Guess paper Annual 2022

Key to Success
AL-QADIR
JINNAH SCIENCE ACADEMY

پنجاب کے تمام بورڈ کے لیے

کامیابی کا تعویذ

صرف پندرہ دن کے اندر بورڈ امتحان کی مکمل تیاری کریں

Chemistry

For Inter Part -II

اب فیل ہونا بھول جائیں

امتحان میں
A+ گریڈ کی
100% گارنٹی

☆ پیپر Setter کے ذہن کو مد نظر رکھ کر تیار کیے گئے سوالات

☆ یاد رکھیں! اب وقت انتہائی کم رہ گیا ہے۔

☆ صرف پندرہ دن کے اندر بورڈ امتحان کی مکمل تیاری کریں

محمد قدیر رفیق

القدیر جناح سائنس اکیڈمی

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Multiple Choice Questions (17/17 Marks Gurantee)

1	**Who gave the law of Triads in 1829?**						
A	Dobereiner	B	Moseley	C	Newland	D	Mendeleev
2	**The concept of atomic number was introduced by:**						
A	Alrazi	B	Mendeleev	C	Moseley	D	Dobereiner
3	**The basis of modern periodic table is:**						
A	Electron affinity	B	Atomic mass	C	Ionization potential	D	Atomic number
4	**Mark the correct statement.**						
A	All lanthanides are present in the same group	B	All halogens are present in the same period	C	All the alkali metals are present in the same group	D	All the noble gases are present in the same period
5	**In modern periodic table 6th period contains elements?**						
A	8	B	18	C	10	D	32
6	**Which one is an incomplete period?**						
A	4th	B	5th	C	6th	D	7th
7	**Number of elements in the first period of the periodic table is:**						
A	2	B	8	C	14	D	18
8	**Which is the longest period of periodic table?**						
A	4	B	5	C	6	D	7
9	**Which one is an incomplete period?**						
A	4th	B	5th	C	6th	D	7th
10	**Element of group IIA are called?**						
A	Alkali metals	B	Alkaline earth metals	C	Coinage metals	D	Halogens
11	**Keeping in view the size of atoms, which order is the correct one?**						
A	Mg>Sr	B	Ba>Mg	C	Lu>Ce	D	Cl>I
12	**Mark the correct statement:**						
A	Na+ is smaller than Na atom	B	Na+ is largest than Na atom	C	Cl- is smaller than Cl atom	D	Cl- (ion) and Cl (atom) are equal in size
13	**Which statement is incorrect?**						
A	All the metals are good conductor of electricity	B	All the metals are good conductor of heat	C	All the metals form positive ions	D	All the metals form acidic oxides
14	**Make the correct statement.**						
A	The ionization energy of calcium is lower than that of barium	B	The ionization energy of calcium is lower than that of magnesium	C	The ionization energy of calcium is higher than that of beryllium	D	The ionization energy of calcium is lower than that of strontium
15	**Mark the correct statement.**						
A	Electron affinity is a measure of energy required to remove the electron	B	Electron affinity is a measure of energy released by adding an electron	C	Electron affinity is a measure of energy required to excite an electron	D	Electron affinity is measure of energy released by removing an electron
16	**Mark the correct statement.**						
A	Melting points of halogen is decreased down the group	B	Melting point of halogens increase down the group	C	Melting points of halogens remain the same throughout the group	D	Melting points of halogens first increase and then decrease down the group

17	**Which of the following statement is correct?**						
A	Na atom is smaller than Na+	B	Na atom is larger than K atom	C	F atom is smaller than \overline F	D	F atom is larger than \overline F
18	**Which order is correct one for the size of atoms?**						
A	Mg>Sr	B	Ba>Mg	C	Lu>Ce	D	Cl>I
19	**Which of the following element has lowest-ionization energy?**						
A	Beryllium	B	Boron	C	Carbon	D	Oxygen
20	**Which element has lowest melting point?**						
A	Beryllium	B	Magnesium	C	Calcium	D	Barium
21	**Which of the following has highest melting point?**						
A	Aluminum	B	Silicon	C	Phosphorus	D	Sulphur
22	**Which of the following has the highest hydration energy?**						
A	Li+	B	Na+	C	K+	D	Mg++
23	**The element of 2nd period, which has highest ionization energy from the following is:**						
A	Be	B	C	C	N	D	0
24	**Which ion will have maximum heat of hydration?**						
A	Na+	B	Cs+1	C	Ba+2	D	Mg+2
25	**Mark the correct statement:**						
A	Metallic character increases down the group	B	Metallic character increases along a period	C	Metallic character decreases along a period	D	Metallic character remains the same down the group
27	**Correct order according to atomic size in the following is:**						
A	Na>K	B	Be>Mg	C	O>N	D	Cl>F
28	**Mark the correct statement.**						
A	Covalent character of metal halides increases from left to right in a period	B	Boiling points of Group IVA hydrides decrease down the group	C	Ionic character of hydrides increases from left to right in a period	D	The basicity of group IIA oxides decreases on descending the group
29	**Which of the following are alkaline earth metals?**						
A	Be,Mg,Ca	B	Li,Na,K	C	Fe,CO,Ni	D	B,Al,Ga
30	**The hydrides of Group IA are.**						
A	Ionic	B	Covalent	C	Metallic	D	Interstitial
31	**Which one is ionic hydride?**						
A	NaH	B	AlH3	C	NH3	D	CH4
32	**Which one is amphoteric oxide?**						
A	SO3	B	CaO	C	ZnO	D	Li2O
33	**Which oxide is amphoteric in nature?**						
A	Al2O3	B	Cl2O7	C	MgO	D	SO3
34	**Which of the following element from acidic oxide only?**						
A	Cd	B	Al	C	Sn	D	Br
35	**Which one of the following is intermediate hydride?**						
A	LiH	B	MgH_2	C	CaH_2	D	SrH_2
36	**Which one of the following elements form amphoteric oxide?**						
A	Ca	B	Zn	C	S	D	Fe
37	**Zinc oxide is an example of:**						

A	Acidic oxide	B	Basic oxide	C	Amphoteric oxide	D	Neutral
38	**Which statement is correct?**						
A	Hydrogen resembles is properties with IA, IVA and VIIA elements	B	Hydrogen resembles in properties with IIIA, IVA and VA elements	C	Hydrogen resembles in properties with IIA, IVA and VIA elements	D	Hydrogen resembles in properties with IIA, IIIA and VIIA elements
39	**Mark the correct statement.**						
A	Metallic character increase down the group	B	Metallic character increase from left to right along a period	C	Metallic character remains the same from left to right along a period	D	Metallic character remains the same down the group
40	**Which one of the following does not belong to alkaline earth metals?**						
A	Be	B	Ra	C	Ba	D	Rn
41	**The oxide of beryllium is:**						
A	Acidic	B	Basic	C	Amphoteric	D	None of these
42	**Which one of the following is not an alkali metal?**						
A	Francium	B	Caesium	C	Rubidium	D	Radium
43	**Elements of group IIA are called:**						
A	Alkali metals	B	Alkaline earth metals	C	Coinage metals	D	Halogens
44	**The word alkali is derived from which language?**						
A	Arabic	B	Greek	C	French	D	German
45	**Natron has the chemical formula:**						
A	$NaNO_3$	B	KNO_2	C	$CaCO_3$	D	$Na_2CO_3H_2O$
46	**Dolomite is a carbonate of:**						
A	Be	B	Mg	C	Na	D	Ba
47	**Which is the least reactive of all the alkali metals?**						
A	Li	B	Na	C	K	D	Cs
48	**The ore CaSO4. 2H2O has the general name:**						
A	Gypsum	B	Dolomite	C	Calcite	D	Epsom salt
49	**Chile saltpeter has the chemical formula?**						
A	$NaNO_3$	B	KNO_2	C	$Na_2B_4O_7$	D	$Na_2CO_2.H_2O$
50	**Which one of the following elements is not an alkali metal?**						
A	Na	B	Sr	C	Cs	D	Fr
51	**..... does not belong to Alkaline-Earth metals.**						
A	Be	B	Ra	C	Ba	D	Rn
52	**The oxides of beryllium are:**						
A	Basicity	B	Rancidity	C	Acidity	D	Jaundance
53	**Which of the following sulphates is not soluble in water?**						
A	Sodium sulphate	B	Potassium sulphate	C	Zinc sulphate	D	Barium surphate
54	**Point out the element which forms super oxide:**						
A	Li	B	Na	C	K	D	C
55	**Which metal oxide is insoluble in water?**						
A	MgO	B	CaO	C	SrO	D	BaO
56	**The most metallic element from the following is:**						
A	Arsenic	B	Oxygen	C	Antinomy	D	Bismuth
57	**The milk of magnesia is used for the treatment of:**						

