Arts, Commerce and Science College, Bodwad.

Multiple Choice Question Bank

T.Y. B.Sc. Sem-V **Subject: - CH-506 Green chemistry (Chemistry)**

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1. Green chemistry also called……
    a. Life chemistry
    b. Environmental chemistry
    c. Organic chemistry
    d. Sustainable chemistry

2.Green chemistry is the process to design chemical reaction in… …..

a. **Environment friendly manner**

b. Industrial friendly manner

c. Hazardous manner

d. All of the above

3.Minmata disease is one of the first &most serious disease resulted by chemical……

a. Isopropyl mercury

b. **Methyl mercury**

c. Isopropyl iodide

d. Methyl iodide

4.Many beneficial chemicals such as pharmaceutical,agricultural chemicals, and various plastics are obtained by…. ….

a. Physical process

b. Chemical process

c. **Environmental process**

d. Biological process

5.The term “green chemistry”was introduced by……..

    a. Rachel carlson
    b. Paul. T. Anastas
    c. Marteel
    d. Livio Desimone ,Treaty

6.Which of the following is the greenest solvent?

a. Formaldehyde
b. Benzene
c. Ethanol
d. Water

7.The principles of Green chemistry include the eliminating the.....treatments.

a. **Costly** b. Harmful

c. Hard. D. Easy

8.one of the principles of Green chemistry says that to produce…..goods.

a. Harmful b. Commercial

C. **Safer.** D. Most used

9.we must use feedstock derived from annnually renewable resources or from. ……..

a. chemicals b. Organic compound

C. **abundant waste** d. Plants

10.Green chemistry reduces the use of… ……

a. Liquid fuels b. **Energy**

c. Gaseous fuels d. Solid fuels

11.Green chemistry reduces the….and protects the environment.

a. **Pollution** b. Temperature

C. Air. D. Water

12.According to the green chemistry,the chemical involved in the production must be…….

a. **Non-toxic** b. Highly toxic

C. Toxic d. Produces the toxic by products

13.The green synthesis methods should have… …….

a. Low efficiency

b. High harmful product

C. **Low energy requirement**

d. Low atom efficiency

14.After the use of chemicals,we must……the properly.

a. Use b. Reuse c. **Dispose** d. Store

15.Green chemistry applies across the. …….of a chemical product like design,manufacture and use

a. **Life cycle** b. Properties

C. Uses d.Efficiency

16.which of the following is Not one of the twelve principles of Green chemistry?

a.using renewable feed stock

b. Designing safer chemicals and products

C. Maximizing atom economy

d. **Avoiding the use of catalyst**

17.Green chemistry synthesis could involve which of the following ?

a. High temperature b.Dichloromethane c. Fossil fuels d. **Microwave**

18.which green chemistry principle involves the use of solar power? a. Atom economy b. **Design of energy efficiency** c. Design benign chemicals d. Less hazardous synthesis

19……is an excellent ‘ green’solvent as well as greenhouse gas.

a. CFC’s **b. Co2**

C. Carbon monoxide d. Methanol

20.Green chemistry improves… …of chemical manufactures

a. **Competitiveness** b. Easiness of production. C. Service d. Chemical

21.Microwave assisted reaction operates at a frequency of……..

a.3 GHz b. b.**2.45 GHz** c. 1m d. 3mm

22.Ultrasound assisted reactions generally occurs in the range of……

a. 20Hz to 20K Hz b. Less than 20Hz c. **20KHz to 10 GHz**

d. More than 10Ghz

23.Microwave dielectric heating works with……&…….mechanism.

a. Ionic conduction&electron polarization. b. Electron polarization&dipolar polarization c. Dipolar polarization & ionic conduction d. **Both a&c**

24.Minamata disease,is a neurological syndrome caused by…..

a. **Mercury poisoning** b. Silver poising

c. Antimony poisoning d. All of above

25.In aqueous medium when ultrasound waves are transmitted it creates…….and… ….waves

a. Refraction and reflection b. **Rarefaction and compression** c. Rarefaction and refraction d. Compression and reflection

