pinacolonerearrangement b) Beckmannrearrangement

c) Benyzil -Benyzilirearrangement d) Curtiusrearrangement

# What is the application ofPinacolone?

* 1. Used in pesticides, fungicides andherbicides
	2. Used to prepare Pinacidildrug
	3. Used to prepare Stiripentol&Triadimefon d) All theabove

# Ans -c

**Ans -a**

**Ans -d**

1. **In Baeyer - Villiger rearrangement used to convert Ketone toester**
	1. Peroxyacid b) Trifluoro aceticacid

c) Meta chloro perbenzoicacid d) All theabove

# This reactionrepresents

* 1. Schmidtrearrangement b) Baeyer Villigerrearrangement

c)Clemmensenreduction d) Favorskiirearrangement

# What is the importance of Baeyer - Villigeroxidation?

* 1. Synthesis of lactones from mesomericcyclohexanones
	2. Synthesis of Zoapatanol

# Ans -d

**Ans -b**

* 1. Transformation of the steroiddehydropiandrosterone to anticancer agent test lolactone
	2. All theabove

# This reactionrepresents

* 1. VonRichterrearrangement b) Wolffrearrangement

c)Clemmensenreduction d)Schmidtrearrangement

# Pinacol - Pincoloneinvolves

* 1. 1,2 Shift b) 1, 3shift c) 1,4 shift d) 1, 5shift

# Ans -d

**Ans -b**

**Ans -a**

1. **Which accompanying 1, 2 rearrangment in wolff rearrangement when diazocanbonyl ketone bylossof compound**
	1. Dioxygen b)Dinitrogen c)disulphur d) Ammonia

# Driving force of Dienone phenol rearrangementis

* 1. acidity b)basicity c)Aromaticity d)None

# Ans -b

**Ans -c**

1. Which reagent is a goodnucleophile
	1. **NH3** b)BH3 c)Br2 d)HBr

# per acids areusedin rearrangement

**Ans - a**

* 1. BaeyerVilliger b) Pinacol-Pinacolone c)Bekmann d) None

# Ans - a

1. **This reaction iscalled**
	1. wittingreaction b) WagnerMeerwein

c)Demjanovrearrangement d) curtius

# Conversion of isoborneol tocompheneis rearrangement

* 1. WagnerMeerwein b) curtius

c)Hoffmann d) perkingreaction

# Compheniol to sateneisa rearrangement

* 1. curtius b) Beckmann c) Demjanov d) Wagnermeerwein

# Conversion of pinene tocompheneis rearrangement

* 1. curtius b) Beckmann c)Demjanov d) Wagnermeerwein

# Ans -c

**Ans -a**

**Ans -d**

**Ans -d**

1. **ConversionofIaminomethylcycloalkanoltoenlargedcycloketoneisdoneby**

 **rearrangement**

* 1. Demjanov b) TiffeneauDemjanov

c)Curtius d) Pinacol -Pinacolone

# Ans - b

1. **In Demjanov rearrangement ring contraction & ring expansion is not possibleIf**

 **is present**

* 1. enclocyclicorientation b) exo cyclicorientation

c) both a&b d) None

# Ans - b

1. **In Demjanov rearrangement ring expansion ispossibleof ispresent**
	1. enclocyclicorientation b) exo cyclicorientation

c) both a&b d) None

# Wagner meerwein rearrangement was first discoveredin

* 1. alicycliccompounds b) tetra cyclic compounds

c)bicyclicterpenes d) aromaticcompounds

# Ans -a

**Ans -c**

1. **Ketone can be converted to esters by using peroxyacidsin rearrangement**
	1. Favorskii b)claisen c)BayerVilliger d) WagnerMeerwein

# Ans - c

1. **The conversion of 4, 4 - disubstitutedcyclohexadienone to stable 3,4 disubstituted phenol in presence ofacidis rearrangement**
	1. BaeyerVilliger b) Wagner Meerweinc)Curtius d) Dienone -Phenol