A	Basicity	B	Rancidity	C	Acidity	D	Jaundance
58	**Which of the following gas will turn lime water milky?**						
A	Cl_2	B	NO_2	C	CO	D	CO2
59	**Which of the following sulphate is not soluble in water?**						
A	Na_2SO_4	B	K_2SO_4	C	$BaSO_4$	D	$ZnSO_4$
60	**Point out the element which forms super oxide:**						
A	Li	B	Na	C	K	D	C
61	**Which ion will have the maximum value of heat of hydration?**						
A	Na^+	B	Cs^{2+}	C	Ba^{2+}	D	Mg^{2+}
62	**Down's cell is used to prepare:**						
A	Sodium carbonate	B	Sodium bicarbonate	C	Sodium metal	D	Sodium hydroxide
63	**Which element is deposited at the cathode during the electrolysis of brine in diaphragm cell?**						
A	H_2	B	Na	C	Cl_2	D	O_2
64	**Which element is deposited at the cathode during electrolysis of brine in Nelson's cell?**						
A	Na	B	O_2	C	Cl_2	D	H_2
65	**In Down's cell CaCl2 is added to NaCl to:**						
A	Increase solubility	B	Increase the dissociation	C	Increase conductivity	D	Lower its melting point
66	**Nelson's cell is used to prepare:**						
A	NaOH	B	Na_2CO_3	C	Na metal	D	NaCl
67	**The element caesium bears resemblance with:**						
A	Ca	B	Cr	C	Both of these metals	D	None of these metals
68	**The mineral (CaSO4.2H2O) has the general name:**						
A	Gypsum	B	Dolomite	C	Calcite	D	Epsom salt
69	**Chemical composition of colemanite is:**						
A	$Ca_2B_6O_{11}.5H_2O$	B	$CaB_4O7.4H_2O$	C	$Na_2B_4O_7.4H_2O$	D	$CaNaB_5O_9.8H_2O$
70	**Which element forms an ion with charge +3:**						
A	Beryllium	B	Aluminium	C	Carbon	D	Silicon
71	**Which electronic configuration corresponds to an element of Group-IIIA of the periodic table:**						
A	$1s^2,2s^2,2p^6,3s^2,3p^1$	B	$1s^2,2s^2,2p^6,3s^2,3p^6,4s^2$	C	$1s^2,2s^2,2p^6$	D	$1s^2,2s^2,2p^6,3s^2,3p^3$
72	**Which of the following elements is note present abundantly in earth's crust?**						
A	Silicon	B	Aluminium	C	Sodium	D	Oxygen
73	**Tincal is a mineral of:**						
A	Al	B	B	C	Si	D	C
74	**The chief ore of aluminium is:**						
A	Na_3AlF_6	B	$Al_2O_3.2H_2O$	C	Al_2O_3	D	$Al_2O_3.H_2O$
75	**Kaoline is mineral of:**						
A	Carbon	B	Magnesium	C	Silicon	D	Aluminum
76	**..... element forms an ion with charge3+:**						
A	Beryllium	B	Aluminum	C	Carbon	D	Silicon
77	**Which of the following has highest boiling point?**						
A	Al	B	Si	C	P	D	S
78	**Which electronic configuration corresponds to an element of group III-A of the periodic table?**						
A	$1s^2,2s^2,2p^6,3p^1$	B	$1s^2,2s^2,2p^6,3s^2,3p^6,4s^6$	C	$1s^2,2s^2,2p^6$	D	$1s^2,2s^2,2p^6,3s^2,3p^3$

79	Formula of sodium beryllate is:						
A	$Na_2B_4O_7$	B	Na_2BeO_2	C	BeONa	D	$Na_2B_4O_7.10H_2O$
80	Bauxite is an ore of:						
A	B	B	Al	C	Mg	D	Ca
81	Boric acid cannot be used:						
A	As antiseptic in medicine	B	For washing eyes	C	In soda bottles	D	For enamels and glazes
82	The aqueous solution of borax:						
A	Acidic	B	Alkaline	C	Amphoteric	D	Manual
83	Borax has the chemical formula:						
A	KNO_3	B	$NaNO_3$	C	$Na_2B_4O_7.10H_2O$	D	$Na_2CO_3.H_2O$
84	Which is used in the leather industry?						
A	Borax	B	Boric acid	C	Boric oxide	D	Tetra boric acid
85	Which one of following is used in cosmetics?						
A	Talc	B	Asbestos	C	Sodium sulphate	D	Aluminum sulphate
86	Which one of the following is used in cosmetics?						
A	Talc	B	Asbestos	C	Sodium sulphate	D	Aluminum sulphate
87	Aluminium oxide is:						
A	Acidic oxide	B	Basic oxide	C	Amphoteric oxide	D	None of these
88	Aluminum reacts with nitrogen to form:						
A	AlN	B	Al_2N	C	Al_2N_3	D	Al_4N_6
89	Which element belongs to Group IVA of the periodic table?						
A	Barium	B	Iodine	C	Lead	D	Oxygen
90	Which of the following is non-metal?						
A	B	B	Al	C	Ga	D	Tin
91	Which among the following belongs to group IVA of periodic table:						
A	B	B	Al	C	Ga	D	Tin
92	Which element among the following belongs to group IV-A of the periodic table.						
A	Barium	B	Iodine	C	Lead	D	Oxygen
93	Out of all the elements of group VA, the highest ionization energy is possessed by:						
A	N	B	P	C	Sb	D	Bi
94	Among group VA elements, the most electronegative element is:						
A	Sb	B	N	C	P	D	As
95	The most electronegative element of group V A is?						
A	N	B	P	C	Sb	D	Bi
96	Which of the elements gives acidic oxide?						
A	N	B	As	C	Sb	D	Bi
97	Our of all the elements of group VA, the highest ionization energy is possessed by:						
A	N	B	As	C	Sb	D	Bi
98	The lowest ionization energy is possessed by:						
A	P	B	N	C	Sb	D	As
99	Oxidation of NO in air produces:						
A	N_2O	B	N_2O_3	C	N_2O_4	D	N_2O_5
100	Which halogens will react spontaneously with Au (s) to produce Au^{3+}?						

A	Br_2	B	F_2	C	I_2	D	Cl_2
101	**Which of the following is a reddish brown gas?**						
A	N_2O_3	B	NO_2	C	N_2O_3	D	N_2O_5
102	**Gold dissolves in "Aqua Regia" due to formation of Halide. Point out correct halide:**						
A	AuF_3	B	$AuCl_3$	C	$AuBr_3$	D	AuI_3
103	**What is % age of calcium phosphate in bone ash?**						
A	20	B	40	C	80	D	60
104	**Out of all the elements of group VIA, the highest melting and boiling points is shown by the element:**						
A	Te	B	Se	C	S	D	Pb
105	**Which of the following species has the maximum number of unpaired electrons?**						
A	O_2	B	O_2^+	C	O_2^-	D	O_2^{2-}
106	**Maximum number of unpaired electron is in:**						
A	O_2	B	O_2^+	C	O_2^-	D	O_2^{2-}
107	**Which of the following contain 48% oxygen?**						
A	SiO_2	B	$BaCO_3$	C	$CaCO_3$	D	H_2O_2
108	**Which catalyst is used in contact process?**						
A	F_3O_3	B	V_2O_5	C	SO_3	D	Ag_2O
109	**Chlorine heptaoxide (Cl_2O_7) reacts with water to form:**						
A	Hypochlorous acid	B	Chloric acid	C	Per chloric acid	D	Chlorine and oxygen
110	**Hydrogen bond is the strongest between the molecules of:**						
A	HF	B	HCl	C	HBr	D	HI
111	**The anhydride of $HClO_4$ is:**						
A	ClO_3	B	ClO_2	C	Cl_2O_5	D	Cl_2O_7
112	**Bleaching powder may be produced by passing chlorine over:**						
A	Calcium carbonate	B	Hydrated calcium sulphate	C	Anhydrous calcium sulphate	D	Calcium hydroxide
113	**Which is the strongest acid?**						
A	HClO	B	$HClO_2$	C	$HClO_3$	D	$HClO_4$
114	**Which halogen occurs naturally in a positive oxidation state?**						
A	Fluorine	B	Chlorine	C	Bromine	D	Iodine
115	**An element that has a high ionization energy and tends to be chemically inactive would most likely to be:**						
A	An alkali metal	B	A transition element	C	A noble gas	D	A halogen
116	**Which of the following represents the correct electronic configuration of the outermost energy level of an element of zero (VIIIA) group in the ground state?**						
A	s^2p^2	B	s^2p^4	C	s^2p^5	D	s^2p^6
117	**Which of the following statement is correct?**						
A	Bond energy of F_2 is less than Cl_2	B	Bond energy of F_2 is less than ½	C	Bond energy of Cl_2 is less than F_2	D	Bond energy of Cl_2 is less than Br_2
118	**An element that has high ionization energy and tends to be chemically inactive would most likely be:**						
A	An alkali metal	B	A transition element	C	A noble gas	D	A halogen
119	**Which one of halogens is a liquid?**						
A	F_2	B	Cl_2	C	Br_2	D	I_2
120	**Melting points of halogens ..... the group.**						
A	Decrease down	B	Increase down	C	Remain same throughout	D	First increase then decrease

