Name: **Enrolment No:**	UPES UNIVERSITY OF TOMORROW

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2022

Course: Introduction to Microbiology **Semester : I**
Program: B.Sc. Microbiology **Duration : 3 Hours**
Course Code: HSCC1021 **Max. Marks: 100**

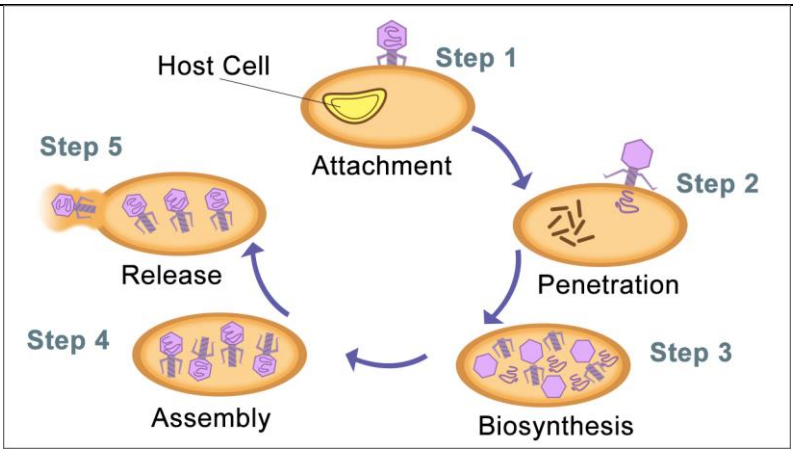
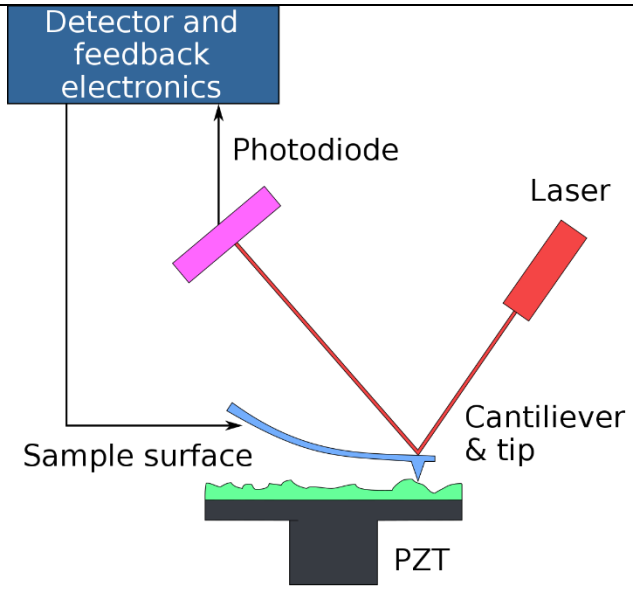
Instructions:

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	COs
Q 1	Which is the currently accepted scientific theory for transmission of many diseases. A. Spontaneous generation B. Miasma theory C. Germ theory of disease D. All of the above	**1.5**	**CO1**
Q 2	Who is the father of microbiology in India A. Venki Ramakrishnan B. Hargobind khorana C. Janaradhan Venkatesh Bhat D. Satyendra nath bose	**1.5**	**CO1**
Q 3	Degree of scattering in transmission electron microscope is a function of A. number of atoms that lie in the electron path B. number and mass of atoms that lie in the electron path C. mass of atoms that lie in the electron path D. wavelength of electron beam	**1.5**	**CO4**
Q 4	Whittaker's five kingdom classification divides into A. Monera, Eukarya, Fungi, Plantae and Animalia. B. Monera, Prokarya, Fungi, Plantae and Animalia. C. Monera, Protopastia, Fungi, Plantae and Animalia. D. Monera, Protista, Fungi, Plantae and Animalia.	**1.5**	**CO2**
Q 5	The misfolded protein that has the ability to transmit to the host and infect – A. Viruses B. Prions	**1.5**	**CO3**