# Santonnideisotopesantoninis rearrangement

**Ans - d**

* 1. BaeyerVilliger b) Wagner Meerweinc)Curtius d) Dienone -Phenol

# Ans - d

1. **An example of favorskii rearrangementis**
	1. Synthesisofterpenes b) Synthesis of steroids

c) SynthesisofAlkaloids d) Synthesis of cubane

# Trimethylene methane cycloadditionisfollowing rearrangment

* 1. Favorskii b)claisen c)BayerVilliger d) WagnerMeerwein

# In photo favorski rearrangement the protecting group usedis

* 1. P-hydroxyphenacylgroups b) -hydroxyphenacylgroups

c)phenacylgroups d) None

# Ans -d

**Ans -a**

**Ans -a**

1. **TheFavorskiirearrangementinthecaseofcyclic-haloketonesconstitutes**
	1. ringexpansion b)ringcontraction c) both a &bd) ringopening

# Ans - b

1. TheearlierdaysBaeyer-VilligersuggestedthattheintermediateinBaeyer-Villiger rearrangementis
	1. dioxygen b)dinitrogen **c)dioxirane** d) dihydrogen

# Ans - c

1. **NowadaystheintermediateacceptedinBaeyer-Villigerrearrangementis**
	1. Oxirane b)Criegee c)dioxirane d)None

# Migratory aptitude in Baeyer - Villiger rearrangementis

* 1. p-anisyl> p-tolyl> phenyl > p-chlorophenyl>pnitroPhenyl
	2. p-anisyl< p-tolyl< phenyl < p-chlorophenyl< p-nitrophenyl
	3. Phenyl >p-anisyl......... d) p-chlorophenyl<phenyl.......

# (3R)-3-methylpentan2-one(2R)-butan-2yl-acetateis rearrangement

* 1. Baeyervilligerarrangement b)curtius c)Stevens d) wolff

# Ans -b

**Ans -a**

**Ans -a**

1. **Ketene intermediate is wolff rearrangement are well knowntoundergo with olefins**
	1. [2+3]thermalcycloadditions b) [2+2] thermalcycloadditions

c) [3+3]thermalcycloadditions d) None

# Ans - b

1. **Conversionofquaternaryammoniumsaltsandsulfoniumsaltstoanimesandsulfides is known as rearrangement**
	1. curtius b)wolff c)stevens d) BaeyerVilliger

#  is the base used in stevensrearrangement

* 1. 3oammoniumsalts b) Benyzlicquarternery ammoniumsalts

c) both a&b d) None

# The stevens rearrangement is a useful synthetic methodfor

* 1. Carbene insertion into a -s bond b) Nitrene insertion into c-sbond

# Ans -c

**Ans -b**

c) Carbene insertion into ac-cbond d)None

# Von - richter rearrangementis

* 1. Nuecleophilic aromaticsubstitution
	2. Electophilic aromaticsubstitution
	3. Nucleophilic aliphaticsubstitution d)None

# Ans -a

**Ans -a**

1. **Carboxylation of para or meta substituted aromatic nitro compounds with KCN inan alcoholic solution of KOH. This is thereactionof rearrangement**
	1. Curtius b)Wolff c)Stevens d) Von -Richter

# Ans - d

1. **Pinacidil ispreparedby rearrangement**
	1. Curtius b)Wolff c)Stevens d) Pinacol -Pinacolone

# The drug prepared by Pincol - Pinacolone rearrangementis

* 1. Stirpentaol b)terpeniol c)Cubane d) Penicillin

# Stevens rearrangement isoccurredin medium

* 1. acid b)base c)Neutral d) All theabove

# The bio synthesis of human car nitrine isdoneby rearrangement

* 1. curtius b)stevens c)Wolff d) None

# The substrate for the bio synthesis of human carnitrineis

* 1. octonium b)califorinium c)meldonium d)None

# Ans -d

**Ans -a**

**Ans -b**

**Ans -b**

**Ans -c**

1. **The conversion of diayocarbonyl compound to ketene isrearrangement**
	1. wolff b)curtius c)stevens d)Beckmann

# Ans : a

**Unit-4**

1. **The Phenomenone or process by which imines are converted in toenamine**
	1. imination b)Enamination c) amiimation d)Tautomerism