121	**Hydrogen bond is the strongest between in the molecule of:**						
A	HF	B	HCl	C	HBr	D	HI
122	**The anhydride of HClO4 is:**						
A	ClO_3	B	ClO_2	C	Cl_2O_5	D	Cl_2O_7
123	**The radius of F ion is:**						
A	72 pm	B	136 pm	C	99 pm	D	181 pm
124	**The weakest oxyacid of Cl is?**						
A	HClO	B	$HClO_2$	C	$HClO_3$	D	$HClO_4$
125	**Which of the following noble gas is used for are welding and cutting?**						
A	Helium	B	Argon	C	Xenon	D	Radon
126	**Out of elements of group VII A, the highest melting and boiling points is shown by elements:**						
A	F2	B	I2	C	Cl2	D	Br2
127	**Chlorine heptoxide (Cl2O7) reacts with water to form:**						
A	Hypochlorous acid	B	Chloric acid	C	Perchloric acid	D	Chlorine and oxygen
128	**Alpha decay of the Radium gives:**						
A	Neon	B	Argon	C	Xenon	D	Radon
129	**Which is the second most abundant element in the universe?**						
A	H	B	He	C	O	D	C
130	**Which of the following is a non-typical transition element?**						
A	Cr	B	Mn	C	Zn	D	Fe
131	**Which of the following is a typical transition metal?**						
A	Se	B	Y	C	Ra	D	Co
132	**f-block elements are also called:**						
A	non-typical transition elements	B	outer transition elements	C	normal transition elements	D	None is true
133	**The strength of binding energy of transition elements depends upon:**						
A	Number of electrons pairs	B	Number of unpaired electrons	C	Number of neutrons	D	Number of protons
134	**Group VIB of transition elements contain:**						
A	Zn,Cd,Hg	B	Fe,Ru,Os	C	Cr,Mo,W	D	Mn,Te,Re
135	**The percentage of carbon in different types of iron products is in the order of:**						
A	Cast iron > wrought rion> steel	B	Wrought iron>steel iron> cast iron	C	Cast iron> steel> wrought iron	D	cast iron = steel> wrought iron
136	**The color of transition metal complexes is due to:**						
A	d-d transition of electrons	B	Paramagnetic nature of transition elements	C	Ionization	D	Loss ofs-electros
137	**Coordination number of Pt in[PtCl(NO2)(NH3)4] is:**						
A	2-	B	4	C	1	D	6
138	**The total number of transition elements is:**						
A	10	B	14	C	40	D	58
139	**Following property of transition elements does not very with a regular pattern:**						
A	Binding energy	B	Melting point	C	Covalent radius	D	Cationic radius
140	**Total number of d-block elements are:**						
A	10	B	20	C	30	D	40
141	**Which of the following is nn-typical transition metal?**						

A	Fe	B	Mn	C	Zn	D	Ni
142	**Typical transition element is:**						
A	Sc	B	Co	C	Ra	D	Y
143	**Co-ordination number of Pt in [PtCl(NO2)(NH3)4]+2 is:**						
A	2-	B	4	C	1	D	6
144	**Which of the following is a typical transition metal?**						
A	Se	B	Y	C	Fe	D	Ra
145	**The colour of transition metal complexes:**						
A	d-d transition of electrons	B	Paramagnetic nature of transition elements	C	Ionization	D	Loss of s-electron
146	**What is coordination number of Fe in K4 [Fe(CN)6]**						
A	4	B	6	C	2	D	3
147	**Co-ordination number of Cu in [Cu(NH3)4SO4] is:**						
A	Zero	B	Two	C	Four	D	Six
148	**Mild steel contains carbon percentage:**						
A	0.1 – 0.2%	B	0.3-0.7%	C	0.7-1.5%	D	1.6-2.0%
149	**Which is the formula of tetra-ammine Chloro-nitro platinum (IV) sulphate?**						
A	$[Pt(NH_3)_4(NO_2)SO_4$	B	$[PtNO_2\ Cl(NH_3)_4]SO_4$	C	$[Pt\ Cl(NO_2)(NH_3)_4]SO_4$	D	$[Pt(NH_3)_4\ (NO_2)Cl]SO_4$
150	**To avoid the formation of toxic compounds with chlorine which substance is used for disinfecting water?**						
A	KMnO4	B	O2	C	Alums	D	Chloramine
151	**The chemist who synthesized urea from ammonium cyanate was:**						
A	Berzelius	B	Kolbe	C	Wholer	D	Lavoisier
152	**The process used to improve quality of gasoline is called:**						
A	Thermal cracking	B	Reforming	C	Steam cracking	D	Combustion
153	**In t-butyl alcohol, the tertiary carbon is bonded to:**						
A	Two hydrogen atoms	B	Three hydrogen atoms	C	One hydrogen atoms	D	No hydrogen atoms
154	**Which one is the heterocyclic compound of oxygen?**						
A	Pyridine	B	Parrole	C	Furan	D	Thiophene
155	**is a functional group.**						
A	Alkoxy	B	Carbonyl	C	Carboxyl	D	Hydroxyl
156	**Which one of the following is an amide?**						
A	$(NH_2)CO$	B	$NH_2\text{-}CH_3$	C	$C_6H_5NH_2$	D	$N(CH_3)_3$
157	**-SH functional group is called:**						
A	Cyano	B	Mercapto	C	Nitro	D	Carboxyl
158	**CO2H is a functional group as:**						
A	Alkoxy	B	Carbonyl	C	Carboxyl	D	Hydroxyl
159	**The state of hybridization of carbon atom in methane is:**						
A	sp_3	B	sp_2	C	sp	D	dsp_2
160	**Which set of hybrid orbitals has planar triangular shape:**						
A	sp_3	B	Sp	C	sp_2	D	dsp_2
161	**Linear shape is associated with which set of hybrid orbitals?**						
A	sp	B	sp_2	C	sp_3	D	dsp_2
162	**A double bond consists of:**						

A	Two sigma bonds	B	One sigma and one pi bonds	C	One sigma and two pi bonds	D	Two pi bonds
163	**Carbon atom of carboxyl group is:**						
A	sp hybridized	B	sp_2 d hybridized	C	sp_3 hybridized	D	sp_2 hybridized
164	**The state of hybridization of "C" atom in ethane is:**						
A	Sp	B	sp_2	C	dsp_2	D	sp_3
165	**The bond angle between any two sp2-hybridized orbitals is of:**						
A	180o	B	109.5o	C	120o	D	107.5o
166	**The state of hybridization in ethene molecule is:**						
A	dsp_2	B	sp_3	C	sp_2	D	Sp
167	**The state of hybridization in ethene molecule:**						
A	dsp_2	B	sp_3	C	sp_2	D	Sp
168	**The bond angle between any two -Hybridized Orbitals is of:**						
A	1800	B	109.5	C	1200	D	107.5
169	**Ethers show the phenomenon of:**						
A	Position isomerism	B	Functional group isomerism	C	Metamerism	D	Cis-trans isomerism
170	**Select from the following the one which is alcohol:**						
A	CH_3-CH_2-OH	B	CH_3-O-CH_3	C	CH_3COOH	D	CH_3-CH_2-Br
171	**Tautomerism arised due to shifting of:**						
A	Sigma electrons	B	Neutrons	C	Pi-Electrons	D	Proton
172	**Preparation of vegetable ghee involves:**						
A	Halogenation	B	Hydrogenation	C	Hydroxylation	D	Dehydrogenation
173	**Formula of chloroform is:**						
A	CH_3Cl	B	CCl_4	C	CH_2Cl_2	D	$CHCl_3$
174	**When methane reacts with Cl2 in the presence of diffused sunlight the products obtained are:**						
A	Chloroform only	B	Carbon tetrachloride only	C	Chloromethane and dichloromethane	D	Mixture of a,b,c
175	**The catalytic oxidation of methane produces:**						
A	$CO + H_2O$	B	$CO_2 + H_2O$	C	$C_2 + H_2O$	D	H_3C-OH
176	**The general formula for Alkanes is:**						
A	C_nH_{2n+1}	B	C_nH_{2n}	C	C_nH_{2n-2}	D	C_nH_{2n+2}
177	**The presence of a double bond in a compound is the sign of:**						
A	Saturation	B	Unsaturation	C	Substitution	D	none
178	**The addition of unsymmetrical reagent to an unsymmetrical alkene is in accordance with the rule:**						
A	Hund's rule	B	Markownikov's rule	C	Pauli's Exclusion Principal	D	Aufbau Principal
179	**\beta - \beta '-dichloroethyl sulphide is commonly known as:**						
A	Mustard gas	B	Laughing gas	C	Phosgene gas	D	Bio-gas
180	**Which one of the following gases is used for artificial ripening of fruits?**						
A	Ethene	B	Ethyne	C	Methane	D	Propane
181	**The general formula for Alkene having one double bond is:**						
A	CnH2n+1	B	CnH2n	C	CnH2n-n	D	CnH2n+2
182	**One of the following molecule is sp2 hybridized:**						
A	CH3-CH3	B	CH2=CH2	C	CH=CH	D	CH4

183	**Which one is not property or use of mustard gas?**						
A	Used in 1st world war	B	Powerful vesicant	C	High boiling liquid	D	High boiling gas
184	**Which compound is the most reactive?**						
A	Benzene	B	Ethene	C	Ethane	D	Ethyne
185	**Which gas is used for artificial ripening of fruits:**						
A	Ethene	B	Methane	C	Propane	D	Ethyne
186	**Characteristic reactions of alkenes are:**						
A	Nucleophilic reaction	B	Electrophilic reaction	C	Nucleophilic substitution	D	Free radical substitution
187	**Vinyl acetylene combines with HCl to form:**						
A	Polyacetylene	B	Benzene	C	Chloroprene	D	Divinyl acetylene
188	**Synthetic rubber is made by polymerization of:**						
A	Chloroform	B	Acetylene	C	Divinyl acetylene	D	Chloroprene
189	**Vinyl acetylene react with HCl to form:**						
A	Polyacetylene	B	Benzene	C	Chloroprene	D	Divinylacetylene
190	**Addition of water is acetylene takes place in presence of:**						
A	Ni	B	$HgSO_4$ / H_2SO_4	C	$ZnCl_2$	D	Cu
191	**Aromatic compounds burn with sooty flame because:**						
A	They have high percentage of hydrogen	B	They have a ring structure	C	They have high percentage of carbon	D	They resist reaction with air
192	**The benzene molecule contains:**						
A	Three double bonds	B	Two double bonds	C	One double bond	D	Delocalized \pi-electron charge
193	**The structure of benzene is:**						
A	Hexagonal irregular	B	Tetrahedral	C	Trigonal planner	D	Hexagonal planner
195	**Resonating contributing structures of benzene are:**						
A	2	B	3	C	5	D	7
196	**Which of the following acid can be used as a catalyst in Friedel-Crafts reactions?**						
A	AlCl3	B	HNO3	C	BeCl2	D	NaCl
197	**Amongst of the following, the compound that can be most readily sulphonated is:**						
A	Toluene	B	Benzene	C	Nitrobenzene	D	Chlorobenzene
198	**During nitration of benzene, the active nitrating agent is:**						
A	NO_3	B	NO^{2+}	C	NO_2	D	HNO_3
199	**The conversion of n-hexane into benzene by heating in the presence of Pt is called:**						
A	Isomerization	B	Aromatization	C	Dealkylation	D	Rearrangement
200	**m-Chloronitro benzene is prepared by:**						
A	Nitration of chloro benzene	B	Nitration of benzene	C	Chlorination of nitrobenzene	D	Nitration of m-chloro benzene
201	**Toluene ?**						
A	Ortho-nitrotoluene	B	m-nitrotoluene	C	p-nitrotoluene	D	2,4,6-TNT
202	**Among the following, the compound that can be most readily sulphonated is:**						
A	Toluene	B	Benzene	C	Nitro-benzene	D	Chloro-benzene
203	**Which of the following is Ortho and Para directing group?**						
A	-1	B	-CHO	C	-COOH	D	0
204	**Which catalyst is used in Friedal Crafts Reactions:**						

