

## Question Bank

### Pulp and Paper Tech -VIII

1. The coating usually consists of 3 categories of compounds which are \_\_\_\_\_
  - A. Clay, calcium carbonate, and titanium dioxide
  - B. Pigment, binder , and additives
  - C. Calendar, reel, and latex
  - D. Latex, emulsion, and alum
2. Animal glue is a protein derived from
  - A. Ossein
  - B. Starch
  - C. Alginates
  - D. Hydroxyethyl ether
3. Which method has been used for quantitative analysis of Nitrogen in paper?
  - A. SCN & I test
  - B. Kjeldahl determination
  - V. Kubelka Munk equation
  - D. All
4. A process which changes a material manufactured in continuous process from web form into roll form for further processing. This process is called as.....
  - A. Winding
  - B. Coating
  - C. Calendering
  - D. Super calendaring
5. The surface size : fiber ratio varies as
  - A. Viscosity changes
  - B. Weight of the sheet is changes
  - C. Both a and b
  - D. None of the above

6. Which equation has been used to predict penetration of fluids into porous substrate?
- A. Lucas-Washburn equation
  - B. Kubelka Munk equation
  - C. Danforth equation
  - D. Kjeldahl equation
7. The \_\_\_\_\_ is a series of solid rolls, usually steel or cast iron, mounted horizontally and stacked vertically.
- A. Supercalender
  - B. Calendar stack
  - C. Reels
  - D. Surface sizing
8. A \_\_\_\_\_ is a H<sub>2</sub>O emulsion of a synthetic polymer (rubber or plastic). Latexes are utilized in paints, and many coatings are really much like paints.
- A. Reel
  - B. Alum
  - C. Latex
  - D. Emulsion
9. In hardboard, when standard-grade boards are given a treatment consisting of dipping them in a blend of drying oil or other oxidizing resin and then baking them at elevated temperature to stabilize the resins, they are classified as\_\_\_\_\_.
- A. Tempered grade
  - B. Service grade
  - C. Standard grade
  - D. Tempered and Service grade
10. \_\_\_\_\_ is mainly made from kraft or sulfite softwood pulps and may contain limited amounts of mechanical pulp or recycled fiber.
- A. Coated groundwood
  - B. Tissue
  - C. Uncoated groundwood
  - D. Uncoated wood-free paper

11. The base sheet of coated, wood-free paper is manufactured from kraft or sulfite softwood pulps. Which type of paper is this?

- A. Coated wood-free paper
- B. Uncoated wood-free paper
- C. Coated groundwood
- D. Uncoated groundwood

12. Insulating board products are manufactured in a range of densities between\_\_\_\_\_.

- A. 160 -416 kg/m<sup>3</sup>
- B. 10-26 kg/m<sup>3</sup>
- C. 30-40 kg/m<sup>3</sup>
- D. 613-845 kg/m<sup>3</sup>

13. \_\_\_\_\_is a continuous pulping process by which moist wood chips are fiberized at high temperatures (150° to 180° C.) in the presence of steam.

- A. Masonite explosion process
- B. Asplund process
- C. Medium-density building process
- D. Wet mat and drying process

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15. For manufacturing of Board suitable sizing material such as, rosin, wax or asphalt are incorporated. The main application of these sizing agent is to\_\_\_\_\_.

- A. Increase the basic weight
- B. Reduce the viscosity
- C. Render the boards weather resistant
- D. Render the boards flame resistant

16. Vegetable fiber boards are produced in densities of from\_\_\_\_\_.

- A. 12 to 28 Kg/m<sup>3</sup>
- B. 192 to 448 Kg/m<sup>3</sup>
- C. 80 to 140 kg/m<sup>3</sup>
- D. 15 to 27 Kg/m<sup>3</sup>

17. The principal forms in which water may be found in fibreboard is called \_\_\_\_\_.

- A. Surface moisture
- B. Equilibrium moisture
- C. Hygroscopic moisture
- D. Both Surface and Equilibrium moisture

18. The relationship between the force and deflection in stiffness is measured by\_\_\_\_\_.

- A.  $I = wt^3/4$
- B.  $I = wt^3/12$
- C.  $I = wt^3/8$
- D.  $I = wt^3/16$

19. Most common method used for measuring bending properties is \_\_\_\_\_.

- A. Bursting tester
- B. Bristow tester
- C. Cantilever beam stiffness tester
- D. Air leak smoothness tester

20. The dimensional changes that occur when paper is exposed to different relative humidities refer as\_\_\_\_\_.

- A. Hygroexpansivity
- B. Relative humidity
- C. Modulus of elasticity
- D. None of the given option

21. The \_\_\_\_\_ measures the energy required to propagate an initial tear through a lot of sheets of paper for a fixed distance.

- A. Folding endurance
- B. Abrasion factor
- C. Internal tear resistance
- D. None of the above

22. The \_\_\_\_\_ which is also called the Mullen strength, measures the value of hydrostatic pressure which crucial at a specified rate but required to rupture a piece of paper.

- A. Mullen tester
- B. Burst strength
- C. Captative strength
- D. Entity strength

23. Tearing strength is defined by the paper industry is \_\_\_\_\_.

- A. The minimum force required to continue an initiated tear in the paper, with the anti-parallel tearing forces exerted perpendicular to the plane of the paper
- B. The maximum force required to continue an initiated tear in the paper, with the anti-parallel tearing forces exerted perpendicular to the plane of the paper
- C. The minimum force required to continue an initiated tear in the paper, with the parallel tearing forces exerted parallel to the plane of the paper
- D. The minimum force required to tear the paper at any condition

24. Increasing the ratio of softwood to hardwood fiber and increased beating time which ultimately \_\_\_\_\_.

- A. Increased opacity
- B. Reduce fluffing
- C. Increased fluffing
- D. Increased dimensional stability

25. \_\_\_\_\_ refers to the appearance or feel of the paper's surface.