26.Microwave can transmit through…

a. Metal b. Solvent c. Glass d.All of above

27.who developed piezoelectric effect? a. **Jacques and Pierre curie**. b. Percy Spencer. C. Richard and Frank. d. Galton

28.Cavitation was first identified and reported by…….

a. Richard and Frank b. Jacques & Pierre curie c. **Thornycraft and Barnaby** d. Percy and Spencer

29.The atom economy obtained by Green synthesis is in the range of…… a. 62-70% b. 72-80% c. 40-50% d. **90-100%**

30.Micro fluid reactor will minimise….. a. Solvent waste b. Efficiency c. **No. Of molecule** d. No. Of collision

31.In paterno-Buchi reaction,carbonyl compounds react with alkenes to give…….
a.oxirane b. **Oxetane** c. Oxazole d. Thiazole

32.Photosynthesis in green plants require……. a. **Chlorophyll** b. Sunlight C. Co2&H20 d. All of these

33. Sir Robert Robinson's gives biomimetic synthesis of the alkaloid.
a. Norphedrine b. Loline. C. **Tropinone** d. Thiostreptone

34.In photochemical reaction, the presence of light is not required for the reaction to take place.
a. True b. **false**

35.The photo dimerisation Of cinnamic acid takes place in solid state to give dimer.
a Linolic acid b. **Truxillic acid** c. Mandelic acid d. Abscisic acid

36.Among the following which is not hydrogen-bons acceptor in DEs.

a. Chloline chloride b. **Glycine** c. Urea d. Lactic acid

37.The outer face of cyclodextrin is……in nature

a. **Hydrophilic** b. Hydrophobic c. Neutral d. None

38.which of the following is green reagent used for methylation reaction.
a. Methyl halide b. **Dimethyl carbonate** c. DMS d. All of these

39.Who invented Merrifield resin. a. **Robert Merrifield** b. Thomas Merrifield c. Alex Merrifield d. None

40.which of the following cyclodextrin is called cycloheptamylose.

a. α-cyclodextrin b.**β-Cyclodextrin.** c.√ cyclodextrin d. None

41.The volatile and water soluble organic solvents are responsible for which type of pollution .
a. Air b. Water c. Soil d.**all of these**

42……..was the first discovered Zeolite. a. ZSM-5 b. **Stilbite** c. Offretite d. Chabazite

43.Michael Addition can be carried out in presence of which green solvent?
a. Methanol b. Acetone c. **Water** d. None

44.β-cyclodextrin contain…….number of glucose unit. a.Five b. Six c. **Seven** d. Eight

45…….is not Hydrogen Bond donar in DESs. a Glycine b. **Urea** c. Sorbitol d.Imidazole

46.The green chemical is used in household cleaners to remove stains and is also favourite dressing on salad. a. **Vinegar** b. Citric acid.
C. Hydrochloric acid d. Water

47.Shortly After midnight in 1984, A reaction caused poisonous methyl isocyante gas to leak from a factory in this city……causing 3, 700 deaths?

a.Hinkly b.**Bhopal.** . c. Calcutta d. Siberia

48.The term missing in Risk=Hazard×….. a. Cancer b. Benign c. **Exposure** d. Reactivity .

49.Biodiesel is an example of which of the 12 principles of green chemistry.
A. Waste prevention. b. **Use of Renawble feedstock.** C. Use of catalyst. d. Safer solvent

50.who is the father of Green chemistry. a. John Warner **b. Paul Anastas.** C. Albert Einstein d.Joseph Breen

51. Environmental benefits of Green chemistry include? a. Fewer raw material &natural resources b. Cleaner production. C. Smaller quantities of hazardous waste to be treated &disposed of. d. **All of the above**

52.soyabean is used to replace traditional inks in printer catridges,highlighting chemistry principle? a. Atom economy. b. **Use of Renewable Feedstock** c. Reduce derivative d. Prevent waste

53.which one of the following three terms is used in the “sustainability” triangle?
a. Micro-Economics b. Planet. c. **Social responsibility** d**.** None

54.The word is synonymous with green chemistry &also means harmless or gentle &not life threatening ? a. Sustainable b**.Benign**
c. User friendly d. greenness