# Enamine shows which type of behavior?

* 1. basic b) Electrophilic andacidic

c) Nucleophilicandbasic d) Nucleophilic

# Ans -d

**Ans -c**

1. **Whatisthenameofthecompoundformedwhenalkylationofenamineisfollowedby hydrolysis**
	1. Carboxylicacid b)ketone c)Amide d)Ester

# Which cyclic ketone enamine is mostreactive

* 1. fivemembered b) six membered

c)sevenmembered d) eightmemebered

# Alkyl halides can be converted in to Grig nard reagentsby

* 1. boiling them with Mg ribbon in alecholicsolution
	2. warning them with Mg powder in dryether
	3. Refluxing them with Mg Cl2sollution
	4. Warming the with Mgcl2

# Which is not present in Grignardreagents?

* 1. Melthylgroup b) Magnesiumc)Halogen d) -COOHgroup

# Ans -b

**Ans -a**

**Ans -b**

**Ans -d**

1. **Whichofthefollowingcompoundsdoesnotgiveatertiaryalcoholuponreactionwith methyl magnesiumbromide?**
	1. 3-methylpentanal b) ethylbenzoate

c) 4,4 - dimethylcyclohexanone d) 4 - heptanone

# Ans - d

1. **Which of the following compounds gives a secondary alcohol upon reaction with methyl magnesiumbromide?**
	1. bulylformate b)3-pentanone c)Pentanal d) Methylbutanoate

# Ans - c

1. **WhichisgivingprimaryalcoholuponreactionwithPhenylmagnesiumbromide?**
	1. 2-methyloxirate b) ethyleneoxide

c)ethylformate d) Carbondioxide

# Ans - b

1. **Which of the following reagents, when treated with Phenyl magnesium bromide followed by acid work up, will yield 2-phenylethanol?**
	1. ethanol b) diethyletherc)ethanal d) oxirane

# Identify the incorrect statement regardingalkadiene

* 1. These are a cyclicacids
	2. These are unsaturatedhydrocarbons
	3. These compounds have only one c = cbonds
	4. These have general formulaCnH2n-2

# Alkadienes are classified in to -types

a)1 b) 2 c)3 d) 4

# Which is the perfect example for isolated doublebond?

* 1. 1, 4 -pentadiene b) 1, 2 -pentadiene

c) 1, 3pentadiene d) 1, 5 -pentadiene

# Ans -d

**Ans -c**

**Ans -c**

**Ans -a**

1. Conjugated diene reacts with which among the following to form a cyclohexene?

a) Phenol **b) Dienophile** c)Hexane d) Tribromo phenol

# Ans - b

1. **Identify the statement which is related to Diels - Alder reaction?**
	1. It is verystereospecific
	2. Molecular distortion takesplace
	3. Cyclicdienes react very slower than the linear chaindienes
	4. Addition maleic anhydride to cyclopentadiene causes diene and dienophile to produce differentproducts

# Ans - c

1. **Which of the following reagents is required in the synthesis of alkenes by witting reaction**
	1. H2NNH2 b)B2H6 c)(C6H5)3P d) (C2H5O)3P

# Robinson annulation is an extra ordinary important synthesis ofthe

* 1. three memberedring b) five memberedring

c) sixmemberedring d) four memberedring

# Robinson Annulation is also used forsynthesizing

* 1. aliphaticcompounds b) aromaticcompounds

c)aldehydiccompounds d) spirocycliccompounds

# Ans -c

**Ans -c**

**Ans -d**

1. **The synthetic outcome of a Micheal addition and subsequent intra molecular aldol condensation is calleda**
	1. Cannizaroreaction b) ClaisenSchimidtreaction

c)Aldolcondensation d) Robinson Annulation

# The term annulation standsfor

* 1. breakingaring b) building aring

c) Ionisingaring d) Aromatising aring

# The art of synthetic planning starts with the final productis

* 1. Metathesis b)Retrosynthesis c)Synthesis d)Carbonation

# The symbol of retro synthetic arrowis

a) b)  c) d) 

# The molecule whose synthesis is being planned iscalled

* 1. Finalmolecule b) End productc) Starting Compound d) Targetmolecule

# Ans -d

**Ans -b**

**Ans -b**

**Ans -c**

1. **Synthons are**
	1. positively chargedb) negatively charged c) Neutrald) both a &b

