B.Sc. First year (Semester-II) Organic Chemistry Chapter-1 PHENOLS

1) Arc	matic hydroxyl cc	mpounds are calle	ed as		
	a) Alcohol	b) Phenol	c) Ether	d) None of these	
2) Ph	enol is used as			0/	
	a) Anaesthetic	b) Antibiotic	c) Antiseptic	d) Antimalerial	
3) As	spirin is				
	a) Salicylic acid	b) Methyl acetate	e c) Phenyl salicylo	ate d) Acetyl salicylic acid	
4) Phe	enol is also called o	as			
	a) Napthols	b) Carbolic acid	c) Anisole	d) None of these	
5) 1,2	-dihydroxy benzen	e is called as			
	a) Quinol	b) Resorcinol	c) Catachol	d) None of these	
6) 1,3	-dihydroxy benzen	e is called as	40		
	a) Resorcinol	b) Quinol	c) Catachol	d) None of these	
7) 1,4	I-dihydroxy benzer	ne is called as			
	a) Catachol b) G	Quinol c) Resorcinol	d) None of these		
8) Ph	enol react with CO	D ₂ at 125°C under 5	ā atm. pressure to (give salicylic acid. This	
re	action is called as				
	a) Kolbe's reacti	on b) Perkin reactio	on c) Wurtz reactio	n d) HVZ reaction	
9) For	mylation of pheno	l is called as			
	a) Perkin reaction	n	b) Wurtz reaction		
	c) Reimer Tieman	n reaction	d) Claisen reaction		
10) Pr	nenol is acidic bec	ause			
	a) Electromeric	effect b)Inductive	effect c) Peroxide	effect d) Resonance	
11) Pr	nenol is				
0	a) Stronger acid	d then acetic acid	b) Weaker acid	d then acetic acid	
	c) Stronger base	e then methylamin	e d) Weaker base	then methylamine	
12) Pr	nenols in which on	e –OH group is atto	ched to benzene	ring is called as	
	a) Monohydric ph	nenols	b) Dihydric	phenols	
	c) Trihydric pheno	ols	d) None of	these	

13) Phenols in which tv	vo –OH groups are a	ttached to benzene rir	ng are called as
a) Monohydric p	phenols	b) Dihydric phe	nols
c) Trihydric pher	nols	d) None of thes	е
14) Phenols in which th	nree –OH groups are	attached to benzene	ring are called as
a) Monohydric p	phenols	b) Dihydric phe	nols
c) Trihydric pher	nols	d) None of thes	e
15) Phenol react with a	chloroform in aq.NaC	DH at 60°C gives	, 00,
a) o-hydroxy be	nzaldehyde	b) p-hydroxy be	enzaldehyde
c) Both a & b		c) None of thes	e O
16) Phenol react with a	acetic anhydride or o	acetyl chloride in the p	resence of anhy.
AICl ₃ gives		. 0	,0
a) 2-hydroxy ac	etophenone	b) 3-hydroxy ac	etophenone
c) 1-hydroxy ac	etophenone	d) None of thes	е
17) Phenol react with (CO2 in aq. NaOH at 1	125°C under 5 atm. pre	essure to give
a) Benzoic acid	b) salicylic acid	c) Cinnamic acid	d) None of these
18) Phenyl acetate he	ated in presence of	anhy. AICl ₃ at 200ºC gi	ves
a) Phenyl aceta	te	b) o-hydroxy ac	etophenone
c) o-hydroxy ac	etophenone	d) Both b and c	
19) Phenol react with s	od. hydroxide to give	е	
a) Sod.ethoxide	b) Sod.phenoxide	c) Sod.methoxide d) N	lone of these
20) Which of the follow	ving statement is true	;	
a) Phenols are s	trong acids than carl	boxylic acids.	
b) Phenols are w	veaker acids than ca	ırboxylic acids.	
c) Phenols are w	veaker acids than eth	hanol.	
d) Phenols are s	trong acids than hyd	rochloric acid.	
21) Phenol is			
a) Stronger acid	than acetic acid	b) Weaker acid than o	acetic acid
c) Stronger acid	than methyl amine	d) Weaker acid than r	nethyl amine
22) Which of the follow	ving compound is mo	ost acidic ?	
a) Phenol	b) Water c) Eth	nanol d) Cycloh	nexanol
23) Which of the follow	ving is not example o	f phenol ?	
a) 1- napthol	b) Resorcinol c) C	Catechol d) Cyclo ł	nexanol

