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| **Name:**<br>**Enrolment No:** | UPES<br>UNIVERSITY WITH A PURPOSE |

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**
**End semester Examination, December 2020**

**Course: B.Pharm.** **Semester: III**
**Program:** Pharmaceutical Microbiology **Time 03 hrs.**
**Course Code: BP303T** **Max. Marks: 75**

**SECTION A**

**1. Each Question will carry 5 Marks**
**2. Instruction: Complete the statement / Select the correct answer(s)**

| S. No. | CO | Multiple Choice Questions (Attempt all questions) | Marks |
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| | | Multiple Choice Questions (each answer carry one marks) | **1 × 20** |
| Q1 | CO1 | Chitin found in which one of the following microbial cell surface……<br>a) Bacteria<br>b) Fungi<br>c) Algae<br>d) Protozoa | **1** |
| Q2 | CO1 | Whittaker's Five Kingdom cocept was proposed by<br>a) Robert Whittaker<br>b) Robert Koch<br>c) William Whittaker<br>d) Louis Pasteur | **1** |
| Q3 | CO1 | Antibiotics are produced by a large group of……<br>a) Actinomycetes<br>b) Virus<br>c) Fungi<br>d) Bacteria | **1** |
| Q4 | CO1 | Syphilis is caused by …..<br>*a) Treponema pallidum*<br>*b) Yersinia pestis*<br>*c) Bordetella pertussis*<br>*d) Clostridium tetani* | **1** |
| Q5 | CO1 | A binocular microscope has…..<br>a) Two eyepieces<br>b) Two condensers<br>c) Two objectives<br>d) Two mirrors | **1** |
| Q6 | CO1 | NAM and NAG is the fundamental building blocks of…..<br>a) Capsule<br>b) Outer membrane<br>c) Ribosome<br>d) None of the above | **1** |

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| Q7 | CO1 | Which of the following media should not be used for the aerobic bacterial growth?<br>a) Selective<br>b) Differential<br>c) Enrichment<br>d) Reducing | **1** |
| Q8 | CO2 | The following methods are being used for preservation of biomolecules except….<br>a) Lyophilization<br>b) Cryopreservation<br>c) Vacuum foam drying<br>d) Autoclaving | **1** |
| Q9 | CO2 | Which of the following pathogens is present in milk?<br>a) Tubercle bacilli<br>b) Saccharomyces<br>c) Rickettsia<br>*d)* None of the above | **1** |
| Q10 | CO2 | Bismuth sulphite medium is used for growth of….<br>*a) Pseudomonas aeruginosa*<br>*b) Salmonella typhi*<br>*c) Shigella dysenteriae*<br>*d) Escherichia coli* | **1** |
| Q11 | CO3 | Best suitable media for isolation of *Candida albicans* is…..<br>a) Sabouraud dextrose agar<br>b) Nutrient agar<br>c) Triple-sugar-iron agar<br>d) MacConkey's agar | **1** |
| Q12 | CO2 | Talc powder is generally sterilized by…<br>a) Autoclave<br>b) Tyndalization<br>c) Filtration<br>d) Radiation | **1** |
| Q13 | CO2 | Most suitable pore size for bacterial filtration in membrane filter is<br>a) 0.22mm<br>b) 0.22 μm<br>c) 0.45 nm<br>d) 0.45 mm | **1** |
| Q14 | CO3 | Brown's tube are used for the indication of<br>a) Heat sterilization<br>b) Filtration sterilization<br>c) Ethylene oxide sterilization<br>d) Radiation sterilization | **1** |
| Q15 | CO3 | Pyrogen test is based on the rise of body temperature of ……when the preparation is injected intravenously | **1** |
| Q16 | CO4 | RW coefficient is used to identify the strength of an….<br>a) Antibiotics | **1** |

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| | | b) Antipyretic<br>c) Anti-inflammatory<br>d) Antiseptic | |
| Q17 | CO4 | ……..is used as a standard for evaluation of disinfectants | **1** |
| Q18 | CO4 | Agar diffusion assays are used to standardize …….. preparation. | **1** |
| Q19 | CO5 | HEK-293, HeLa, HL-60 all these are cell line from human origin<br>a) True<br>b) False | **1** |
| Q20 | CO5 | Viability of animal cell line is determined by trypan blue.<br>a) True<br>b) False | **1** |
| **SECTION B : Long Answers ( Answer any 2 out of 3)**<br>**1. Each Question will carry 10 Marks**<br>**2. Instruction: Attempt any two (02)** | | | |
| | | | **2 × 10** |
| Q1 | CO1 | a) Compare eukaryotic cell and prokaryotic cells,<br>b) Calculate number of number of generation (n) and generation time (G) of a bacterial species if it produces $10^9$ cells in just 30 min and the initial bacterial cell count was $10^3$. | **(4+6)=10** |
| Q2 | CO3 | a) Define Disinfectant, Sanitizer and antiseptic agent<br>b) Write ideal properties of a disinfectant.<br>c) Briefly describe the filter paper method for disinfectant evaluation | **3+3+4=10** |
| Q3 | CO2 | a) Define sterilization and list different methods for sterilization<br>b) Describe sterilization procedure for a heat labile ophthalmic preparation<br>c) Is pasteurized milk sterile? explain | **4+3+3=10** |
| **SECTION C : Short Answers ( Answer any 7 out of 9)**<br>**1. Each Question will carry 5 Marks**<br>**2. Instruction: Attempt any seven (07)** | | | |
| | | | **7 × 5** |
| Q1 | CO 2 | a) Define D and Z value<br>b) Mode of action of UV-rays | **(2+3)=5** |
| Q2 | CO 4 | a) Diluting fluid for sterility testing<br>b) Define Pyrogen and write short note on test for Pyrogen | **(2+3)=5** |
| Q3 | CO3 | a) Mode of action of Acridine dye<br>b) Write two factors that affect the action of disinfectant | **(2+3=5)** |
| Q4 | CO 1 | c) Compare a light and electron microscope (at least 3)<br>d) Calculate resolution power of a microscope when the NA is 1.4 and the light wavelength is 550nm. | **(2+3)=5** |
| Q5 | CO 1 | c) What is tyndallization?<br>d) Write down the components of a gram negative cell wall | **(2+3)=5** |

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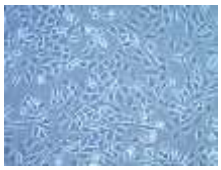
| Q6 | CO3 | Match the following<br>a. Quaternary ammonium compound 1. Acridine<br>b. Dye 2. Metaphen<br>c. Alcohol 3. Cetrimide<br>d. Heavy metal 4. Chlorobutol<br>Efficiency of HEPA filter is……. | **4+1=5** |
| Q7 | CO4 | a) What is microbiological assay?<br>b) Write advantages and disadvantages. | **2+3=5** |
| Q8 | CO5 | a) Discuss the importance of animal cell culture in pharmaceutical science.<br>b) What is primary and transformed cell culture. | **2.5+2.5=5** |
| Q9 | CO2<br><br>CO5 | i. Match the following<br>a. Autoclave 1. Glassware<br>b. Hot-air oven 2. Disposable syringe<br>c. Gamma radiation 3. Antibiotic solution<br>d. Filtration 4. Surgical dressing<br><br>ii Identify which one of the following cells are epithelial, lymphoblast and fibroblast types of cells?<br>I  II  III  | **3+2=5** |