# A reagent carrying out function of a synthon iscalled

* 1. equivalent compound b) syntheticequivalent

c)Targetmolecule d) syntheticreagent

# Ans - d

**Ans -d**

**Ans -b**

1. **An analytical operation involves bond breaking so as molecule converted in to probable starting compound iscalled**
	1. Disconnection b) probagation

c)disproportion d) FGI

# Ion produced by disconnection arecalled

* 1. Syntheticequivalent b) Targetmolecule

c)Synthons d)Reagent

# Ans -a

**Ans -c**

1. **involveswritingonefunctionalgroupforanothersodisconnectionbecomes possible**
	1. disproportion **b) functional groupinterconversion**

c)Resonance d) Tautomerism

# The FGI of cyclopentyl methanol willbe

* 1. Primaryalcohol b) SecondaryAlcohol

c)TerritaryAlcohol d) None

# Grignard reagent react with formaldehyde toform

* 1. Primaryalcohol b) SecondaryAlcohol

c)TerritaryAlcohol d) None

# The Synthon of cyclopentyl methanolis

Ans -b

# Ans -a

**Ans -a**

a) \_

CH2

c) d) -

\_\_\_\_\_\_\_

\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_

b) \_

CH2

+

+

# Ans - d

1. **Thebestmethodforpreparationof,unsaturatedaldehydeorketoneis**
	1. Canninzaroreaction b) Claisen condensation

c)Aldolcondensation d) Perkin reaction

# The starting material for synthesis of 2 -butenal

* 1. acetone b)acetaldehyde c)formaldehyde d)benyaldehyde

# Acetoacetic ester is condensation productof

* 1. MethylCyanide b)acetone c) ethylpropanoate d) ethylacetate

# Which of the following statements best describe asynthon?

* 1. Synthetic reagent used in areaction
	2. A key intermediate in a reactionsequence
	3. A transition state involved in a reactionmechanism
	4. A hypothetical structure that would result in a given reaction if itexisted

# BOC is used toprotect

* 1. Carboxylicacid b) hydroxylgroup

c)Aminogroup d) Carbonylgroup

# Which of the following act as umploungreagent?

* 1. 1,3dithianes b)cyanide c)NitroCompound d) All ofthese

# The site of disconnection is shownby

* 1. Wiggly line b) doubleheadedarrow c)Hollowarrow d) Ray

# Which amine is not use for the synthesis ofenamine?

* 1. Pyrrolidin b)Morpholine c)Piperidine d) Methylamine

# Ans -c

Ans -b

# Ans -d

**Ans -d**

**Ans -c**

**Ans -d**

**Ans -a**

**Ans -d**

1. **Stabilisedylidereactswithaldehyde(ror)ketoneandproduces kind ofalkene?**
	1. cis(z)alkene b) Trans(E)alkene c)Conjugatedalkene d)None

# The Synthetic equivalent for the following synthonis

* 1. 2-alkyl epoxide b)epoxide c)ketone d) haloalcohol

# Ans -b

**Ans -a**

1. **A reaction which predominantly produces one of several possible structural isomer is called**
	1. Regioselectivity b)Stereoselectivity c) chemoselectivityd) All ofthese