A	$AlCl_3$	B	$BeCl_3$	C	NaCl	D	HNO_3
205	**Which one is not a meta directing group:**						
A	-COOH	B	-CHO	C	-COR	D	0
206	**Amongst the following, the compound that can be the most readily sulphonated is:**						
A	Toluene	B	Benzene	C	Nitrobenzene	D	Chlorobenzene
207	**Molecular formula of benzyl chloride is?**						
A	$H_5C_6CCl_3$	B	$H_5C_6CHCl_2$	C	$H_5C_6CH_2Cl$	D	$H_5C_6CH_2CH_2Cl$
208	**Benzene cannot undergo:**						
A	Substitution reactions	B	Addition reactions	C	Oxidation reactions	D	Elimination reactions
209	**Which compound is the most reactive one?**						
A	Benzene	B	Ethene	C	Ethane	D	Ethyne
210	**In primary halides, the halogen atom is attached to a carbon which is further attached to ..... carbon atoms, indicate the number:**						
A	Two	B	Three	C	One	D	Four
211	**When CO2 is made to react with ethyl magnesium iodide, followed by acid hydrolysis, the product formed is:**						
A	Propane	B	Propanoic acid	C	Propanal	D	Propanol
212	**The reactivity order of alkyl halides for a particular alkyl group is:**						
A	Fluoride>Chloride>Bromide>Iodide	B	Chloride>Bromide>Fluoride>Iodide	C	Iodide>Bromide>Chloride>Fluoride	D	Bromide>Iodide>Chloride>Fluoride
213	**Alkyl halides are considered to be very reactive compounds towards nucleophiles, because:**						
A	They have an electrophilic carbon	B	They have an electrophilic carbon and a good leaving group	C	They have an electrophilic carbon and a bad leaving group	D	They have a nucleophilic carbon and a good leaving group
214	**The most reactive Alkyl halide is:**						
A	Alkyl Iodide	B	Alkyl bromide	C	Alkyl Fluoride	D	Alkyl Chloride
215	**SN2 reactions can be best carried out with:**						
A	Primary alkyl halides	B	Secondary alkyl halides	C	Tertiary alkyl halides	D	All the three
216	**Elimination bimolecular reactions involve:**						
A	First order kinetics	B	Second order kinetics	C	Third order kinetics	D	Zero order kinetics
217	**For which mechanism, the first step involved is the same:**						
A	E_1 and E_2	B	E_2 and SN_2	C	SN_1 and F_2	D	E_1 and SN_1
218	**The rate of E1 reaction depends upon:**						
A	The concentration of substrate	B	The concentration of nucleophile	C	The concentration of substrate as well as nucleophile	D	None of the above
219	**Which one of the following is not a nucleophile:**						
A	H_2O	B	H_2S	C	BF_3	D	NH_3
221	**SN2 mechanism involves:**						
A	1st order kinetics	B	2nd order kinetics	C	3rd order kinetics	D	Zero order kinetics
222	**Which one of following is best nucleophile?**						
A	H_2O	B	NH_3	C	C_2H_5O	D	NO
223	**Grignard reagent is reactive due to:**						
A	The presence of halogen atom	B	The presence of Mg atom	C	The polarity of C-Mg bond	D	None of the above
224	**Cyanogen chloride reacts with ethyl magnesium bromide to give.**						

A	CH_3CH_2Cl	B	CH_3CH_2Br	C	C_4H_{10}	D	CH_3CH_2CN
225	**Which compound is formed, when CH3OH react with CH3-Mg-Br**						
A	Ethane	B	Methane	C	Ethanol	D	Acetone
226	**When ethyl magnesium bromide reacts with HCHO followed by acid hydrolysis, the product is formed by:**						
A	Ethanol	B	1-propanol	C	Ehanoic acid	D	2-propanol
227	**The reactivity of Grignard's reagent is due to:**						
A	Polarity of Mg-x bond	B	Palority of C-Mg bond	C	Electro neqativity of halogen atom	D	Presence of Mg-atom
228	**Ethanol can be converted into ethanoic acid by:**						
A	Hydrogenation	B	Hydration	C	Oxidation	D	Fermentation
229	**Which compound is called a universal solvent?**						
A	H_2O	B	CH_3-OH	C	C_2H_5OH	D	CH_3-O-CH_3
230	**According to Lewis concept ethers behave as:**						
A	Acid	B	Base	C	Acid as well as a base	D	None of them
231	**Which compound shows hydrogen bonding?**						
A	C_2H_6	B	C2H5Cl	C	CH_3-O-CH_3	D	C_2H_5OH
232	**Which compound shows maximum hydrogen bonding with water:**						
A	CH_3-OH	B	C_2H_5OH	C	CH_3-O-CH_3	D	C_6H_5OH
233	**Which compound is more soluble in water?**						
A	C_2H_5OH	B	C_6H_5OH	C	CH_3COCH_3	D	n-Hexanol
234	**Which compound will have the maximum repulsion with H2O?**						
A	C_6H_6	B	C_2H_5OH	C	$CH_3CH_2CH_2OH$	D	CH_3-O-CH_3
235	**Which enzyme is not involved in fermentation of starch?**						
A	Diastase	B	Zymase	C	Urease	D	Invertase
236	**Rectified spirit contains methyl alcohol about:**						
A	0.8	B	0.85	C	0.9	D	0.95
237	**Alcohol obtained by fermentation is only upto:**						
A	0.1	B	0.12	C	0.2	D	0.95
238	**Compound shows extensive hydrogen with water:**						
A	C_2H_6	B	H_2S	C	C_2H_5OH	D	CH_3Cl
239	**Which one of the following is a dihydric alcohol?**						
A	Ethanol	B	Cyclo hexanol	C	Glycerol	D	Glycol
240	**Alcohol obtained by fermentation never exceeds:**						
A	0.14	B	0.1	C	0.16	D	0.95
241	**Which compound is insoluble in water?**						
A	Methyl alcohol	B	Ethyl alcohol	C	Benzene	D	Acetic acid
242	**Isopropyl alcohol on oxidation gives:**						
A	Acetaldehyde	B	Acetone	C	Ether	D	Propene
243	**The most-reactive alcohol when O-H bond breaks is:**						
A	Tertiary alcohol	B	Secondary alcohol	C	Primary alcohol	D	Methyl alcohol
244	**In t-butyl alcohol, the tertiary carbon is bonded to:**						
A	Three hydrogen atoms	B	Two hydrogen atoms	C	One hydrogen atoms	D	No hydrogen atom
245	**Methyl alcohol is not used:**						

A	As a solvent	B	As an anti-freezing agent	C	As a substitute for petrol	D	For denaturing of ethyl alcohol
246	**Bakelite is obtained from phenol by reacting with:**						
A	Acetal	B	Ethanol	C	Formaldehyde	D	Methanol
247	**Ethers show the phenomenon of:**						
A	Position isomerism	B	Functional group isomerism	C	Metamerism	D	Cis-Trans-isomerism
248	**Which of the following will have the highest boiling point?**						
A	Methanol	B	Ethanol	C	Propanal	D	2-Hexanone
249	**Ketones are prepared by the oxidation of:**						
A	Primary alcohol	B	Secondary alcohol	C	Tertiary alcohol	D	All of these
250	**Formalin is:**						
A	10% solution of formaldehyde in water	B	20% solution of formaldehyde in water	C	40% solution of formaldehyde in water	D	60% solution of formaldehyde in water
251	**Formalin is a 40% solution of:**						
A	CH3CHO	B	CH3OH	C	HCHO	D	CH3OCH
252	**Formalin is a solution ..... formaldehyde in water:**						
A	0.1	B	0.2	C	0.4	D	0.6
253	**The carbon atom of a carbonyl group is:**						
A	Sp hybridized	B	Sp2 hybridized	C	Sp3 hybridized	D	None of these
254	**Acetone reacts with HCN to form a cyanohydrin. It is an example of:**						
A	Electrophilic solution	B	Electrophilic substitution	C	Necleophilic addition	D	Nucleophilic substitution
255	**Which of the following compounds will not give iodoform test on treatment with I2 / NaOH?**						
A	Acetaldehyde	B	Acetone	C	Butanone	D	2-Pentanone
256	**Which reagents will react with both aldehyde and ketones?**						
A	Grignard reagent	B	Tollen's reagent	C	Fehling's reagent	D	Benedict's reagent
257	**Cannizzarro reaction is not given by:**						
A	HCHO	B	CH3CHO	C	C6H5CHO	D	(CH3)2CHO
258	**Aldehyde react with hydroxyl amine in acidic solution to give:**						
A	An oxime	B	Aldol	C	Polymer	D	Acetic acid
259	**Aldol condensation is given by:**						
A	Acetaldehyde	B	Formaldehyde	C	Benzaldehyde	D	Trimethyl acetaldehyde
260	**Which reaction is disproportionation reaction?**						
A	Aldol condensation	B	Cannizzaros's reaction	C	Halofrom reactions	D	Acid-Catalyzed reactions
262	**Cannizzaro's reaction is not given by:**						
A	Formaldehyde	B	Acetaldehyde	C	Benzaldehyde	D	Trimethylacetaldehyde
263	**Which of the following reagents will react with both aldehydes and ketones?**						
A	Grignard reagent	B	Tollen's reagent	C	Fehlings's reagent	D	Benedict's reagent
264	**Silver mirror test is given by:**						
A	Ethers	B	Ketones	C	Acids	D	Aldehydes
265	**Aldehydes and ketones can be detected by:**						
A	2,4-DNPH Test	B	Tollen's Test	C	Sodium Nitro Prusside test	D	Benedictosolution test
266	**Which one has yellow or orange crystalline ppt?**						