	C. Peptides D. None of the above		
Q 6	The protein coat of poliovirus is A. **Nonenveloped icosahedral** B. **Enveloped icosahedral** C. **Nonenveloped helical** D. **None of the above**	**1.5**	**CO3**
Q 7	**Which one obligate intracellular bacteria that grow in eukaryotic epithelial cells and are responsible for large number of STDs** A. Herpes B. Chlamydia C. Cyanobacteria D. All of the above	**1.5**	**CO3**
Q 8	Axoneme is present in A. Flagella of algae B. Cytoplasm of cyanobacteria C. Nucleolus of eukaryotes D. None of the above	**1.5**	**CO3**
Q 9	A group of eukaryotic organisms which includes microorganisms such as yeasts, molds, and mushrooms are A. Algae B. Archaea C. Fungi D. Higher plants	**1.5**	**CO3**
Q 10	An obligate parasite of vertebrates and insects is A. Clostridium B. Herpes C. Plasmodium D. Candida	**1.5**	**CO3**
Q 11	Who discovered phagocytosis and was awarded by Nobel Prize of 1908 - A. Julies Caesar B. Ivan Puluj C. CV Raman D. Elie Metchnikoff	**1.5**	**CO1**
Q 12	Father of Vaccine is A. Edward Jenner B. John Hunter C. Max plank D. Ira Baldwin	**1.5**	**CO1**

Q 13	An oscillating cantilever is the part of A. Confocal Microscope B. Fluorescence Microscope C. Compound Microscope D. Atomic force microscope (AFM)	**1.5**	**CO4**
Q 14	Eukaryotic microorganisms are A. Streptococcus B. Staphylococcus C. Bacillus D. Fungi	**1.5**	**CO2**
Q 15	Which are the modes of transmission of microorganisms A. Droplets B. Vector C. Air borne D. All of the above	**1.5**	**CO1**
Q 16	While the viral DNA is a free-floating molecule within the bacterial cell, and replicates separately from the host bacterial DNA is known as A. Lytic cycle B. Lysogenic cycle C. Cell cycle D. Both Lytic and lysogenic cycle	**1.5**	**CO3**
Q 17	Endospores are not formed by A. Bacillus subtills B. Clostridium botulinum C. Clostridium tetani D. Archaea	**1.5**	**CO2**
Q 18	Monospores which are walled, non-flagellate, spherical cells are produced by – A. Red Algae B. Green Algae C. Blue green Algae D. Yellow Algae	**1.5**	**CO3**
Q 19	A special group of fungi which responds to shifts in temperature by converting between hyphae and yeast is known as – A. Metamorphic fungi B. Dimorphic fungi C. amorphic fungi D. Monomorphic fungi	**1.5**	**CO3**

Q 20	The body of the cell is enclosed by an elastic structure called the pellicle which is present in A. Paramecium B. Penicillium C. Peniculum D. None of the above	**1.5**	**CO2**
Section B **(4Qx5M=20 Marks)**			
Q 1	Who disapproved the theory of Spontaneous generation and how?	**5**	**CO1**
Q 2	Elucidate the beam path of confocal Microscopy?	**5**	**CO4**
Q 3	How prokaryotic and eukaryotic microorganisms differ from each other?	**5**	**CO2**
Q 4	Differentiate Viroids and Prions?	**5**	**CO3**
Section C **(2Qx15M=30 Marks)**			
Q 1	**Case 1 – A polish – American medical researcher named Dr. Albert Sabin worked for years and developed a vaccine which can be delivered through noninvasive route, and can effectively prevent paralysis in children.** **1. Which is the name of this vaccine and how it is delivered?** **2. Give schematic representation of the virus against which the Vaccine is prepared?** **3. Elucidate the life cycle of this Virus?**	**(5+5+5)**	**CO1**
Q2	**Case 1 – A reddishness was occurred to a 15-year-old girl's eyes. While examined by doctor, it was found that a kind of microorganism is responsible for causing the infection in the cornea.** **1. What is the name of microorganisms which causes?** **2. Discuss their structure and properties?** **3. Elucidate the life cycle of causative agent?**	**(5+5+5)**	**CO3**
Section D **(2Qx10M=20 Marks)**			

Q 1	 **Q1.1 What do you understand by the above diagram? Describe the process.** **Q1.2 Name two bacteria which are pathogenic strains, how they are differed from nonpathogenic bacteria strains?**	**(6+4)**	**CO5**
Q2	 **Q1.1 The above diagram is a basic principle of microscopy. Describe in detail?** **Q1.2 Name two DNA viruses and two RNA viruses?**	**(6+4)**	**CO4**