

13. Saccharine is used as?
 a.) Salt b.) Sugar c.) Soda d.) None of these
14. Basicity of aniline increases in the presence of
 a.) Nitro group b.) Chloro group c.) Methyl group d.) None
15. Example of Cycloalkane is
 a.) Cyclopropane b.) Cyclobutane c.) Cyclopentane d.) All
16. Sulphonation is initiated by
 a.) NH_3 b.) H_2O c.) SO_3 d.) SO_3H
17. Which one is Nitrating reagent?
 a.) SO_4 b.) H_2CO_3 c.) $\text{Con H}_2\text{SO}_4$ and Con HNO_3 d.) None of these
18. Example of an ester is
 a.) Benzoate b.) Hexanoate c.) Both d.) Phenol
19. Fat is made up of
 a.) Fatty acid b.) Glycerol c.) Both d.) None
20. HNO_2/HCl is an important reagent for preparation of
 a.) Benzene b.) Benzene hexachloride
 c.) Diazonium salt d.) None
- Q.2. Long questions. Attempt any TWO questions of following. [10 x 2=20]**
- a) Write Electrophillic substitution reactions of Benzene in detail.
- b) Give preparation and reactions of Benzoic acids.
- c) Give Preparation & reactions of cyclopropane and cyclobutane.
- Q.3 Attempt any SEVEN questions of following. [7 x 5=35]**
- a) Give structure and uses of DDT.
- b) Give structure of Diphenyl and Triphenylmethane
- c) Write reactions of Amine.
- d) Give Reimer-Tiemann reaction.
- e) Discuss reactions of fatty acid.
- f) Explain establishment of Benzene.
- g) Write structure of Cresol and Naphthol.
- h) Give reactions of Phenol.
- i) Write Friedelcrafts alkylation .

Time: 03:00 Hours

[Max. Marks: 75]

[1×20=20]

1. Attempt all questions.

- (i) At critical temperature, surface tension of the liquid becomes
a. higher b. lower c. Zero d. No effect
- (ii) Unit of surface tension is
a. Newton/meter b. Dynes c. Poise d. None
- (iii) Which substance decreases the surface tension of water?
a. Span b. methanol c. sodium chloride d. sucrose
- (iv) The HLB range for hydrophilic surfactants is
a. 2 to 9 b. 9-16 c. 16-20 d. above 20
- (v) In detergency removal of insoluble dirt form an emulsion
a. deflocculated b. flocculated c. Stable d. none
- (vi) The DuNouy ring method is convenient when sample size is
a. Large b. small c. any size d. all
- (vii) Which complex is used as an electrode in pH determination?
a. layer types b. clathrates c. chelates d. quinhidrone
- (viii) PABA-Caffeine complex analysis can be done by
a. distribution method b. solubility method c. pH titration method d. None
- (ix) Physical stability of Vitamin A and D can be enhanced by complexation with
a. EDTA b. Caffeine c. β cyclodextrin d. BAL
- (x) Carbon dioxide circulates in the living body by means of
a. Agglomeration b. Aggregation c. Diffusion d. Flocculation
- (xi) What is the effect of chemical reactions on solubility of liquid-gas solution?
a. Increases b. Decreases c. No effect d. Both A and B
- (xii) Inclusion complexes are also known as
a. Acclusion b. Exclusion c. Recclusion d. Occlusion
- (xiii) Buffer index is also known as
a. Buffer efficiency b. Buffer value c. Both d. None
- (xiv) In biological buffer system plasma is buffer
a. secondary b. Primary c. tertiary d. None
- (xv) Which one of the following is an isotonic solution
a. 0.9N NaCl b. 0.09N NaCl c. 0.1N NaCl d. 0.01N NaCl
- (xvi) A phase exists between liquid and crystalline state is known as
a. Metaphase b. polymorph c. mesophase d. solid crystals
- (xvii) Above which temperature, no liquefaction of gas possible
a. Absolute b. Critical c. Boiling point d. None
- (xviii) Polymorphs are differs in
a. Molecular weight b. Molecular number c. Shape d. crystalline structure
- (xix) Which property is similar in case of eutectic mixtures?
a. Boiling point b. Melting point c. Surface tension d. Lattice arrangement

(xx) Refractive index is equal to

- a. Speed of light in material/speed of light in vacuum
- b. Speed of light in material/speed of light in air
- c. Speed of light in vacuum/speed of light in material
- d. Speed of light in vacuum/speed of light in air

2. Attempt any two questions of the following.

[10×2=20]

- a. What are the methods to measure surface tension of a given liquid?
- b. What are different methods of analysis for complexation?
- c. Write in detail about buffers in pharmaceutical and biological system.