A	Acetone hydrazine	B	2,4-DNPH	C	Ethanol oxime	D	Bisulphite addition product
268	**The compound used in the processing of anti-polio vaccine is:**						
A	Acetaldehyde	B	Formaldehyde	C	Acetone	D	Ethyl bromide
269	**A carboxylic acid contain:**						
A	A hydroxyl group	B	A carboxyl group	C	A hydroxyl and carboxyl group	D	A carboxyl and an aldehydic group
270	**..... is aromatic acid.**						
A	Propanoic acid	B	Ethanoic acid	C	Butanoic acid	D	Phthalic acid
271	**Among the aliphatic carboxylic acids the first four members are soluble in water due to:**						
A	London dispersion forces	B	Hydrogen bonding	C	Ion-dipole forces	D	Covalent bond
272	**Which of the following derivatives cannot be prepared directly from acetic acid:**						
A	Acetamide	B	Acetyl chloride	C	Acetic anhydride	D	Ethyl acetate
273	**Which reagent is used to reduce a carboxylic group to an alocoh?**						
A	H_2/Ni	B	H_2/Pt	C	$NaBH_4$	D	$LiAlH_4$
274	**Organic compounds X and Y react together to form organic compound Z. what type of compounds can X,Y and H be?**						
A	X Y Z Alcohol ester acid	B	X Y Z Acid ester alcohol	C	X Y Z Ester alcohol acid	D	X Y Z Alcohol acid ester
275	**An aqueous solution of an organic compound reacts with sodium carbonate to produce carbon dioxide gas. Which one of the following could be the organic compound?**						
A	$CH_2=CH-CH_3$	B	CH_3-CHO	C	$CH_3COOC_2H_5$	D	CH_3-CH_2-COOH
276	**Acetamide is prepared by:**						
A	Heating ammonium acetate	B	Heating methyl cyanide	C	Heating ethyl acetate	D	Hydrolysis of methyl cyanide
277	**The flavor of amylacetate is:**						
A	Orange	B	Apricot	C	Banana	D	Pinapple
278	**Which of the following derivative is not directly prepared from acetic acid CH2COOH?**						
A	Ethyl acetate	B	Acetyl chloride	C	Acetic anhydride	D	Acetamide
279	**The flavor of octylacetate is:**						
A	Orange	B	Apricot	C	Banana	D	Jasmine
280	**Organic compound having fruity smell are?**						
A	Carboxylic acid	B	Alcohols	C	Ethers	D	Esters
281	**Which of the following ester has banana flavor?**						
A	Benzyl acetate	B	Amyl acetate	C	Ethyl acetate	D	Amyl acetae
282	**Which of the following ester has orange flavor?**						
A	Amyl acetate	B	Benzyl acetate	C	Amyl butyrate	D	Octyl acetate
283	**Acetamide is prepared by:**						
A	Heating ammonium acetate	B	Heating methyl cyanide	C	Heating ethyl acetate	D	The hydrolysis of methyl cyanide
284	**Acetamide is prepared by heating of:**						
A	Ammonium acetate	B	Methyl cyanide	C	Phthalic acid	D	Ethyl acetate
285	**Banana flavor is given by the ester:**						
A	Octyl acetate	B	Amyl butyrate	C	Amyl acetate	D	Ethyl butyrate
286	**Acetic acid is manufactured by:**						

A	Distillation	B	Fermentation	C	Ozonolysis	D	Esterification
287	**Which acid is used in the manufacture of synthetic fibre?**						
A	Formic acid	B	Oxalic acid	C	Carbonic acid	D	Acetic acid
288	**The solution of which acid is used for seasoning of food?**						
A	Formic acid	B	Acetic acid	C	Benzoic acid	D	Butanoic acid
289	**Which one is phthalic acid?**						
A	HCOOH	B	CH_3COOH	C	a	D	a
290	**Which of the following is not a fatty acid?**						
A	Propanoic acid	B	Acetic acid	C	Phthalic acid	D	Butanoic acid
291	**Polypeptide has molecular mass upto:**						
A	10000	B	20000	C	1000	D	10
292	**Which of the following is a neutral amino acid?**						
A	Glycine	B	Lysine	C	Histidine	D	Glutamic acid
293	**The nature of lysine amino acid is:**						
A	Acidic	B	Basic	C	Amphoteric	D	Neutral
294	**Which of the following is not an amino acid?**						
A	Aspartic acid	B	Lysine	C	Alanine	D	Aniline
295	**Which one is not a fatty acid?**						
A	Acetic acid	B	Propionic acid	C	Butanoic acid	D	Palmitic acid
296	**Which one is neutral amino acid?**						
A	Lysine	B	Histidine	C	Glutamic acid	D	Valine
297	**Which is basic amino acid?**						
A	Glycine	B	Alanine	C	Aspartic acid	D	Lysine
298	**In which of these processes are small organic molecules made into macromolecules?**						
A	The cracking of petroleum fractions	B	The fractional distillation of crude oil	C	The polymerization of ethane	D	The hydrolysis of proteins
299	**Which of these polymers is a synthetic polymer?**						
A	Animal fat	B	Starch	C	Cellulose	D	Polyester
300	**Plastics are a pollution problem because many plastics.**						
A	Are made from petroleum	B	Are very inflammable	C	Burn to produce toxic fumes	D	Decompose to produce toxic products
301	**A polymeric substance that is formed in the liquid state and then hardened to a rigid solid is called a:**						
A	Fibre	B	Plastic	C	Varnish	D	Polyamide resin
302	**Which of these polymers is an addition polymer?**						
A	Nylon-6,6	B	Polystyrene	C	Terylene	D	Epoxy resin
303	**The fibre which is made from acrylonitrile as monomer:**						
A	PVC	B	Rayon fibre	C	Acrylic fibre	D	Polyester fibre
304	**Vegetable oils are:**						
A	Unsaturated fatty acids	B	Glycerides of unsaturated fatty acids	C	Glycerides of saturated fatty acids	D	Essential oils obtained from plants
305	**Which one of the following elements is not present in all proteins?**						
A	Carbon	B	Hydrogen	C	Nitrogen	D	Sulphur
306	**Which one of the following nitrogenous bases is not present in RNA:**						
A	Cytosine	B	Adenine	C	Thiamine	D	Uracil

307	**Which one of the following enzymes brings about the hydrolysis of fats:**						
A	Urease	B	Maltase	C	Zymase	D	Lipase
308	**The reaction between fat and NaOH is called:**						
A	Esterification	B	Hydrogenolysis	C	Fermentation	D	Saponification
309	**Which one of the following statements about glucose and sucrose is incorrect?**						
A	Both are soluble in water	B	Both are naturally occurring	C	Both are carbohydrates	D	Both are disaccharides
310	**Which one of the following is a condensation polymer?**						
A	Polystyrene	B	PVA	C	Polyethene	D	Nylon 6,6
311	**Nylon 6, 6 is obtained by the reaction of hexamethylene diamine with:**						
A	Acetic acid	B	Adipic acid	C	Vinyl chloride	D	Acetyl chloride
312	**The optimum pH of salivary amylase is:**						
A	5.4 to 6.9	B	5.4 to 7.9	C	6.4 to 6.9	D	6.4 to 7.4
313	**Which of the following element is present in all proteins?**						
A	Cl	B	Cu	C	N	D	Al
314	**Starch is:**						
A	Monosaccharide	B	Disaccharide	C	Polysaccharide	D	Oligosaccharide
315	**Which one is a disaccharide?**						
A	Glucose	B	Sucrose	C	Fruclose	D	Cellulose
316	**Which three elements are needed for the healthy growth of plants?**						
A	N,S,P	B	N,Ca,P	C	N,P,K	D	N,K,C
317	**Micro-nutrients are required in quantity ranging from:**						
A	4-40g	B	6-200g	C	6-200kg	D	4-40kg
318	**The nitrogen present in some fertilizers helps plants:**						
A	To fight against diseases	B	To produce fat	C	To undergo photosynthesis	D	To produce protein
319	**Phosphorus helps the growth of:**						
A	Root	B	Leave	C	Stem	D	Seed
320	**For which crop, ammonium nitrate fertilizer is not used?**						
A	Cotton	B	Wheat	C	Sugar cane	D	Paddy rice
321	**During the manufacture process of cement the temperature of the decomposition zone goes up to:**						
A	600oC	B	800oC	C	1000oC	D	1200oC
322	**Which is not a calcareous material?**						
A	Lime	B	Clay	C	Marble	D	Marine shell
323	**Through how many zones, does the charge pass in a rotary kiln?**						
A	4	B	3	C	2	D	5
324	**Which woody raw material is used for the manufacture of paper pulp?**						
A	Cotton	B	Bagasse	C	Poplar	D	Rice straw
325	**The word paper is derived from the name of which reedy plant?**						
A	Rose	B	Sun flower	C	Papyrus	D	Water Hyacinth
326	**The macronutrients are required in quantities ranging from:**						
A	4-40kg per acre	B	10-100kg per acre	C	5-100kg per acre	D	5-200kg per acre
327	**Percentage of nitrogen in urea is:**						
A	0.76	B	0.56	C	0.46	D	0.86