# DIBAL-H at low temperature reduces Lactonesto

* 1. lactols b)aldehydes c)acetaldehyde d) animoacid

# On treatmentwithDIBAL-H yields dodecanal at195k?

* 1. CH3CH=CHCH2CN b)C2H5CN

c)CH3(CH2)10COOCH3 d) C6H5CN

#  is used in gas chromatographyanalysis

* 1. DIBAL b) DCC **c)TMSI** d) None

# One of applications of TMSIis

**Ans -b**

**Ans -a**

**Ans -c**

**Ans -c**

* 1. cleaning b)purifying c) removing the BOCprotectinggroup d) None

# Ans - c

1. **is a classical inhibitor of ATPsynthesis**
	1. DIBAL b) DCC c)TMS d) None

# Ans - b

1. **causes skinrashes**
	1. DCC b)TMS c) DIBAL d) None

# DIBAL isa

* 1. electophilicreducingagent b) Nucleophilic reducingagent

# Ans - a

c)Oxidizing agent d) None

#  is used cocalayst for the polymerization ofakenes

* 1. TMS b) DCC c) DIBAL d) None

# Phosphorus ylidesare

* 1. Lewisacid b) Lewis base c)Bronstedacid d) None

# Phosphorus ylide is usedin

* 1. DielsalderCondensation b) Hoff mannreaction

c)Wittingreaction d) None

# Inwittingreaction is anintermediate

* 1. oxaphosphethane b)Phosphonium c)Alkoxide d)Akyne

# Sulphurylidesare

* 1. Zwitter ioniccompoundsb) Electophiles c)Nucleophiles d)None

# umploungmeans

* 1. isomer b) explosive c)polarcompound d) polarity inversion

# Ans -a

**Ans -c**

**Ans -b**

**Ans -c**

**Ans -a**

**Ans -a**

**Ans -d**

1. **If we use enamines to alkylate carbonyl compoundsis that is not required**
	1. Strong Acid b)StrongBase c)WeakAcid d) Weak base

# The goal of retro synthetic analysis isa

* 1. isomeriation b) Cyclisationc) Structural Simplification d)None

# What is grignardreagent

* 1. AlkylMagnesiumhalide b) Aryl Magnesiumhalide

c) both a&b d) None

# Ans -b

**Ans -c**

**Ans -c**

1. **Tri methyl iodide structureis**
	1. Me



Me-Si- I



Me

Me

c) 

Me-S- I



Me

b) \_

d) None

\_\_

I



Me-Si- I



Me

# Ans - a

1. **DIBAL is**
	1. Diazo Butylaluminiumhydride b) Diiso butyl aluminiumhydride

c) Diiso butylaluminiumhydrate d) None

# Ans – b

**Unit -5**

1. **Write the formula ofimidazole**
	1. C3N2H4 b)C4NH3 C)C3N3H2

d)C4NH5 **Ans-a**

# The type of hybrization present in imidazolering

* 1. Sp2
	2. Sp3
	3. Sp
	4. None **Ans-a**

# Which Heterocyclic compound present in the anti-fungal drugclotrimazole

a**)**imidazole b)Thiazole c)Oxozole

d)None **Ans-a**

# When Imidazole ring fused with Pyrimidinering

a)pyrrole b)benzimidazole c)Purine

d)Azepine **Ans-c**

# Imidazole exists in how many tautomericforms

a)4

b)3

1. 2
2. 1 **Ans-c**

# Imidazole is an exampleof

a)1,2-Azoles b)1,3-Azoles c)1,4-Azoles

d)1,5-Azoles **Ans-b**

# Alkyl Nitriles produce Imidazole derivatives in the presenceof

* 1. Dimethylamine
	2. 1,2ethanediamine
	3. Methyl ethylamine
	4. Phenylethylamine **Ans-b**

# Which of the following is not true about the five memberedrings?

1. Five membered rings are more stable than 4 memberedrings
2. Five membered rings are more stable than 6 membered rings
3. Five membered rings are more stable than 7 membered rings
4. Five membered rings are more stable than 8memberedrings **Ans-b**

# The molecular formula ofoxazole

* 1. C3H3NO b)C4NH3 C)C3N3H2

d)C4NH5 **Ans-a**

# Which of the following statements about oxazole, a heterocyclic aromatic compound, is true? Select any and all thatapply.

a) Both lone pairs on the oxygen atom are involved in the pi system that makes oxazole aromatic.

b. The nitrogen lone pair is part of the pi system that makes oxazole aromatic.

c. Oxazolo is planar.

d) There are 6 Pi electronsinoxazole **Ans-d**

# The hybribization of Nitrogen in Oxazole

* 1. Sp2
	2. Sp3
	3. Sp
	4. None **Ans-a**

# The molecular formula ofThiazole

* 1. C3H3NS b)C4NH3C)C3N3H2

d)C4NH5 **Ans-a**

# The hybridization of Nitrogen in thiazoleis

* 1. sp2hybridized b)Sp3
1. Sp
2. None **Ans-a**

# Flavones are widely presentin

* 1. leaves asglucosides
	2. flowers asglucosides
	3. fruitsasglucosides
	4. alltheabove **Ans-d**