24) Which of the following	ng is an example o	f dihydric phenol	Ś
a) 1- napthol	b) Resorcinol c) 2	2- napthol d) (Cyclohexanol
25) Which of the following	ng is not example o	of dihydric pheno	l ŝ
a) 2- napthol	b) Resorcinol c) (Catechol d) (Quinol
26) Which of the following	ng is a example of	monohydric phei	nol ?
a) Catechol	b) Resorcinol c) 2	2- napthol d) (Quinol
27) Which of the following	ng is not example o	of monohydric ph	enol?
a) Catechol	b) Phenol c) 2-	napthol d) 1	- napthol
28) Phenol is used in the	preparation of exp	olosive such as	
a) Benzoic acid I	b) Picric acid c) Ci	nnamic acid d) I	None of these
<u>Chapte</u>	er 2) Aromatic	: Hydrocarbo	ns and Aromaticity
1) Coal-tar is the main s	ource of	. (
a) Aromatic com	pounds	b) Aliphatic con	npounds
c) Heterocyclic c	ompounds	d) None of these	Э
2) Aromatic hydrocarbo	ons are also called	as	
a) Huckel's comp	oounds	b) Alkoxy comp	ounds
c) Trienes	i EKIC	d) Arenes	
4) Huckel rule is			
a) 4n	b) $(4n+1)_{\pi}$	c) (4n +2) $_{\mathrm{T}}$	d) None of these
5) All Carbon atoms in b	penzene ring are	hybridized.	
a) SP	b) SP ²	c) SP ³	d) None of these
6) Acetylation of aromo	atic compound is c	alled as	
a) Friedal craft al	kylation	b) Friedal craft o	ıcylation
c) Fries rearrange	ment	d) None of these	е
7) Alkylation of aromatic	c compound is call	ed as	
a) Friedal craft a	Ikylation b) Friedal	craft acylation	
c) Fries rearrang	ement d) Non	e of these	
8) Structure of benzene	is first suggested by	y	
a) Faraday	b) Hoffmann	c) Kekule	d) None of these
9) Benzene is first discov	ered by		
a) Faraday	b) Hoffmann	c) Kekule	d) None of these

10) Which of the follow	ing is molecular forr	mula of Benzene ?	
a) C ₆ H ₅	b) C ₆ H ₇	c) C ₆ H ₆	d) C ₅ H ₆
11) Which of the follow	ing is an aromatic c	compound?	
a) Ethanol	b) Benzene	c) Acetone	d) Epoxide
12) Which of the follow	ing is an aromatic c	compound?	
a) C ₆ H ₆	b) CH ₃ -CH ₂ -OH	c) C ₆ H ₁₂	d) None of these
13) Which of the follow	ing is an aromatic c	compound?	0,
a) Ethanol	b) Cyclohexane	c) Acetone	d) Naphthalene
14) Which of the follow	ing is not aromatic	compound ?	
a) Ethanol	b) Benzene	c) Anthracene	d) Naphthalene
15) Which of the follow	ing is not aromatic	compound ?	
a) Pyridine	b) Furan	c) Pyrrole	d) Cyclohexanol
16) Which of the follow	ing is an aromatic c	compound?	
a) Ethanol	b) Furan	c) Acetone	d) Epoxide
17) Which of the follow	ing is an aromatic c	compound?	
a) Ethanol	b) Cyclobutane	c) Thiophene	d) Epoxide
18) Which of the follow	ing is an aromatic c	compound?	
a) Pyridine	b) Methanol	c) Acetone	d) Epoxide
19) Which of the follow	ing is an aromatic o	compound?	
a) Ethanol	b) Pyrrole	c) Acetone	d) Epoxide
20) Benzene react with	conc.H ₂ SO ₄ & con	c.HNO₃ at 60ºC giv	es
a) m-dinitrobenz	ene	b) Nitrobenzene	
c) 1,3,5-trinitrobe	enzene	d) None of these	
21) Benzene on acetylo	ation with acetyl ch	lloride in the preser	nce of anhy. AICI3 gives
a) Methyl benze	ene b) Methoxy ber	nzene c) Acetoph	nenone d) None of these
22) Benzene on alkylati	ion with methyl chlo	oride in the presenc	ce of anhy. AICI3 gives
a) Methyl benze	ene b) Methoxy ber	nzene c) Acetopho	enone d) None of these
23) Which of the follow	ing statement are f	alse about benzen	e ș
a) It is planar mo	lecule with bond a	ngles 120º	
b) It is soluble in	water.		
c) Each carbon	atom in benzene rir	ng has SP ² hybridise	ed.
d) Delocalisation	of electrons takes	place through out	the ring.