328	**Ammonium Nitrate fertilizer is not useful for:**						
A	Wheat	B	Cotton	C	Sugar cane	D	Paddy rice
329	**One of following is argillaceous material:**						
A	Marble	B	Clay	C	Lime	D	Marine Shell
330	**Cement contains gypsum:**						
A	0.03	B	0.02	C	0.002	D	0.003
331	**The temperature in the non-rotating champer in the incineration of industrial and hazardous waste process has a range:**						
A	5000C to 9000C	B	9500 to 13000C	C	2500C to 5000C	D	1500C to 2500C
332	**Woody Raw Material for paper pulp is obtained from:**						
A	Cotton	B	Bagasse	C	Poplar	D	Rice straw
333	**Ecosystem is a smaller unit of:**						
A	Lithosphere	B	Hydrosphere	C	Atmosphere	D	Biosphere
334	**The pH range of the acid rain is:**						
A	7-6.5	B	6.5-6	C	6-5.6	D	Less than 5
335	**Peroxyacetylnitrate (PAN) is an irritant to human beings and it affects:**						
A	Eyes	B	Ears	C	Stomach	D	Nose
336	**To avoid the formation of toxic compounds with chlorine which substance is used for disinfecting water:**						
A	$KMnO_4$	B	O_3	C	Alums	D	Chloramines
337	**A single chloride free radical can destroy how many ozone moleucles:**						
A	100	B	100000	C	10000	D	10
338	**Fungicides are the pesticides which:**						
A	Control the growth of fungus	B	Kill insects	C	Kill plants	D	Kill herbs
339	**In purification of potable water the coagulant used is:**						
A	Nickel sulphate	B	Copper sulphate	C	Barium sulphate	D	Alum
340	**The temperature in the non-rotating chamber in the incineration of industrial and hazardous waste process has a range:**						
A	900 to 1000oC	B	250 to 500oC	C	950 to 1300oC	D	500 to 900oC
341	**The pH of unpolluted rain water should be:**						
A	5	B	5.6	C	6.5	D	7
342	**Which is a secondary pollutant?**						
A	Carbonic acid	B	CO_2	C	SO_2	D	CO
343	**The main pollutant of leather tanneries in the waste water is:**						
A	Lead	B	Chromium (vi)	C	Copper	D	Chromium (iv)
344	**The pH of truly acidic rain is:**						
A	7.6 – 8	B	6.5 – 6	C	5.5 – 6	D	Less than 5
345	**Which gas is cause of Asthma?**						
A	O_3	B	O_2	C	SO_2	D	CO_2
346	**Water is disinfected by a substance to avoid toxification:**						
A	$KMnO_4$	B	Alums	C	O_3	D	Cl_2
347	**Which one of the following is a secondary pollutant?**						
A	CO	B	NOx	C	SOx	D	PAN
348	**In water the concentration of dissolved O2 should be:**						

A	1-3 ppm	B	2-4 ppm	C	4-8 ppm	D	8-12 ppm
349	**Hard water contains:**						
A	Ca and Mg salts	B	Carbonates of Na and K	C	Chlorides of Na and K	D	Sulphate of Al
350	**Oxidation of NO in air produces:**						
A	NO_2	B	N_2O_3	C	N_2O_4	D	N_2O_5

Answer Keys

1	(A)	2	(C)	3	(D)	4	(A)	5	(D)	6	(D)	7	(A)
8	(C)	9	(D)	10	(B)	11	(A)	12	(A)	13	(A)	14	(A)
15	(A)	16	(A)	17	(C)	18	(B)	19	(A)	20	(B)	21	(B)
22	(D)	23	(C)	24	(D)	25	(A)	26	(C)	27	(D)	28	(A)
29	(A)	30	(A)	31	(A)	32	(C)	33	(A)	34	(D)	35	(B)
36	(B)	37	(C)	38	(A)	39	(A)	40	(A)	41	(A)	42	(A)
43	(B)	44	(A)	45	(D)	46	(B)	47	(A)	48	(A)	49	(A)
50	(B)	51	(D)	52	(C)	53	(A)	54	(C)	55	(A)	56	(D)
57	(C)	58	(D)	59	(C)	60	(C)	61	(A)	62	(A)	63	(A)
64	(D)	65	(D)	66	(A)	67	(A)	68	(A)	69	(A)	70	(A)
71	(A)	72	(A)	73	(A)	74	(A)	75	(D)	76	(B)	77	(A)
78	(A)	79	(B)	80	(B)	81	(A)	82	(B)	83	(C)	84	(A)
85	(A)	86	(A)	87	(A)	88	(A)	89	(A)	90	(D)	91	(D)
92	(C)	93	(A)	94	(A)	95	(A)	96	(A)	97	(A)	98	(C)
99	(A)	100	(D)	101	(B)	102	(B)	103	(C)	104	(A)	105	(A)
106	(A)	107	(C)	108	(A)	109	(A)	110	(A)	111	(A)	112	(A)
113	(A)	114	(A)	115	(A)	116	(A)	117	(A)	118	(C)	119	(C)
120	(B)	121	(A)	122	(D)	123	(B)	124	(D)	125	(B)	126	(D)
127	(C)	128	(D)	129	(D)	130	(A)	131	(A)	132	(A)	133	(A)
134	(A)	135	(A)	136	(A)	137	(A)	138	(A)	139	(D)	140	(C)
141	(C)	142	(B)	143	(D)	144	(C)	145	(A)	146	(B)	147	(C)
148	(A)	149	(C)	150	(B)	151	(A)	152	(B)	153	(A)	154	(C)
155	(C)	156	(A)	157	(B)	158	(C)	159	(A)	160	(A)	161	(A)
162	(A)	163	(B)	164	(D)	165	(C)	166	(C)	167	(C)	168	(C)
169	(A)	170	(A)	171	(D)	172	(A)	173	(A)	174	(A)	175	(B)
176	(D)	177	(A)	178	(A)	179	(A)	180	(A)	181	(B)	182	(B)
183	(D)	184	(B)	185	(D)	186	(B)	187	(A)	188	(A)	189	(C)
190	(B)	191	(A)	192	(A)	193	(D)	194	(B)	195	(C)	196	(A)
197	(A)	198	(A)	199	(A)	200	(C)	201	(D)	202	(A)	203	(A)
204	(A)	205	(D)	206	(A)	207	(C)	208	(A)	209	(A)	210	(A)
211	(A)	212	(A)	213	(A)	214	(A)	215	(A)	216	(A)	217	(A)
218	(A)	219	(A)	220	(C)	221	(B)	222	(C)	223	(A)	224	(D)
225	(A)	226	(B)	227	(B)	228	(A)	229	(A)	230	(A)	231	(A)
232	(A)	233	(A)	234	(A)	235	(A)	236	(A)	237	(B)	238	(C)
239	(D)	240	(A)	241	(C)	242	(B)	243	(D)	244	(D)	245	(A)
246	(C)	247	(C)	248	(A)	249	(A)	250	(A)	251	(C)	252	(C)
253	(A)	254	(A)	255	(A)	256	(A)	257	(B)	258	(A)	259	(A)
260	(B)	261	(A)	262	(A)	263	(A)	264	(D)	265	(A)	266	(B)
267	(A)	268	(B)	269	(A)	270	(D)	271	(B)	272	(A)	273	(A)
274	(A)	275	(A)	276	(A)	277	(C)	278	(D)	279	(A)	280	(D)
281	(B)	282	(D)	283	(A)	284	(A)	285	(C)	286	(A)	287	(A)

288	(A)	289	(D)	290	(A)	291	(A)	292	(A)	293	(B)	294	(D)
295	(A)	296	(D)	297	(D)	298	(A)	299	(A)	300	(A)	301	(A)
302	(A)	303	(A)	304	(A)	305	(A)	306	(A)	307	(A)	308	(A)
309	(A)	310	(D)	311	(B)	312	(C)	313	(C)	314	(C)	315	(B)
316	(A)	317	(A)	318	(A)	319	(A)	320	(A)	321	(A)	322	(A)
323	(A)	324	(A)	325	(A)	326	(D)	327	(C)	328	(D)	329	(B)
330	(B)	331	(B)	332	(C)	333	(A)	334	(A)	335	(A)	336	(A)
337	(A)	338	(A)	339	(A)	340	(A)	341	(B)	342	(A)	343	(B)
344	(D)	345	(A)	346	(C)	347	(D)	348	(C)	349	(A)	350	(A)