# The general formula offlavone

* 1. C15H10O2b)C20H10O2c)C30H10O2

d)C10H10O2 **Ans-a**

# synthesis offlavones:

* 1. [Allan–Robinson reaction](https://en.wikipedia.org/wiki/Allan%E2%80%93Robinson_reaction) b)[Auwers synthesis](https://en.wikipedia.org/wiki/Auwers_synthesis)
1. [Baker–Venkataramanrearrangement](https://en.wikipedia.org/wiki/Baker%E2%80%93Venkataraman_rearrangement)
2. alltheabove **Ans-d**

# Wessely–Moser rearrangementis

* 1. [methoxy](https://en.wikipedia.org/wiki/Methoxy)groups to [phenol](https://en.wikipedia.org/wiki/Phenol)groups
	2. [ethoxy](https://en.wikipedia.org/wiki/Methoxy)groups to [phenol](https://en.wikipedia.org/wiki/Phenol)groups
	3. methoxy groupoxidation
	4. methoxygroupreduction **Ans-a**

# Anthocyannin isa

* 1. flavone b)flavonoid
1. pigment
2. a&c **Ans-d**
3. Anthocyannin occurs in

a)tissues of higher plants b)leaves

1. stem,root ,flower andfruits
2. alltheabove **Ans-d**

# Anthocyannins are generally usedas

* 1. p H indicator
	2. used in organic solarcells
	3. as a foodcolourant
	4. alltheabove **Ans-d**

# Antho means

* 1. flower b)stem c)fruit

d)glycosides **Ans-a**

# The number of steps available in the synthesis ofpyrimidine

* 1. 6

b)5

1. 4
2. 3 **Ans-a**

# Pyrimidinecontains

1. cytocineonly
2. uaracilonly c)a&b

d)none oftheabove **Ans-c**

1. The formula ofpyrimidine

a) C4H4N2 b)C4H4N4 c)C6H6N2

d)C4H4N3 **Ans-a**

# Pyrimidine contains Nitrogenat

a)1,3

b)1,2

c)1,4

d)2,4 **Ans-b**

# The key role of pyrimidineis

* 1. protein synthesis in DNA,RNA
	2. provide energy forcells
	3. regulating enzymes and cellsignaling

# alltheabove Ans-d

1. **The first step in pyrimidinesynthesis**
	1. OMP
	2. UMP c)UTP

d)CTP **Ans-a**

# The product of decarboxylation in pyrimidinehas

* 1. anti-cancer drug b)anti-bacterial c)anti-inflammatory

d)anti-ulcer **Ans-a**

# Synthesis of purinecontains

* 1. **10 steps**

b)5

1. 4
2. 3 **Ans-a**

# Purine actas

* 1. co-enzymes b)allostericmodulators
1. energy intermediate forcells
2. alltheabove **Ans-d**

# Molecular formula ofpurine

* 1. C5H5N4 b)C4H4N4 c)C6H6N2

d)C4H4N3 **Ans-a**

1. **Purine contains** a)Cytocine b)uracil
2. adenine&guanine
3. adenineonly **Ans-c**

# The function of nucleotideincludes:

1. SecondMessenger
2. Energy currency and high energyequivalents
3. Regulators of intermediarymetabolism
4. All oftheabove **Ans-d**

# Purines and Pyrimidines are the nitrogen bases present on the nucleotides. Which of the following is a purinebase?

1. Adenosine
2. Cytosine
3. Thymine
4. Uracil **Ans-b**

# Nucleotides are:

1. Purinebases
2. Nitrogen bases+ PentoseSugar
3. Nitrogen bases + Pentose sugar +Phosphate
4. None oftheabove **Ans-c**

# Which of the following is not the precursor for the denovo purinebiosynthesis?

1. AsparticAcid
2. Glycine
3. Glutamine
4. Arginine **Ans-c**

# Which of the following serves as the cofactor for the denovo synthesis of purine metabolism?

1. Thiamine
2. Biotin
3. Folate
4. Flavin **Ans-a**

# What is an activator of the enzyme “Glutamine: Phosphoribosylpyrophosphateamidotransferase” a committed step of de novo biosynthesis ofpurines?