55.The term which microbial refers to the breakup within a compound due to microbial activity is… ….

a. **Microbial degradation** b. Agro degradation.
c. Photo degradation d. Decomposition

56.The term used to measure a product on person’s environmental impact is… …..
a.Handprint b. Co2print c. **Footprint** d. Hazardous print

57.Used to indicate the level of contaminants present,the term PPM means?
a. parts per micron b. **Parts per million** c. Parts per mass d. Parts per molecule

58……& moral arguments are after used when discussing sustainability &green chemistry?
a. Environment b. Technology c. Politics d. **Ethics**

59.Green chemistry can reduce all but which of the following….. a. Cost b. Risk&hazard. C. **Awareness** d. Waste

60. Which of the following types of reaction has the greatest value of atom economy?
a. Substitution b.Addition. c. Elimination d. Condensation
61. The _____ reactions involves reorganisation of the atoms of the molecules.
a) Addition reactions
b) **Rearrangement reactions**
c) Reorganised reactions
d) Elimination reactions
62. . C_2H_4 +1/2 O_2 → C_2H_4O(Ethylene oxide). This reaction will takes place under presence of catalyst. Find out the %atom economy.
a) 25%
b) 50%
c) 75%
d) **100%**
63. Self thermo regulated systems are called as _____
a) **Green methodologies**
b) Green synthesis
c) Green principles
d) Green concepts
64. _____ is the fundamental advantage of the sono chemistry in organic synthesis without solvents.
a) **High yields**
b) High energy requirements

c) Use of solvents
d) High wastes
65. An ideal solvent facilitates the _____
a) **Mass transfer**
b) Dissolving property
c) Combustion
d) Titration
66. _____ is the fundamental advantage of the sono chemistry in organic synthesis without solvents.
a**. High yields**
b**.** High energy requirements
c .Use of solvents
d. High wastes
67. **:** In green synthesis by avoiding harmful by products the catalyst used is _____
a. Tungsten
b. Benzene
c. Cyclo hexane
d. Adipic acid
68. **:** The di-basic acid is used in its _____
a. Impure form
b.. Pure form
c**.** Solid state
d**.** Liquid form
69. In conventional method _____ is used.
a. Nacl
b**.** **$Alcl_3$**
c**.** Na_2SO_4
d**.** H_2SO_4
70. ....., or VOCs, have been replaced and were banned in some paints?
a. Versatile Organic Chemicals
b. Volatile Organic Compounds
C. Volatile Organic Components
d. Versatile Odorless Components
71. Benzene, a _____ substance, is an important industrial solvent used in the production of pharmaceuticals, plastics, and dyes?
a) Odorless
b) Non-flammable
c) Biodegradable
d) **Carcinogenic**
72. Lignin, switch grass, and cellulose are all types of _____?
a) Enzymes
b) Catalysts
c) Bio-based feedstock's

d) Anti-cancer compound

73. What term is used to describe the process by which a synthetic procedure is developed such that it is suitable for a production plant?

a) Plant development

b) Product development

c) Process development

d) Production development

74. 2. .....interfere with hormone systems in animals and humans and are abbreviated EDCs?

1. Endocrine Destructive Components
2. Energy Disrupting Chemicals
3. **Endocrine Disrupting Chemicals**
4. Enzyme Destructive Components

75. An example of chemical toxics prevention is?

1. Removing water from industrial reactions
2. **Eliminating the formation of chlorinated organics in paper**
3. Utilizing ammonia instead of vinegar
4. Monitoring BPA (Bisphenol A) in plastic bottles

76. Business benefits of green chemistry include?

a. Reduced costs associated with waste treatment and disposal
b. Innovating greener products to entice customers
c. Greater compliance with environmental legislation
d. **All of the above**

77. The following term refers to the relative proportion of chemical components?

1. Togetherness
2. **Stoichiometry**
3. Metric
4. Colligative

78.An efficient synthesis of 2-hydrooxyacetophenone from phenyl acetate using acidic Al2O3-zncl2 absorbed…….was carried out under microwave irradiation in 5 mins gives 87%of yield.
a.chlorobenzene b. **Silica gel.** C. Fruity aroma d. None