3. Attempt any seven questions of the following.

[5×7=35]

- a. What you know about HLB scale? Write its estimation methods
- b. Describe the phenomenon of detergency.
- c. What are the factors affecting solubility of gases in liquids?
- d. What are ideal and real solutions?
- e. Write a note on partially miscible liquids and critical solution temperature.
- f. What is the application of buffer in pharmacy?
- g. Write a note on buffer capacity. Give suitable example.
- h. What are buffered isotonic solutions?

Printing Pages : 2

Paper Code: BP-303T B (SVSU:2021-22/C)

Enrollment No.														
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B. PHARM
**3rd SEMESTER, 2nd YEAR CARRY OVER EXAMINATION
 PHARMACEUTICAL MICROBIOLOGY (BP303T)**
[Time : 3:00 Hours]**[Max. Marks : 75]****I Long Question : Answer Any Two [2×10=20]**

1. Write in detail about scope and application of pharmaceutical microbiology.
2. Write classification and mode of action of disinfectant.
3. Write principle, procedure & application of Ziehl Neelson staining.

II. Short Question: Answer any Seven [7×5=35]

1. Explain ultra structure and morphological classification of bacteria..
2. Differentiate moist heat and dry heat sterilization..
3. Explain different source of contamination an aseptic area and method of prevention.
4. Explain cell cultures in pharmaceutical industry and research.
5. Describe the concept and design of clean and aseptic area.
6. Write application of cell culture..
7. Enlist the different staining technique..
8. Differentiate microbial spoilage of pharmaceutical product..
9. Differentiate bactericidal & bacteriostatic

III. Objectives Question: Answer All Question [20×01=20]

1. What do you mean by sterilization?
 - a. Purification of products
 - b. Recovery of products
 - c. Elimination of contamination
 - d. None of the above
2. Which of the following instrument works on the principle of batch sterilization?
 - a. Incubator
 - b. Autoclave
 - c. Centrifuge
 - d. LAF
3. The highest feasible temperature for batch sterilization is-
 - a. 124°C
 - b. 120°C
 - c. 122°C
 - d. 121°C
4. The pH suitable for cell culture growth is:
 - a. 3.5-4.5
 - b. 4.5-5.5
 - c. 7.2-7.4
 - d. 8.5-9.5
5. Cells in culture can be divided into how many categories-
 - a. One
 - b. Two
 - c. Three
 - d. Four
6. Staining material of gram positive
 - a. Fast green
 - b. Haematoxylin
 - c. Crystal violet
 - d. Safranin

7. Alpha tocopherol is a source of-
a. Vitamin A b. Vitamin B c. Vitamin D d. Vitamin E
8. Benzoate is an example of-
a. Natural preservative b. Chelating agent
c. Chemical preservative d. Artificial preservative.
9. Neem oil is an example of-
a. Chemical preservative b. Biological preservative
c. Natural preservative d. Chelating agent.
10. Father of Medical Microbiology is-
a. Pasteur b. Jenner c. Koch d. None
11. Which means is used in animal cell culture-
a. Enzymatic b. Mechanical c. both d. none
12. Bacterial cells are grown in-
a. Acidic media b. Basic media c. none d. both
13. How many types of spoilage are present-
a.1 b.2 c.3 d. none
14. The pH of media in microbiological assay of antibiotics is-
a. 4.5-5.5 b. 6.5-7.5 c. 7.5-8.5 d. 8.5-9.5
15. The potency of antibiotic is determined by-.
a. Biological assay b. Physical assay c. Microbiological assay d. None
16. In how many grades, the clean area is divided-
a.2 b.4 c.6 d.8
17. Phenols & its derivatives are-.
a. Physical disinfectant b. Chemical disinfectant c. Both d. None
18. Discontinuous heating is called-
a. Pasteurization b. Sterilization c. Fermentation d. Tindalisation
19. Dry heat is used to sterilize-
a. cotton b. metal c. Plastic. d. All of above
20. Oils and powders can be sterilized by using which method?
a. Dry heat b. Moist heat c. Filtration d. Dessication

