

BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY

Question Bank for UT1

Sub-ET M (315363)

Course- ME5K

UNIT – I

Green Fuels

MCQs

1. Which of the following is NOT a green fuel?

- a. Ethanol
- b. Biodiesel
- c. Coal**
- d. Green Hydrogen

2. Biogas, a type of green fuel, is primarily composed of which gas?

- a. Oxygen
- b. Carbon Dioxide
- c. Methane**
- d. Nitrogen

3. Which process is used to produce biofuels like ethanol from sugar cane or corn?

- a. Esterification
- b. Fermentation**
- c. Saponification
- d. Hydrogenation

4. Which of these is considered a "green" or "e-fuel" and can be carbon-neutral?

- a. Petroleum
- b. Natural Gas
- c. Synthetic Natural Gas (SNG)**
- d. Gasoline

5. What is the main advantage of using green fuels over traditional fossil fuels?

- a. Higher energy density
- b. Lower operating costs
- c. They are carbon-neutral or have reduced emissions**
- d. Non-renewable nature

6. Which of the following is the most appropriate raw material for biodiesel production?

- a. Coal
- b. Vegetable oil and animal fat**
- c. Natural gas
- d. Petroleum

7. Which country is known for heavily substituting Ethanol-powered vehicles for gasoline-powered vehicles, starting in the 1980s?

- a. United States
- b. Chile
- c. Brazil**
- d. Mexico

8. Which of these is NOT a major source of green fuels?

- a. Solar Energy
- b. Geothermal Energy
- c. Petroleum**
- d. Wind Energy

9. Biomass is used in the production of

- (a) fibres
- (b) chemicals
- (c) transportation fuels**
- (d) biochemical

10. Production of bioethanol is through fermentation of _____ and starch components

- (a) alcohol
- (b) sugar**
- (c) milk
- (d) acid

11. This is also called a biogas

- (a) biobutanol
- (b) biodiesel

(c) bioethanol

(d) biomethane

12. In biomethane, the percentage of carbon dioxide is

(a) 55-60

(b) 35-45

(c) 30-40

(d) 32-43

13. Bioethanol is mixed with _____ to prepare transport fuel

(a) oil

(b) petrol

(c) kerosene

(d) diesel

14. This is an example of starch crops biomass feedstocks

(a) corn stover

(b) wheat straw

(c) orchard prunings

(d) sugar cane

15. Which of the following is not a type of primary resource?

a) Crude Oil

b) Coal

c) Hydrogen Energy

d) Sunlight

16. Energy Resources which are being used for many decades are known as _____

a) conventional energy sources

b) non-conventional energy sources

c) primary energy sources

d) fuel cells

17. Wind and Hydrogen energy are examples of_____

a) primary sources

b) primary and secondary sources respectively

c) secondary sources

d) tertiary sources

18. On the basis of long-term availability, resources are classified into _____

a) conventional and non-conventional resources

b) renewable and non-renewable resources

c) primary and secondary resources

d) commercial and non-commercial resources

19. Which of these resources does not produce CO₂ during electricity generation?

a) Coal

b) Methane

c) Uranium

d) Biogas

20. Which of these is the major contributor to world pollution?

a) Commercial resources

b) Non-Commercial Resources

c) Renewable Resources

d) Nuclear Energy

Unit - II

Recent trends in Manufacturing Systems

MCQs

1. What are the main components of big data?
 - a) HDFS
 - b) MapReduce
 - c) YARN
 - d) All of the above**
2. Identify the term used to define the multidimensional model of the data warehouse.
 - a) Table
 - b) Data Cube**
 - c) Tree
 - d) Data Structure
3. Data in _____ bytes size is called as Big Data.
 - a) Tera
 - b) Giga
 - c) Peta**
 - d) Meta
4. Transaction data of the bank is.
 - a) Structured Data**
 - b) Unstructured Data
 - c) Both A & B
 - d) Non of the above
5. How many forms of Big Data could be found?
 - a) 2
 - b) 3**
 - c) 4
 - d) 5
6. Which of the following is NOT a characteristic of Big Data?
 - a) Volume
 - b) Variety
 - c) Veracity
 - d) Visualization**
7. What does the 'Volume' aspect of Big Data refer to?
 - a) The speed of data generation
 - b) The variety of data types
 - c) The sheer amount of data**
 - d) The accuracy of data
8. What is a key benefit of Big Data analysis?
 - a) Reduced hardware requirement
 - b) Improved decision making**
 - c) Limited data storage

- d) Lower cost of implementation
- 9. Which of the following challenges is specifically associated with Big Data's velocity?
 - a) Ensuring data accuracy
 - b) Handling the speed at which data is generated**
 - c) Reducing data storage requirements
 - d) Visualization the date
- 10. Which type of data does the variety aspect of Big Data primarily address?
 - a) Structured
 - b) Unstructured
 - c) Both structured and unstructured**
 - d) Non of the above
- 11. A Big Data job is failing due to a lack of sufficient memory. What is the most likely cause?
 - a) The data is too small for the job
 - b) Memory allocation is insufficient**
 - c) The data set is too fast
 - d) There is no issue with memory
- 12. Which of the following is NOT one of the 3Vs of Big Data?
 - a) Volume
 - b) Velocity
 - c) Variety
 - d) Validation**
- 13. What does the 'Velocity' characteristic of Big Data refer to?
 - a) The amount of data
 - b) The speed at which data is generated**
 - c) The different types of data
 - d) The source of data
- 14. Which of the following challenges is most associated with Big Data's 'Volume'?
 - a) Managing large amount of data**
 - b) Ensuring data security
 - c) Processing real time data
 - d) Handling different data formats
- 15. **What are the Four V's of Big Data?**
 - a) Velocity, Volume, Verification, Value
 - b) Volume, Variety, Veracity, Value**
 - c) Velocity, Validity, Volume, Variety
 - d) Velocity, Value, Verification, Variety
- 16. **Which of the following is NOT a driver for Big Data adoption?**
 - a) Increased data storage costs
 - b) Rapid technological advancements

- c) Growing demand for real-time analytics
 - d) Decreased need for data security**
17. **Big Data analytics primarily deals with:**
- a) Storing large volumes of data
 - b) Analyzing large datasets to uncover patterns and insights**
 - c) Securing data from unauthorized access
 - d) Deleting unnecessary data to reduce storage costs
18. **Which V of Big Data emphasizes the importance of data quality and trustworthiness?**
- a) Volume
 - b) Variety
 - c) Veracity**
 - d) Value
19. **What aspect of Big Data focuses on the sheer amount of data being generated?**
- a) Velocity
 - b) Volume**
 - c) Variety
 - d) Veracity
20. **Which of the following industries commonly leverages Big Data analytics for optimizing operations?**
- a) Agriculture
 - b) Healthcare**
 - c) Hospitality
 - d) None of the above