79.The Johnson-claisen rearrangement is Also know as….. … a. **Orthoester claisen rearrangement.** b. Diels alder reaction c**.** Hofmann elimination d. All of these

80.Diels alder reaction is a chemical reaction between a conjugated diene and a substituted Alkene, commonly termed the… ……. a. Cyclohexene b. Diene c. **Dienophile** d. None

81.use of ……has led to high-yeilding synthesis of a thermally unstable Hofmann elimination product. a.ultrasound b. Hypersound c. Low frequency d. **Microwave irradiation**

82.The chemical effect of ultrasound was first reported by…… a. **Richards & Loomis** b. Pierre curie c. Thornycraft d. Barnaby

83……are due to phenomenon of acoustic cavitation that is,the creation growth and implosive collapse of gas filled bubbles in a liquid in response to an applied ultrasonic field.
a. Rarefaction b. Compression. c. **Sonochemical effects.** d. Collapse

84.when an acoustic field is applied to a liquid,the sonic vibrations create an acoustic pressure(Pa) at any time(t) ,which is given by the equation. a. P=pa-ph. b. Pa=PA sin2α c.Pa=PA d. **Pa=PAsin2πf t**

85. Which of the following will not increase the yield of an equilibrium reaction?

a) Using a reactant in excess

b) Removal of a product by crystallisation

c) Increasing the scale of the reaction

d. Removal of a product by distillation.

86. Which of the following reagents is acceptable on large scale

a) Palladium chloride

b) **Sodium dithionite**

c) Pyridinium chlorochromate

d) Tin chloride

87……..of secondary amine takes place under domination in the presence of a PTC reagent,polyethylene glycol monomethyl ether. a. **N-alkylation** b. Solid KoH. c. Zncl2 d. HN03

88.The……..oxidation of alcohols by solid potassium permanganate in hexane or benzene is enhanced considerably by sonication. a. Reduction b. **Oxidation.** c. Alkylation d. Esterification

89……..of ionic liquid are made up of single anion & single cation.
a. Vapour pressure b. Ionic liquid c. **Simple salt** d.none

90.The……..methanes have various biological applications such as anti-barterial activity, anti cancer activity,anti hyperglycemic. a. **Bis(indolyl)** b.chloride. c. Bromide. d. None

91……are most commonly known as new class of ionic liquids.
a. Bis(indolyl) b. Methane

c. **DES's.** d. Ionic

92.To To overcome…….&……Problems related to starting compounds involved in any organic synthesis, one most use cleaner chemical processes. a. Ionic & solvents. b. Functional & group. c. **Environmental &health** d. All of these

93……is a versatile compound that represents an attractive eco friendly. a. **Dimethyl carbonate.** b. Dimethyl sulphate c. Methyl iodide. d. None

94…….is a cross linked polystrene resin Which carries chloromethyl functional group.
a. Polystyrene b. DMC. C. **Merrifield resin .** d. Methoxy

95.Bakers yeast is the common name for the Strains of……..Which are used in baking bread & bakery products. a. Sweetcorn b. Vinegar. c. Chees d. **Yeast**

96…….Could be reduced to give corresponding 3- hydroxy butyrate.

a. Sucrose. b. **Ethyl acetoacetate.** c. Baker's yeast d. None

97…….are versatile catalyst which catalyst is various natural reaction such as fat hydrolysis , *trans esterification, etc.* *a*.lignin b. **Lipases** c. Fibers d. All of these

98…… are microporous crystalline aluminosilicates composed of Aluminum silicone and oxygen. a. Lipase b. Stilbite c. **Zeolite** d. Lithos

99.The chemical reaction take place by the action of light are called……..

a. Biomimetic synthesis. B. Paterno-Buchi reaction. c. **photochemical reaction.** d. None

100……developed a novel,multifunctional reagent for the conversion of pyridine to Boc-protected 2-aminopyridines. a. ***P. S.Fier eT al.*** ***b.*** *Marri curie c. Richard d. Frank*