

### **CHEMISTRY**

## **BOOKS - CHETANA PUBLICATION**

# **Green Chemistry and Nano chemistry**

Example

1. Explain the aim of green chemistry.



**2.** Define green chemistry.



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3. Define sustainable development.



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**4.** Name the principles of green chemistry.



**5.** Name the principles of green chemistry.



**6.** Write the formula to calculate % atom economy.



7. Which of the following is Y-isomer of BHC



8. Explain the role of green chemistry.



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**9.** What will be the shape of bacillus and coccus type of bacteria?



**10.** Which instrument is used to observe the cells?



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**11.** What is the size range of moelcules of lipids and proteins?



**12.** What is Nanotechnology ?Explain its properties.



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**13.** Define:

Nanoscience



**14.** Define:

Nanotechnology



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**15.** Explain nanomaterials



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**16.** Explain zero, one and two dimensional nanoscale system?



17. Explain Nanochemistry.



18. Figure of Nano-materials to atoms in nm.



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19. Scale of nanomaterials.



**20.** Which nanomaterial is used in sunscreen lotion? Write its use.



**21.** Explain characteristic features of nanoparticles with examples.



**22.** Explain wet chemical synthesis of Nanomaterials. OR

What do you mean by sol and get? Describe the sol-gel method of preparation for nanoparticles.



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**23.** Name the different techniques used in analysis or characterisation of nanomaterials.



**24.** Write name of techniques and for which instruments used in analysis or characterization of nanomaterials.



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**25.** Give the full form (long form) of the names for following instruments.

**XRD** 



**26.** Give the full form (long form) of the names for following instruments.

**TEM** 



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**27.** Give the full form (long form) of the names for following instruments.

**STM** 



**28.** The long form of FTIR is\_\_\_\_\_



**29.** Give the full form (long form) of the names for following instruments.

SEM



**30.** Write few examples of abundantly used nanoparticles



**31.** Write applications of nanomaterials.



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**32.** Explain.' Nanotechnology plays an important role in water purification techniques.



**33.** Explain. Nanomaterials plays an important role in self cleaning materials.



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**34.** Write advantages of nanoparticles and nanotechnology.



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**35.** Write disadvantages of nanotechnology.

# Exercise

- 1. The development that meets the needs of present without compromising the ability of future generations to meet their own need is known as
  - A. Continues development
  - B. Sustainable development
  - C. True development

D. Irrational development

#### **Answer:**



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### 2. Which of the following is Y-isomer of BHC

A. DDT

B. Lindane

C. Chloroform

D. Chlorobenzene



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- 3. The prefix 'nano' comes from
  - A. French word meaning billion
  - B. Greek word meaning dwarf
  - C. Spanish word meaning particle
  - D. Latin word meaning invisible

**4.** Which of the following information is given by FTIR technique?

A. Absorption of functional groups

B. Particle size

C. Confirmation of formation of

nanoparticles

D. Crystal structure



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**5.** The concept of green chemistry was coined by

- A. Born Haber
- B. Nano Taniguchi
- C. Richard Feynman
- D. Paul T.Anastas



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**6.** The principles of green chemistry include the eliminating the \_\_\_\_\_treatments.

A. Costly

B. Harmful

C. Hard

D. Easy



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**7.** One of the principles of green chemistry says that to produce goods.

A. Harmful

**B.** Commercial

C. Safer

D. Store



- **8.** We must us feedstock derived from annually renewable resources or from .
  - A. Chemicals
  - B. Organic compounds
  - C. Abdundant waste
  - D. Plants



- **9.** Green chemistry improves\_\_\_\_of chemical manufactures.
  - A. Chemicals
  - B. Easiness of production
  - C. Chemicals
  - D. Competitiveness



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- **10.** Green chemistry reduces the use of\_\_\_\_\_
  - A. Liquid fuels
  - B. Energy
  - C. Gaseous fuels
  - D. Solid fuels

**11.** Who first used the term nanotechnology and when?

A. Richard Feynman 1959

B. Norio Taniguchi 1974

C. Eric Drexler 1986

D. Sumio Lijima 1991



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**12.** What is buckyball?

A. A carbon molecule (c60)

B. Nickname for Mercedes-Benz's

C. Plastic explosives nanoparticles (c4)

D. Compressive strength of 20 nano-

newtons (c20)

**Answer:** 



**13.** How many oxygen atoms lined up in a raw would fit in a one nanometer space?

A. None, an oxygen atom is bigger than

B. One

1nm

C. Seven

D. Seventy

**14.** Which of these consumer products is already being made using nanotechnology methods?

A. Sunscreen lotion

B. Fishing lure

C. Golf ball

D. All of the above

15. Which of these statements is NOT true?

A. Aluminium at the nanoscale is highly combustible

B. Silicon at the nanosclaes is an insulator

C. Gold at the nanoscale is red

D. Copper at the nanoscale is transparent



16. What is Graphene?

A. A new material mode from carbon nanotubes

B. Graphically represent nanoparticles

C. A one-atom thick sheet of carbon

D. Thin film made from fullcrene

**Answer:** 



- **17.** The long form of FTIR is\_\_\_\_\_
  - A. Fast technology infre-raditions
  - B. Fourier transform infrared spectroscopy
  - C. Fullcrene testing infrared
  - D. Fast technology India radiations



**18.** The concept of green chemistry was coined by

- A. Born Haber
- B. Narfo Taniguchi
- C. Richard Feynman
- D. Paul T.Anastas

#### **Answer:**



- 19. The prefix 'nano' comes from
  - A. French word meaning billion
  - B. Greek word meaning dwarf
  - C. Spanish word meaning particle
  - D. Latin word meaning invisible



### 20. Which of the following is Y-isomer of BHC

A. DDT

B. Lindane

C. Chloroform

D. Chlorobenzene

#### **Answer:**



**21.** Which of these consumer products is already being made using nanotechnology methods?

A. Sunscreen lotion

B. Fishing lure

C. Golf ball

D. All of the above

#### **Answer:**



**22.** Write the formula to calculate % atom economy.



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**23.** Give the full form (long form) of the names for following instruments.

**TEM** 



**24.** Which nanomaterial is used for tyres of car to increase the life of tyres?



25. Write applications of nanomaterials.



26. Write disadvantages of nanotechnology.



27. Explain the role of green chemistry.



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**28.** Explain & illustrate real-time analysis pollution.



**29.** Explain characteristic features of nanoparticles with examples.



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**30.** Write name of techniques and for which instruments used in analysis or characterization of nanomaterials.



**31.** Explain zero, one and two dimensional nanoscale system?



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**32.** Explain and illustrate with an example the principle atom economy.



**33.** Explain. Nanomaterials plays an important role in self cleaning materials.



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**34.** Explain catalytic activity of nanoparticles with an example.

Define: Green chemistry



**35.** Define sustainable development.