	a) It is planar mole	ecule with bond an	gles 1	20 º				
	b) It is insoluble in	water.						
	c) Each carbon a	tom in benzene rin	g has S	SP ³ hybri	dised.			
	d) Delocalisation	of electrons are no	t takes	place t	hrough	n out	the ring.	
25) Th	ne C-C bond length	n in benzene is						<
	a) Greater than th	ne C-C bond length	n in eth	nane.				0,
	b) Shorter than the	e C-C bond length	in eth	ylene.				
	c) Same as that o	f C-C bond length	in eth	ylene.				
	d) Intermediate be	etween C-C bond l	length	in ethan	ne and	C-C	bond length	in
	ethylene.					C		
26) Th	ne C-C bond length	n in benzene is						
	a) 1.54 A ^o	b) 1.34 A ^o	c) 1.4	0 A ⁰	d) No	ne of these	
27) C	-C-C & C-C-H bond	d angle in benzene	is	-0				
	a) 180º	b) 120 ^o	c) 60°	10	d) No	ne of these	
28) Be	enzene react with (Cl_2 in the presence	of Alc	Cl ₃ catal	yst give	es		
	a) Chlorobenzene	•	b)1,3-	dibromo	obenze	ene		
	c) 1,3,5-tribromob	enzene	d) No	ne of th	ese			
29) H	ow many sigma bo	nds in the structure	of Be	enzene ?	?			
	a) 15	b) 12	c) 6		d) 3		
30) H	ow many pi bonds	in the structure of	Benzei	ne ș				
	a) 15	b) 12	c) 6		d) 3		
31) Th	ne boiling point of	benzene is						
	a) 120°C	b) 80°C	c) 180) ₀ C	d	360) ₀ C	
32) In	nitration of benze	ne, attacking spec	ies is					
	a) NO+	b) HNO ₂	c) NC	2+	d) NC) ₂ -	
33) O	rganic compound	which contain ber	nzene i	ring are	called	as	aromatic	
C	ompounds.							
	a) Benzenoid	b) Non-Benzenoid		c) Hom	oannu	ılar	d) None of th	nese
34)Or	ganic compound	which do not cont	ain bei	nzene rir	ng but	rese	mbles like bei	nzene
in	chemical behavio	r are called as o	aroma	tic com	pound	s.		
	a) Benzenoid	b) Non-Benzenoid	l	c) Hom	oannu	ılar	d) None of th	nese

24) Which of the following statement is true about benzene?

