Write the following information in the first page of Answer Script before starting answer

ODD SEMESTER EXAMINATION: 2020-21

Exam ID Number_____

Course_____ Semester_____

Paper Code _____Paper Title _____

Type of Exam: _____ (Regular/Back/Improvement)

Important Instruction for students:

1. Student should write objective and descriptive answer on plain white paper.
2. Give page number in each page starting from 1st page.
3. After completion of examination, Scan all pages, convert into a single PDF, rename the file with Class Roll No. **(2019MBA15)** and upload to the Google classroom as attachment.
4. Exam timing from 10am – 1pm (for morning shift).
5. Question Paper will be uploaded before 10 mins from the schedule time.
6. Additional 20 mins time will be given for scanning and uploading the single PDF file.
7. Student will be marked as ABSENT if failed to upload the PDF answer script due to any reason.

B.PHARM.
THIRD SEMESTER
PHARMACEUTICAL ORGANIC CHEMISTRY-II
BP-301 T

(Use separate answer scripts for Objective & Descriptive)

Duration : 3 hrs. **Full Marks : 75**

(PART-A : Objective)

Time : 20 min. **Marks : 20**

Choose the correct answer from the following: ***1X20=20***

1. Partial hydrogenation of vegetable oil in presence of Ni catalyst at 200 degree Celsius gives:
a. Hard brittle fat **b.** Vanaspati ghee
c. Both (A) and (B) **d.** None of the above

2. When considering electrophilic substitution reactions of benzene electron withdrawing substituents (e.g. nitro group) are described as:
a. ortho ,para directing and activating **b.** ortho ,para directing and deactivating
c. meta directing and activating **d.** meta directing and deactivating

3. Hard soaps can be formed by using_____.
a. KOH **b.** NaCl
c. KCl **d.** NaOH

4. Liquid oils can be converted to solid fats by:
a. Hydrolysis **b.** Halogenations
c. Hydrogenation **d.** Saponification

5. The oil that thickens and hardens on exposure to air is called:
a. Semidrying oil **b.** Non drying oil
c. Thickening oil **d.** Drying oil

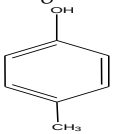
6. All carbon atoms in benzene ring are:
a. sp hybridized **b.** sp^2 hybridized
c. sp^3 hybridized **d.** None of the above

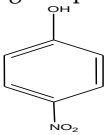
7. DDT is:
a. Dichloro Diphenyl Trichloro Ethane **b.** Dichloro Diacetyl Trichloro Ethane
c. Dichloro Diphenyl Trichloro Methane **d.** Dichloro Diacetyl Trichloro Methane

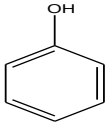
8. The C-C-C bond angle in Cyclobutane is:
a. 120^0 **b.** 109.5^0
c. 60^0 **d.** 90^0

9. Cyclopropane react with hydrogen in the presence of nickel catalyst (Ni at 80^0) to give:
a. 1-Bromopropane **b.** No reaction occurs
c. Propene **d.** Propane

10. Arrange the following compounds in order of increasing acidity

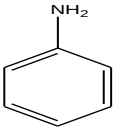
1. 

2. 

3. 

a. 1<3<2 **b.** 1<2<3
c. 3<2<1 **d.** 2<1<3

11. Bakelite has following characteristics:
a. A polymer made of phenol and formaldehyde **b.** Has heat resisting properties
c. Hard thermosetting plastic **d.** All of the above

12. 

the name of this structure is:
a. Cresol **b.** Toluene
c. Aniline **d.** Phenol

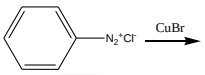
13. All carbon atoms in Naphthalene are:
a. sp hybridized **b.** sp^2 hybridized
c. sp^3 hybridized **d.** None of the above

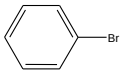
14. Electrophilic substitution of Naphthalene occurs primarily at:
a. C-1 (α) position **b.** C-2 (β) position
c. Electophilic substitution does not occur in Naphthalene **d.** None of these

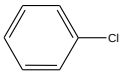
15. Phenanthrene is a polycyclic aromatic hydrocarbon composed of ……numbers of fused rings.
a. 1 **b.** 2
c. 3 **d.** 4

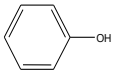
16. Anthracene is a polycyclic aromatic hydrocarbon composed of three fused ……rings.
a. Benzene **b.** Alkane
c. Pyridine **d.** Ethylene

17. Which of the following statement about cyclopropane is **false**?
a. Cyclopropane is gas at room temperature **b.** Cyclopropane does not show ring opening reactions
c. The C-C-C bond angle in cyclopropane is 60^0 **d.** Cyclopropane shows substitution reactions

18. 

a. 

b. 

c. 

d. None of these

19. Which of the following is of special value in testing the purity of butter and desi-ghee?

a. Iodine number
b. Acid number
c. Saponification number
d. Richert-Meissl number

20. The unpleasant taste and odour of fats and oils on storage is caused by:

a. Rancidification
b. Saponification
c. Hydrogenation
d. All of these

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(PART-B : Descriptive)

Time : 2 hrs. 40 min. **Marks : 35**

[Answer any seven (7) questions]

1.	Discuss the orbital structure of Naphthalene. Write Haworth synthesis of Anthracene.	5
2.	Write notes on basicity of aromatic amines.	5
3.	Discuss the stability of cycloalkanes on the basis of Baeyer's strain theory.	5
4.	Define aromaticity. What are the criteria to be fulfilled by a compound to be aromatic?	5
5.	Explain why amino group ($-NH_2$) acts as an ortho-para director and activating when it is present on a benezene ring undergoing electrophilic substitution reaction.	5
6.	Write notes on chemical reactions of fats and oils.	5
7.	Discuss the general mechanism of electrophilic substitution reactions of Benzene. Write the halogenations and nitration reaction of benzene.	3+2=5
8.	With the help of resonance structure, explain why anthracene can give both addition and electrophilic substitution reactions?	5
9.	Describe different reactions of aromatic amines.	5

(PART-C : Long type questions)

[Answer any two (2) questions]

1.	What are fats and oils? Explain why oils are liquid at room temperature but fats are solid? Write notes on Saponification value and Iodine value.	1+3+3+3=10
2.	Define Cycloalkanes. Write any two methods of preparation of Cycloalkanes. Explain Sachse Mohr's theory of strainless rings.	2+4+4=10
3.	Write notes on *any two* of the following: **a)** Acidity of phenols. **b)** Qualitative tests for phenols. **c)** Synthetic uses of "aryl diazonium salts".	5+5=10

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