Paper Code : BP-304T B (SVSU:2021-22/C)

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B.Pharm

IInd YEAR, IIIrd SEM. CARRYOVER EXAMINATION

Pharmaceutical Engineering, BP-304T

[Time : 3:00 Hours]

[Max. Marks : 75]

I. Multiple Choice [20×1=20]
Questions (MCQ)

1. Fluid mechanics is divided into-
(a) Fluid Statics (b) Fluid Dynamics (c) Both (d) None
2. When the velocity of water is low in Reynolds Experiment, then flow is-
(a) Laminar (b) Turbulent (c) Intermediate (d) None
3. The device which is used to measure the pressure of fluid is known as-
(a) Viscometer (b) Manometer (c) Centrifuge (d) Stirrer
4. Comminution is also known as-
(a) Size Separation (b) Size Reduction (c) Mixing (d) Evaporation
5. Ball Mill works on the principle of:
(a) Compression (b) Impact (c) Impact & Attrition (d) Cutting
6. The principal of rubbing action between two moving surfaces is used in-
(a) Cutting (b) Compression (c) Impact (d) Attrition
7. Size separation is known as-
(a) Comminution (b) Sieving (c) Pulverisation (d) All of the above
8. Which of the following is the material for construction of sieve-
(a) Iron (b) Copper (c) Steel (d) All of above
9. Following is an example of a Filter Aid:
(a) Sodium Alginate (b) Gelatin (c) Talc (d) All of above
10. The full form of HEPA filter is-
(a) High efficiency Particulate Air filter (b) High efficiency Pure Air filter
(c) High efficiency Prime Air filter (d) None
11. The settling rate of a particle depends upon-
(a) Density (b) Size (c) Shape (d) All of above
12. Heat transfer involves the exchange of-
(a) Radiation energy (b) Chemical energy (c) Thermal energy (d) None
13. Heat transfer is used in various processes such as-
(a) Evaporation (b) Distillation (c) Drying (d) All of above
14. Unit of the rate of heat transfer is-
(a) Joule (b) Newton (c) Pascal (d) Watt
15. Larger the surface area of liquid, then evaporation will be-
(a) Small (b) Large (c) Moderate (d) None
16. Distillation is used for such liquids which have-
(a) Sufficient difference in melting point (b) Sufficient difference in solubility
(c) Sufficient difference in boiling point (d) All of above

17. In drying, the product obtained is-

- (a) Concentrated liquid (b) Dried product (c) Both (d) None

18. The full form of CMC is-

- (a) Critical Moisture Content (b) Closed Moisture Content (c) Both (d) None

19. Which of the metal consists of iron along with carbon-

- (a) Cast Iron (b) Aluminium (c) Steel (d) None

20. Which are the factors that affect corrosion-

- (a) Temperature (b) Humidity (c) Chemical Salt (d) All of above

II. Long Answers (Answer 2 out of 3)

[2×10=20]

1. Write about the Reynolds Experiment. What is Reynolds No & give its significance?
2. Explain the principle, construction & working of Ball Mill.
3. Write a note on Factors affecting selection of materials for Pharmaceutical Plant Construction & Materials used for Plant Construction.

III. Short Answers (Answer 7 out of 9)

[7×5=35]

1. What is a Drying Curve? Explain the rate of drying curve with diagram.
2. Write the principle, construction & working of Drum Dryer.
3. Give the definition of Size Reduction & give its objectives.
4. Give the objectives & application of drying. Give the full form of EMC.
5. What is Mixing? Give the factors effecting mixing.
6. Write a note on (i) Filtration (ii) Centrifugation
7. Give the principle, construction & working of Steam Jacketed Kettle.
8. Write a brief note on corrosion and its causing factors.
9. What do you know about Distillation? Give its objectives.