35)	Phenol reacts with	dil. $ m H_2SO_4$ and conc	. HNO3 gives mixtu	re of	
	a) o-nitro pheno	b) p-nitro phenol	c) both a a	nd b	d) None of these
36)	Toluene reacts with	conc. H ₂ SO ₄ and c	onc. HNO3 gives m	nixture	of
	a) o-nitro toluene	e b) p-nitro toluene	c) both a a	nd b	d) None of these
37)	Nitrobenzene reac	ts with conc. H ₂ SO ₄	and conc. HNO₃ a	t 90 °C	gives
	a) m-dinitrobenz	ene	b) o-dinitro	benze	ne
	c) p-dinitrobenze	ene	d) None of	these	00,
38)	Chlorobenzene rec	acts with conc. H_2SC	$ ho_4$ and conc. $ ext{HNO}_3$	gives	mixture of
	a) o-nitro Chloro	benzene	b) p-nitro C	hlorok	penzene
	c) both a and b		d) None of	these	<i>Q</i> 1\
	<u>Char</u>	oter-3 : Haloalk	enes and Halo	oarer	nes
1)	Unsaturated halide	in which the haloge	en atom is directly o	attach	ed to vinylic or allylic
·	carbon are called		0/		
	a) Haloalkenes	b) Haloarenes	c) allyl iodide	d) No	one of these
2)	1,2-dichloroethane	react with alco. KC	OH undergo elimino	ation re	eaction to give
	a) allyl chloride	b) vinyl chloride	c) vinyl bromide	d) No	one of these
3)	Ethene on chlorina	tion at 500°C gives	<u>\ </u>		
	a) allyl chloride	b) vinyl chloride	c) vinyl bromide	d) No	one of these
4)	Vinyl chloride reac	t with HBr undergo o	addition reaction to	o give	according to
	Markownikoff's rule				
	a) allyl chloride	Š	b) 1-bromo-2-chl	oroeth	ane
	c) 1-bromo-1-chlo	roethane	d) None of these		
5)	Vinyl chloride unde	ergo polymerization	reaction in presen	ce of p	peroxide to give :
	a) PVC	b) allyl chloride	c) vinyl bromide	d) No	one of these
6)	Unsaturated halide	e in which the chlori	ine is directly attac	ched to	o vinylic carbon are
	called as				
	a) vinyl chloride	b) Haloarenes	c) allyl iodide	d) No	one of these
7)	Unsaturated halide	e in which the iodir	ne is directly attac	:hed to	o allylic carbon are
	called as				
	a) vinyl iodide	b) Haloarenes	c) allyl iodide	d) No	one of these
8)	Allyl chloride on he	ating with sodium ic	odide in acetone g	jives	
	a) vinyl iodide	b) Haloarenes	c) allyl iodide	d) No	one of these

9)	Preparation o	f allyl iodide using	allyl chloride or	n heating with	sodium iodide in
	acetone is kno	own as reaction	٦.		
	a) Perkin	b) Finkalsteir	c) Aldol	d) Nor	ne of these
10)	Glycerol on h	eating with HI give:	s triiodo propane	e, which is unst	able and converts
	into				
	a) allyl iodio	de b) vinyl iodio	de c) alkyl iod	lide d) Nor	ne of these
11)	Allyl iodide red	act with NaOH to gi	ve		, 00,
	a) allyl amide	b) allyl amine	e c) allyl cyc	nide d) ally l	l alcohol
12)	Allyl iodide red	act with KCN to give	e		
	a) allyl amide	b) allyl amine	e c) allyl cyc	anide d) allyl	alcohol
13)	Allyl iodide red	act with Br2 to give -		20)
	a) allyl amide		b) 1,2-dibromo-3	3-iodo propane	•
	c) allyl cyanid	е	d) allyl alcohol		
14)	Aromatic co	mpound in which	nydrogen atom	of aromatic ri	ng is replaced by
	halogen atom	are called as	1/0		
	a) vinyl iodide	b) Haloarene	es c) allyl iodi	de d) Nor	ne of these
15)	Silver salt of be	enzoic acid on hea	ting with bromine	e gives	
	a) iodobenzer	ne b) benzene	c) chlorob	enzene d) bro i	mobenzene
16)	Benzene diaza	onium chloride is red	acted with Cu/H	CI gives	
	a) iodobenzer	ne b) benzene	c) chlorob	enzene d) broi	mobenzene
17)	Hunsdieckar r	eaction is used for p	oreparation of		
	a) iodobenzer	ne b) benzene	c) chlorob	enzene d) bro i	mobenzene
18)	Gattermann r	eaction is used for p	oreparation of		
	a) iodobenzer	ne b) benzene	c) chlorob	enzene d) broi	mobenzene
19)	Iodobenzene	on heating with co	pper in sealed tu	be gives biphe	nyl. This reaction is
cal	led as rec	action			
	a) Ullmann	b) Benzoyl	c) Gattermann	d) None of th	nese
20)	lodobenzene	on heating with co	pper in sealed tu	be gives	
	a) phenol	b) benzene	c) biphenyl	d) None of th	nese