- A. Deckle

- B. Curl
- C. Watermark
- D. Finish

26. What is the use of wet scrubber in the dust collection?

- A. Remove flue gas
- B. Remove Scales on the furnace surface
- C. Remove the dust that has the moisture content
- D. Remove pollutants

27. A good way of dealing with the solid waste problem in paper industry is\_\_\_\_\_.

- A. landfilling
- B. Recycling
- C. Incineration
- D. All of the above

28. Which of the following is true?

- A. There is no real waste in nature
- B. The apparent waste from one process becomes input to another
- C. All processes of production and consumption produce waste
- D. All of the above

29. Why the recycled paper is banned for use in food containers?

- A. Because it creates contamination
- B. Because it creates a lot of spaces
- C. Because paper can be used only one time
- D. Because paper is very thick and can't cover the food containers

30. What is the main principle of the Gravity thickening in pulp and paper mill?

- A. Reduces the water content of sludge
- B. Make better water repulsion of sludge while being dewatered
- C. Reduce specific filtration resistance
- D. Increase the dewatering efficiency

31. The composition of sludge is not depends on following factor.
- A. The raw material
  - B. The wastewater treatment technique
  - C. Final products
  - D. Nature of liquid effluent
32. Which of the following mill generated large amount of sludge?
- A. Kraft
  - B. Sulfite
  - C. Deinking
  - D. Soda-AQ process
33. Which of the following coagulant used in dissolved air flotation clarifiers?
- A. Ferric chloride
  - B. Sodium hydroxide
  - C. Calcium chloride
  - D. Sodium phosphate
34. The order of minimize the waste, industry should adopt the strategy of\_\_\_\_\_.
- A. Recover, reduce, reuse, recycle
  - B. Recycle, reduce, reuse, recover
  - C. Reduce, reuse, recycle, recover
  - D. Reuse, reduce, recycle, recover
35. Which of the following targeted component in secondary treatment?
- A. BOD
  - B. COD
  - C. TOC
  - D. DO
36. The high BOD stream segregated in paper industry is subjected to treat in \_\_\_\_\_.
- A. Aerobic lagoon
  - B. Convectional clarifier

C. Anaerobic lagoon

D. Aerated lagoon

37. The calculated amount of oxygen required to oxidize a compound to its final oxidation products is called as\_\_\_\_\_.

A. Biochemical oxygen demand

B. Dissolved oxygen

C. Theoretical oxygen demand

D. Chemical oxygen demand

38. A 25 mL sample of treated waste water requires 250 mL of distilled water to reduce the odor to a level that is just perceptible. What is the threshold odor number?

A. 8

B. 11

C. 6

D. 15

39. The data is available for 5-day BOD test for paper mill effluent sample. 15 mL of sample was added directly into a 300 mL BOD incubation bottle. The initial DO of the diluted sample was 8.8 mg/L and final DO was 1.9 mg/L. The corresponding initial and final DO of the seeded dilution water was 9.1 and 7.9 respectively. What is the 5-day BOD of the waste water sample?

A. 115.2 mg/L

B. 97.43 mg/L

C. 132.4 mg/L

D. 123.7 mg/L

40. Which of the following test is used to measure the oxygen equivalent of the organic material in waste water that can be oxidized chemically using dichromate in an acid solution?

A. COD

B. BOD

C. Soluble COD

D. TOC

41. BOD test does not have stoichiometry validity after the soluble organic matter present in solution has been used.

A. True

B. False

42. A system in which the flocculated, biological growths are continuously circulated and contacted with organic wastewater in the presence of oxygen, this process is called\_\_\_\_\_.

A. Activated Sludge

B. Aerated stabilization basin

C. Zurn Attisholz

D. Storage oxidation

43. Which gas is mainly produced due to incomplete burning of wood?

A. CO

B. SO<sub>2</sub>

C. NO<sub>2</sub>

D. NO<sub>3</sub>

44. The maximum size of fly ash is found to be \_\_\_\_\_(micron).

A. 0.1

B. 100

C. 1000

D. 10

45. What is Air Quality Index?

A. It tells about the sound pollution

B. It measures air pollution mainly sulphur content in the air

C. It measures ozone levels in your area

D. It checks the colour of the air

46. What NEPA stand for in air pollution legislation system?

A. National environmental pollution abatement

B. National environmental pollution administration

C. National environmental policy act

D. National environmental policy administration

47. How Dimethyl Disulfide occurs in recovery section?

A. Black liquor is oxidized by contact with air or oxygen

B. Hydrogen sulfide reacts with excess amount of oxygen

C. Hydrogen sulfide is partially ionized in an aqueous solution

D. Hydrogen sulfide is partially ionized in an aqueous solution at high pH

48. What is the concentration range of Carbonyl sulfide (COS) was found in overloaded recovery boiler?

A. 100-150 ppm

B. 50-80 ppm

C. 1-30 ppm

D. more than 200 ppm

49. Which of the following is a liquid form of aerosol?

A. Mist

B. Fume

C. Dust

D. Smoke

50. Particulates emitted from Kraft process have classified as primary and secondary particulates. What is the size range of secondary particulates observed?

A. 0.01-1 mm

B. 0.1 -1 mm

C. 1-10 mm

D. 10-100 mm