Q.NO.2

1. The first electron affinity of oxygen is in negative sign but the second one is positive Why?
2. Diamond is a non-conductor but graphite is a good conductor Why?
3. Why oxidation number of noble gases is usually zero?
4. Why the metals are good conductors?
5. Give reason that hydration energy of Al^{3+} ions more than Mg^{2+} ions?
6. Define hydration energy with an example?
7. Define "Electron Affinity" Why second electron affinity value is positive?
8. Hydration energy of the following ions are in the order Explain $Al^{+3}>Mg^{+2}>Na^{+}$
9. Why the ionic radius of a positive ion is smaller than that of its neutral atom?
10. Why first ionization energy of Mg is greater than that of Na?
11. Why size of an anion is always greater to that of its parent atom?
12. How does hydrogen resemble with alakali metals?
13. Give any two resemblances of hydrogen with group IV-A
14. Give four points in which Lithium differ from its own family members
15. Write formulas of Borax and Chile saltpeter?
16. Give two similar properties of Lithium and Magnesium
17. Write chemical formulas of the following metals? (i) Beryl (ii) Barite
18. Write formulas of Beryl and Sylvite
19. What happens when? (i) Lithium hydride is treated with water (ii) lithium carbonate is heated
20. What happens when: i) Li_2CO_2 is heated ii) Na_2CO_3 is heated
21. Write down formulae of the minerals: a) Dolomite b) Asbestos
22. What are advantages of Down's cell for the preparation of sodium on commercial scale?
23. What are the two major problems faced during the working of diaphragm cell?
24. Write four uses of Borax?
25. What is chemistry of Borax bead test?
26. How does H_3BO_3 act as an acid?
27. What is Borax bead Test?
28. Justify the solubility of borax changes with temperature
29. What are uses of Boric acids?
30. Why boric acid can't be titrated by NaOH?
31. What is effect of Heat on Boric acid?
32. How Aluminum reacts with aqueous sodium hydroxide?
33. Give any four uses of Aluminum
34. Aluminum sheets are said to be corrosion free Why?
35. Aluminum when burn in oxygen an intense white light is produced Explain
36. Give two similarities between carbon and silicon's?
37. Write formula of the following ores (i) Talc (ii) Zircon
38. How does NO act as oxidizing agent?
39. What happens when N_2O is dissolved in water?

40. How HNO_3 can be prepared in the laboratory?
41. Write four used of HNO_3?
42. How does HNO_2 acts as a reducing agent?
43. What is Aqua Regia? How does it dissolve noble metals?
44. Give the reaction of HNO_3 with carbon and sulphur
45. Why dinitrogen oxide is called Laughing gas?
46. What is the effect of dil HNO_3 on: (a) Mg (b) Cu
47. What is meant by fuming nitric acid?
48. Write two reactions for the preparation of phosphorus acid
49. Give definition of allotropy. Write allotropes of phosphoric
50. How H_3PO_4 is prepared on large scale?
51. P_2O_5 is powerful dehydrating agent Justify it with two chemical equations
52. Give reaction of P_2O_5 with (a) HNO_3 (b) C_2H_5OH
53. Give reaction of P_2O_5 with cold and hot water
54. How does P_2O_3 react with water in cold and hot states?
55. Orthophosphoric acid is a weak tribasic acid Prove it giving reactions with NaOH
56. Write two points of differences between Red and White Phosphorus
57. Write down two chemical equations which show that H_2SO_4 is dehydrating agent
58. Write two SO_3 dissolved in H_2SO_4 and not in water?
59. Give reactions of conc H_2SO_2 with oxalic acid and formic acid
60. H2SO4 acts as an oxidizing agent. Write two reactions
61. Justify that H_2SO_4 is king of chemicals
62. Why SO_3 gas is dissolved in $H2SO_4$ but not in water in contact process
63. How does H_2SO_4 react with: (a) Zn (b) Cu
64. What are micronutrients and macronutrients?
65. What are micronutrients required for proper growth of plants?
66. What is the role of potassium in growth of plants?
67. How urea is prepared from Ammonia?
68. What do you mean by prilling of urea?
69. What is the importance of Potassium Fertilizer?
70. Give significance of potash fertilizer
71. Define DAP. Write reaction for its preparation
72. What is the role of phosphorus in proper growth of plants?
73. How NH3 is given to the plants? Give its composition
74. What is Cement? Which raw materials are used for its preparation?
75. What is difference between Clinker and Cement?
76. Describe the average composition of Portland cement
77. Define clinker How it is converted to cement?
78. Explain reactions taking place in first 24-hours during setting of cement
79. What is meant by setting of Cement?
80. How Portland cement is made? Why gypsum is added in the cement?

Q.NO.3

1. Why HF is a weak acid than other Halogens acids?
2. Give reason why fluorine is gas iodine is solid?
3. How does fluorine differ from its family members?
4. Describe two uses of helium.
5. Halogens are strong oxidizing agents justify.
6. Why oxidizing power of F2 is higher than other halogens?

7. Why Iodine has metallic luster?
8. HF is a weak acid. Why?
9. Write four uses of Bleaching powder.
10. Write four properties of hydrogen fluoride.
11. Describe H-Bonding in HF molecule.
12. What is halothane? Give its two uses.
13. Reaction of Cl_2 with aqueous solution of NaOH at 15°C is a disproportionation reaction. Justify.
14. Perchloric acid is considered as a valuable analytical reagent. Why?
15. Write any two important applications of helium.
16. How bleaching powder can act as an oxidizing agent?
17. Give reaction of bleaching powder with NH_3 and HCl.
18. Write four uses of Halogen.
19. What is bleaching powder? How it is prepared?
20. What are Freons and Teflon?
21. How XeF_2 and XeF_4 can be prepared?
22. Complete the following reaction. (a) $XeF_4 + NH_3 \rightarrow ?$ (b) $XeF_4 + Hg \rightarrow$
23. Write down the reaction of chlorine with cold and hot NaOH.
24. Give reason oxidation powder of halogens increase $F_2 > Cl_2 > Br_2 > I_2$
25. Complete the following reactions. (a) $CaOCl_2 + H_2SO_4 \rightarrow ?$ (b) $CaOCl_2 + 2HCl \rightarrow$
26. What are the various allotropic forms of Group VIA elements of periodic table
27. HF is less viscous liquid than water. Why?
28. Write two uses of helium.
29. Complete the following reactions: (a) $KClO_4$ (s) + $H2SO_4$ (conc.) → (b) $XeF_6 + H_2 \rightarrow$
30. Give two reactions to show H_2SO_4 as a dehydration agent.
31. What are polycyclic aromatic hydro-carbons? Give two examples.
32. How Aromatic Hydrocarbons are classified?
33. Write structural formula of: a) Nephthalene b) Diphenyl methane
34. Describe X-rays structure of Benzene.
35. How is the straight chain structure of benzene ruled out?
36. How will you prove that benzene has cyclic structure?
37. What is aromatization?
38. How benzene is prepared from sodium benzoate and phenol?
39. What is Wurtz-Fitting reactions?
40. What happens when benzene is heated with conc. H_2SO_4 at 80°C?
41. Define meta-directing groups. Give two examples.
42. What does happen to benzene during Friedel Craft's reaction? Give mechanism of one reaction.
43. Give the mechanism of Nitration of benzene.
44. What is the general pattern of reactivity of benzene towards electrophiles?
45. What do you know about ozonolysis?
46. What happens when acidified $KMnO_4$ is added to methyl benzene and ethyl benzene?
47. Why hydroxyl group (OH) is other and para directing group?
48. Benzene is less reactive than Alkene, why?
49. What is difference between Aldehyde and Ketone?

50. How formaldehyde and acetaldehyde undergo polymerization?
51. How formalin is prepared on the commercial scale from methyl alcohol?
52. How formaldehyde is prepared in laboratory?
53. How will you distinguish between 2-pentanone and 3-pentanone?
54. Give reactions of Aldehyde with HCN and $CH_3 - CH_2 - OH$.
55. How aldehyde react with hydrazine? Give its mechanism?
56. What is "Haloform Reaction"? Give its uses.
57. Give the mechanism of Cannizzaro's reaction.
58. Define aldol Condensation.
59. How aldehyde reacts with Ammonia derivative? Give its general mechanism?
60. What are condensation reactions?
61. Complete the reaction. i) $CH_3CHO + C_2H_5OH$ to? ii) $CH_3CHO + NH_2OH$ to?
62. Give the mechanism of addition of HCN to Acetone.
63. How acetone is oxidized with $K_2Cr_2O_7$ / H_2SO_4?
64. Justify that aldehydes with no \propto-hydrogen give Cannizaro's reaction.
65. Give mechanism of addition of HCN to acetaldehyde.
66. Discuss oxidation of Ketones with $K_2Cr_2O_7/H_2SO_4$
67. How will you prepare ethanaloxime from an aldehyde?
68. Why formaldehyde does not show Aldol Condensation?
69. What is iodoform test? Give two uses of it.
70. Write composition of Tollen's reagent? And which organic compounds are usually identified by it.
71. Why Tollen's test is also called silver mirror test?
72. What is sodium bisulphite test?
73. Discuss the reaction of an aldehyde with Tollen's reagent.
74. What is silver mirror test? Give an example.
75. Write four important uses of Acetaldehyde.
76. What happens when ammonium acetate is heated?
77. Write the formula of: a) Benzoic acid b) Pthalic acid
78. How is carboxylic prepared from Grignard's reagent?
79. How carboxylic acids are prepared by the oxidation of alkenes?
80. Why does mostly carboxylic acid exist as dimers?
81. Which ester gives banana and orange smell?
82. Write down mechanism of the reaction of $SOCl_2$ with acetic acid.
83. Write the mechanism of reaction between acetic acid and Ammonia.
84. How acetic acid reacts with: a) PCl_5 b) $SOCl_2$
85. Write equation for reaction of acetic acid with sodium carbonate.
86. How acetic acid is converted into ethanol?
87. How will you convert acetic acid into methane?
88. What is vinegar? How is it prepared from ethyl alcohol?