Chapter: 4 Alcohols & Epoxides

1) Hydroxy derivatives of alkar	nes are called as		
a) Phenols b) Etl	hers c) Est	ters d) Al	cohols
2) General molecular formula	of Alcohol is:		
a) $C_nH_{2n-2}OH$	b) $C_nH_{2n+1}OH$	c) $C_nH_{2n+2}OH$	d) None of these
3) The oxygen atom of alcoho	ol is		O.
a) SP hybridized b) SP	² hybridised c) SP ³	hybridised d) No	one of these
4) Alcohols are also called as			
a) Alkanols	b) Alkanal	c) Alkanone	d) None of these
5) Which of the following com	pound is an examp	ole of Monohydric	alcohol?
a) Glycol	b) Glycerol	c) Methanol	d) None of these
6) Which of the following com	pound is an examp	ole of Dihydric alc	ohol ?
a) Glycol	b) Glycerol	c) Methanol	d) None of these
7) Which of the following com	pound is an examp	ole of Trihydric alc	ohol ?
a) Glycol	b) Glycerol	c) Methanol	d) None of these
8) Which of the following com	pound is an examp	ole of polyhydric c	ılcohol ?
a) Glycol	b) Glycerol	c) ethanol	d) sorbitol
9) Ethylene on oxidation with (cold dil.KMnO4 give	es	
a) Methanol	b) Ethanol	c) Ethylene glyco	d) None of these
10) 1,2-dibromo ethane (ethyl	ene dibromide) red	act with aq. Na ₂ CC	D ₃ gives
a) Ethylene glycol	b) Ethanol	c) Ethylene oxide	d) None of these
11) Ethylene glycol on dehydr	ation with P ₂ O ₅ /an	hy.ZnCl ₂ to give	
a) Acetic acid	b) Acetaldehyde	c) Formaldehyde	d) Formic acid
12) Ethylene glycol on oxidation	on with Pb(CH3CO	O)4 gives	
a) Acetic acid	b) Acetaldehyde	c) Formaldehyde	d) Acetone
13) Fats or Oils on alkaline hyd	lrosis with NaOH giv	/es	
a) Glycol	b) Glycerol	c) Ethyl alcohol	d) Methyl alcohol
14) Propene on reaction with	chlorine, NaOH and	d HOCI gives	
a) Glycol	b) Ethyl alcohol	c) Glycerol	d) None of these
15) Glycerol is treated with a r	mixture of conc. HN	$1O_3$ + H_2SO_4 , it form	าร
a) Nitroethane	b) 1-Nitropropane	e c) 2-Nitropropan	e d) Nitroglycerine
16) Glycerol react with Excess	of CH ₃ COCI give	S	
a) Triacetyl glycerol b)	Glyceryl trichloride	c) Glyceryl chloric	de d) None of these

1 <i>7</i>) S	orbitol is an examp	ole of					
	a) Monohydric al	cohol	b) Dihydri	c alcohol			
	c) Trihydric alcoh	ol	d) Polyhyd	dric alcohol			
18) E	thylene Glycol is a	n example	of				
	a) Monohydric ald	cohol	b) Dihydri	c alcohol			
	c) Trihydric alcoh	ol	d) Polyhyd	dric alcohol			<
19) G	lycerol is an examp	ple of					0,
	a) Monohydric al	cohol	b) Dihydri	c alcohol		<i>20</i>	,
	c) Trihydric alcoh	ol	d) Polyhyd	dric alcohol			
20) Et	hanol is an examp	le of				(Z) \	
	a) Monohydric al	cohol	b) Dihydri	c alcohol	C	5	
	c) Trihydric alcoh	ol	d) Polyhyd	dric alcohol			
21) C	yclic ethers with th	ree memb	ered rings are	e called			
	a) Lactones	b) Alkoxid	les c) C	Oxiranes	d) Epo	oxy resins	
22) Ep	ooxides are called	as		90			
	a) Oxiranes	b) Alkoxid	les c) E	poxy resins	d) Lac	ctones	
23) Et	hylene react with o	oxygen in t	he presence	of silver cata	lyst at 3	00°C gives	
	a) Diethyl ether	b) Ethylen	ne glycol c) E	thyl alcohol	d) Eth	ylene oxide	
24)	Ethylene oxidation	n with per c	acetic acid g	ives			
	a) Diethyl ether	b) Epoxid	e c) E	thyl alcohol	d) No	ne of these	
25)	Propylene oxide o	on acid cat	alyzed ring c	pening gives			
	a) propane-1,2-d	iol b) p	oroponal	c) glycol	d) No	ne of these	
26)	Propylene oxide o	on base ca	talyzed ring (ppening gives	S		
	a) 1-amino-2-prop	oanol b) p	oroponal	c) glycol	d) No	ne of these	
	All I						
	Cho	pter : 5	Carbox	ylic Acid	Derivo	ıtives	
1) The	e derivatives of car						oxylic
	cid by -Cl group is I				<i>y</i>		OAY IIC
40	a) acetyl chloride			ride c) aı	mide	d) ester	
2) The	e derivatives of car	-				,	oxvlic
-	cid by -OCOR grou			, , , , , , , ,	, 3		,
-	a) acetyl chloride	·		ride c) ai	mide	d) ester	