1. AdenosineMonophosphate
2. GuanosineMonophosphate
3. InosineMonophosphate
4. PhosphoribosylPyrophosphate **Ans-d**

# Which is the leading cause of blindness in childrenworldwide?

1. Glaucoma
2. Cataracts
3. Colourblindness
4. VitaminAdeficiency **Ans-d**
5. Molecular formula ofProgesterone
	1. C21H30O2
	2. C21H20O4
	3. C20H30O2
	4. C31H20O2 **Ans-a**

# Progesterone isa

1. female sexharmone
2. male sex harmone c)metabolicharmone

d)none **Ans-a**

# Cholesterolundergoes to form progesterone

1. oxidation b)reduction
	1. Doubleoxidation
	2. doublereduction **Ans-c**

# Double Oxidation in cholesterolproduce

* 1. [22*R*-hydroxycholesterol](https://en.wikipedia.org/wiki/22R-hydroxycholesterol)
	2. [20α,22*R*-dihydroxycholesterol](https://en.wikipedia.org/wiki/20%CE%B1%2C22R-dihydroxycholesterol)
	3. botha&b
	4. none **Ans-c**

# The enzyme used in the conversion of cholesterol intoprogesterone

1. closteroldesmolase
2. 3 –hydroxy-3-methylglytaryl coenzymeA
3. 3 –hydroxy-4-methylglytaryl coenzymeA
4. 4 –hydroxy-4-methylglytarylcoenzymeA **Ans-a**

# The enzyme used in conversion of cholesterol intoestrone

* 1. cytochrome P450 side chain cleavage enzyme b)closteroldesmolase
1. 3 –hydroxy-3-methylglytaryl coenzymeA
2. 3 –hydroxy-4-methylglytarylcoenzymeA **Ans-a**

# Estrone molecularformula

* 1. **C18H22O2**
	2. C21H20O4
	3. C20H30O2
	4. C31H20O2 **Ans-a**

# The role of estrone inhuman

1. for sexual development and the reproductive system infemale
2. for sexual development inmale
3. metabolism
4. none **Ans-a**

# The chemical name ofTestosterone

* 1. **14 –hydroxy -2,15-dimethyltetracycloheptadec-6-en-5-one**
	2. 3 –hydroxy-3-methylglytaryl coenzymeA
	3. 3 –hydroxy-4-methylglytaryl coenzymeA d)None

# The chemical name of VitaminA1

* 1. Retinol b)calciferolc)Cyanogobalamin

d)cobalamine **Ans-a**

# The food sources of vitamin A1

* 1. carrots,sweetpotato,spinnachb)citrus fruits
1. vegtables
2. None **Ans-a**

# Vitamin A1 issynthetically

1. extraction of fish-liveroil
2. by synthesis frombeta-ionone

# botha&b Ans-c

d)none

# Vitamin A1 is generally synthesizedby

* 1. wittigmethod
	2. biosynthesis
	3. chemicalsynthesis
	4. none **Ans-a**

# The role of testosterone in male sexharmone

* 1. act as a primary maleharmone
	2. anabolic steroid c)a&b

d)none **Ans-c**

# High level of testosterone in malecauses

* 1. aggression b)infertility
1. excessive facial and bodyhair
2. alltheabove **Ans-d**

# Estrone excesscauses

* 1. chronicstress
	2. poor liverhealth
	3. lack ofovulation
	4. alltheabove **Ans-d**
1. **Progesterone excess causes** a)pregnancy with multiple babies b)ovariancysts
2. ovariancancer
3. alltheabove **Ans-d**
4. **Isoflavonesincludes** a)genistein b)daidzein c)glycetein

d)alltheabove **Ans-d**

# Flavones foundin

* 1. celery
	2. parsley c)redpeppers

d)alltheabove **Ans-d**

# Which fruit containsisoflavones

* 1. currants b)raisins c)a&b

d)none **Ans-c**

# which fruits are in richflavonoids?

* 1. Blueberries b)cherries c)raspberry

d)alltheabove **Ans-d**

# Flavonols richfood

* 1. onion b)tea c)peaches

d)alltheabove **Ans-d**