Q.NO.4

1. Define catenation.
2. What do you know about cracking of petroleum? Explain.
3. Differential between Homocyclic or Heterocyclic compounds.

4. What are Alicyclic compounds? Give two examples.
5. What are homocyclic compounds? Give two examples.
6. What are Amines and Imines? Give one example of each.
7. Define functional group. Give two examples of oxygen containing functional group.
8. Draw the structure of C_2H_5 and indicate bond angles?
9. Define the terms: a) Fractional Distillation b) Hybridization
10. Define metamerism with example.
11. Explain geometrical isomerism with example.
12. What are Isomerse and Tautomers?
13. Describe position isomerism with example.
14. What are the conditions for cis-trans isomerism?
15. 1-Butane does not show cis-trans isomerism but 2-butene does. Justify the statement.
16. Why compounds containing (C=C) bond show geometric isomerism?
17. Define Cis-Trans Isomerism. Give one example.
18. Alkanes are less reactive than Alkenes, comment.
19. How methane is converted to formic acid.
20. Give four uses of methane.
21. What is heat of combustion?
22. What is Baeyer's test to check the presence of carbon-carbon double bond?
23. What are clemmensen and Wolf-Kishner reduction reactions? How they differ?
24. Write down mechanism for the Kolbe's electrolytic method for the preparation of alkanes.
25. What is Raney-Nickel? Where it is prepared?
26. What is catalytic hydrogenation? Give an example.
27. Give four uses of ethene.
28. Give mechanism of bromination of ethene.
29. Write chemical reaction for the preparation of propene from: (i) CH_3-CH_2-CH_2-Br (ii) CH_3-CH_2-CH_2-OH
30. Why alkenes are called elefins?
31. Give four uses of Ethyne?
32. What is polymerization? How high quality polyethene is prepared from ethene?
33. How does Acetylene react with HBr?
34. Give reactions of HCN and NH_3 with CH = CH. Also mention Reaction Conditions?
35. How Ethyne is prepared on Industrial Scale?
36. What is hydrogenolysis? Give an example.
37. Why alkanes are less reactive organic compounds?
38. What happens when vic-dihalide is treated with Zn-dust?
39. When double bond and triple bonds are present in a compound, how are they named?
40. Write down structural formula of: a) Vinyl chloride b) Vinyl Cyanide
41. Why does Alkane show least-reactivity?
42. How would you prepare acetone from propyne?
43. Write two identification tests of 1-alkynes.
44. Benzene is polymer of acetylene. Justify.
45. Distinguish ethene from ethyne by a chemical reaction.
46. Why alkynes are slightly acidic in nature? Justify with an example.
47. What are primary and tertiary alkyl halides? Give one example each.
48. Define primary alkyl halide and secondary alkyl halide with one example.

49. Give reactions of ethyl bromide with a) CH_3COONa b) Zn / HBr
50. How does ethyl alcohol react with H_2SO_4 in two different ways?
51. Give an excellent method to preparation simple Alkyl Iodide.
52. Describe the best method for preparation of alkyl halides.
53. Give mechanism of SN_1 reactions.
54. Give only mechanism for SN_2 reactions.
55. What is leaving group and substrate?
56. Why does SN_2 mechanism give a product with inversion of configuration? Show with one reaction.
57. Convert ethyl bromide into: i) Ethane b) n-Butane
58. Define nucleophile and substrate with an example.
59. Describe mechanism of E_2 reactions of alkyl halide.
60. Describe the mechanism of E1 reaction.
61. How does alkyl halide react with sodium lead alloy?
62. Distinction between alcohol (CH_3CH_2OH) and Phenol ($C_6H_5 - OH$).
63. Ethyl alcohol is a liquid while methyl chloride is a gas. Give reason.
64. Prepare each of following compounds from acetaldehyde: a) Lactic acid b) Acetic acid
65. Write structural formula of the compounds. i) Carbolic acid ii) Glycerol
66. Write the name and structures of two polyhydric or Polyhydroxy alcohols.
67. 1What is difference between Monohydric and polyhydric alcohols? Give one example of each.
68. Define fermentation, give its conditions.
69. Absolute alcohol cannot be prepared by fermentation process. Why?
70. Ethanol gives different products with conc. H2SO4 under different conditions. Justify it.
71. Write equation for reactions of C_2H_5OH with PBr_3, PCl5
72. Give oxidation of primary and secondary alcohols.
73. How wood-spirit is prepared from water gas?
74. Ethanol has higher boiling point than diethyl ether. Give reason.
75. What is rectified spirit? How is absolute alcohol obtained from it?
76. Distinction between methanol (CH_3OH) and ethanol (CH_3CH_2OH).
77. What is Lucas test?
78. Give any four uses of methyl alcohol.
79. Give reaction of: i) Phenol with zinc ii) Benzene with SO_3.
80. Prepare the following compounds from phenol: i) 2,4,6-Trinitro phenol ii) Benzene
81. Give reaction of phenol with: a) Bromine water b) Conc. H_2SO_4
82. Describe method for preparation of phenol from sodium salt of benzene sulphonic acid.
83. Phenol behaves as an acid, explain.
84. How phenol can be converted into Benzene?
85. How does picric acid synthesis take place?
86. Give the reactions of phenol with conc. H_2SO_4 and acetyl chloride.

Subjective Part

LONG Q.NO.5

1. What is Mendeleev's periodic table? Discuss improvements in Mendeleev's periodic table.
2. Explain the position of hydrogen over its group of periodic table with two similarities and two differences.
3. Discuss the position of hydrogen over VII-A group elements.
4. Explain similarities of hydrogen with halogens and dissimilarities with alkali metals.
5. Why hydrogen cannot be placed above alkali metals and halogens?
6. Give eight points of differences between Lithium and other members of the family?
7. Describe the process for the preparation of sodium metal on industrial scale by Down's cell? What are advantages of this process?
8. Describe the two problems involved in the manufacture of caustic soda by Nelson cell and how these problems are solved.
9. Describe the commercial preparation of sodium hydroxide by Diaphragm cell with diagram.

LONG Q.NO.6

1. What happen when dil HNO_3 and Cinc. HNO_3 react with Cu , Hg , Sn and Zn.
2. Write equation for the reaction of Conc. HNO_3 with: (i) HI (ii) Sn (iii) Cu (iv) Zn
3. Describe Birkeland and Eyde's process for the manufacture of Nitric acid.
4. Describe eight points of similarities of oxygen and Sulphur.
5. Give four reactions of H_2SO_4 as an acid.
6. How sulphuric acid is manufactured by contact process on industrial scale.

LONG Q.NO.7

1. What is cracking of petroleum? Explain any two ways in which cracking is carried out?
2. What is orbital hybridization? Explain SP-hybridization of carbon.
3. What is orbital hybridization explain sp_3-hybridization with the formation of $CH_2=CH_2$.
4. What is Isomerism? Discuss position Isomerism and geometrical Isomerism.
5. Write laboratory and industrial preparation of acetaldehyde.
6. Write a note on Cannizzaro's reactions.
7. Describe the mechanism of aldol condensation.
8. Write a brief note on haloform reaction.
9. Describe mechanism for i) Cannizato's reaction ii) Aldehyde with $NH_2 - OH$.
10. How acid and base catalyse the nucleophilic addition reactions of carbon compounds? Give general mechanism of each reaction.

LONG Q.NO.8

1. What do you mean by saturated and unsaturated hydrocarbons? How there are distinguished chemically? How these are distinguished chemically?
2. Describe with examples the acidic nature of alkynes.
3. Define polymerization, explain polymerization reaction of acetylene.
4. Give comparison of Reactivates of Alkenes, Alkenes and Alkynes.
5. Write four methods for the preparation of Alkenes.
6. Prepare Ethane from Kolbe's Electrolytic method, Write down its mechanism.
7. Explain with equation how alkenes can be prepared from Acid and Grignard's reagents.
8. Write uses of Methane.
9. How the presence of double bond is detected by using Baeyre's reagent?
10. Define alkyl halide. Give three methods to prepare them from alcohols.
11. Compare E_2 and E_1 mechanism for β –Elimination reactions?
12. Differentiate between SN1 and SN2 reactions.

LONG Q.NO.9

1. What are Aromatic Hydrocarbons? How are they classified?
2. Define alicyclic compounds and aromatic compounds with one example in each case.
3. What is resonance? Explain the structure of benzene on the basis of resonance.
4. Explain Stability of benzene.
5. Discuss two Industrial and two laboratory methods to prepare Benzene.
6. What are Friedel-Crafts Reactions? Explain mechanism of alkylation and Acylation of Benzene.
7. Write chemical reactions for preparation of ethanol from Molasses and Starch.
8. Describe industrial preparation of ethanol. How will you distinguish between ethanol?
9. How is Methyl alcohol obtained on large scale from water gas? Draw diagram also.
10. What is Lucas test? How will you distinguish between primary, secondary and tertiary alcohols by this test?
11. Write two methods for preparation of phenol, how phenol reacts with Conc. HNO_3 and Bromine water
12. Describe acidic behavior of phenol. How does phenol react with alkali to give salt?
13. Write down Dow's method for preparing phenol. What is action of following on phenol: i) Bromine water ii) HNO_3 at different temperatures