3) The derivatives of carboxylic	c acid obtained by	replacing by -OH	group of carboxylic
acid by -NH2 group is know	wn as		
a) acetyl chloride	b) acetic anhydri	de c) amide	d) ester
4) The derivatives of carboxylic	c acid obtained by	replacing by -OH	group of carboxylic
acid by -OR group is knowr	n as		
a) acetyl chloride	b) acetic anhydri	de c) amide	d) ester
5) Acetic acid reacts with thio	nyl chloride gives -		00,
a) Succinic acid b) Pro	ppenoic acid	c) Acetic acid	d) Acetyl chloride
6) Acetic acid heated with PC	Cl ₅ gives		
a) Acetyl chloride b) Pr	openoic acid	c) Acetic acid	d) Oxalic acid
7) Acetyl chloride on hydrolysi	s with water gives -		
a) Methanol b) Eth	nanol	c) Acetic acid	d) Oxalic acid
8) Acetyl chloride react with e	thyl alcohol gives -	, C	
a) methyl acetate b) e t	thyl acetate	c) acetic acid	d) None of these
9) Acetyl chloride react with n	nethyl amine to giv	es	
a) Acetonitrile b) Me	ethanamine c) N-	methyl ethanamid	e d) None of these
10) Acetyl chloride react with	acetic acid in pres	ence of pyridine g	ives
a) acetic anhydride	b) Methanamine	c) Acetamide	d) None of these
11) Acetyl chloride react with	sodium acetate gi	ves	
a) acetic anhydride	b) Methanamine	c) Acetamide	d) None of these
12) Acetyl anhydride on hydro	olysis with water give	es	
a) Methanol	b) Ethanol	c) Acetic acid	d) Oxalic acid
13) Acetyl anhydride react wit	th ethyl alcohol giv	es	
a) Ethyl acetate	b) Methyl acetate	e c) Acetyl chloride	e d) None of these
14) Acetic anhydride react wi	th methyl amine gi	ves	
a) Acetonitrile b) N-	methyl ethanamide	e c) Acetamide	d) None of these
15) Ethyl alcohol reacts with a	cetic acid in prese	nce of H ₂ SO ₄ unde	ergo dehydration to
give			
a) Methyl acetate	b) Ethyl acetate	c) Acetyl chloride	e d) None of these
16) Ethyl alcohol reacts with a	cetyl chloride in pr	esence of pyridine	e to give
a) Methyl acetate	b) Ethyl acetate	c) Acetamide	d) None of these
17) Ethyl acetate on alkaline h	ydrolysis with NaOl	H gives	
a) Methanol	b) Ethanol	c) Acetic acid	d) Sodium acetate

	yl amine gives	
b) Methanamir	ne c) N-methyl ethanam i	de d) None of these
eduction with LiAll	H ₄ gives	
b) Ethanol	c) Acetic acid	d) None of these
act with NH3 gives		
b) acetyl chlor	ide c) ethyl acetate	e d) None of these
eact with NH3 giv	es	,00,
b) acetyl chlor	ide c) ethyl acetate	e d) None of these
dic hydrolysis with	water gives	
b) Ethanol	c) Acetic acid	d) None of these
with nitrous acid g	ives	
b) Ethanol	c) Acetyl chlorid	de d) None of these
of Chemist		
	b) Ethanol act with NH3 gives b) acetyl chlori eact with NH3 giv b) acetyl chlori dic hydrolysis with b) Ethanol with nitrous acid g b) Ethanol	b) Ethanol c) Acetic acid act with NH3 gives b) acetyl chloride c) ethyl acetate eact with NH3 gives b) acetyl chloride c) ethyl acetate dic hydrolysis with water gives b) Ethanol c) Acetic acid with nitrous acid gives b) Ethanol c) Acetyl chlorid