Reg.No. _____

Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – Nov/Dec – 2016

Code : 14BT2005
Sub. Name : Microbiology

Semester : 2016-17 ODD
Duration : 3hrs
Max. marks : 100

Q. No.	Questions				Course outcome	Marks
	PART-A (40X1=40 MULTIPLE CHOICE QUESTIONS)					
1.	In electron microscope, what material is used as an objective lense?					
	a. Magnetic coils	b. Superfine glass	c. Aluminium foils	d. Electrons	CO2	(1)
2.	Antiseptic surgery was discovered by					
	a. Joseph Lister	b. Ernest Abbe	c. Pasteur	d. Beijerink	CO1	(1)
3.	The viruses that live as parasites on bacteria are					
	a. Fungi	b. Commensals	c.Bacteriophages	d.All the above	CO4	(1)
4.	Thylakoid is present in					
	a. Mitochondria	b. ER	c. Choroplast	d. Golgi Apparatus	CO4	(1)
5.	Cell wall of gram negative bacteria is					
	a. Thick	b.Lipids are absent	c. Teichoic acids are absent	d. All the above	CO2	(1)
6.	The technique used to avoid all microorganisms is accomplished					
	a. Sterilization	b. Disinfection	c. Sterilization and Disinfection	d. Surgial sterilization	CO2	(1)
7.	The sterilizing agent is					
	a. Ethylene oxide	b. Oxygen	c. Nitrogen	d. Carbon tetrachloride	CO3	(1)
8.	All of the following scientist supported the idea of "*spontaneous generation*" of animals except					
	a. Aristotle	b. Francesco Redi	c. John Needham	d. Felix Archimede Pouchet	CO1	(1)
9.	Mycobacterium tuberculosis was first discovered by					
	a. Robert Koch	b. Edward Jenner	c. Louis Pasteur	d. All the above	CO1	(1)
10.	Organisms that obtain electrons from the oxidation of inorganic compounds are called					
	a. organotrophs	b. lithotrophs	c. chemotrophs	d. phototrophs	CO2	(1)
11.	Culture medium used for fungus is					
	a. Minimal agar medium	b. Sabouraud's medium	c. Nutrient agar	d. Nutrient broth	CO3	(1)
12.	pH required for the growth of bacteria is					
	a. 3.0 – 6.0	b. 5.6 – 8.2	c. 6.8 – 7.2	d. 8.0 – 14.0	CO3	(1)
13.	The primary use of Kochs postulates is to					
	a. develop vaccines for specific diseases	b. isolate microorganisms from diseased animals	c. clearly identify and characterize a particular microorganism	d. demonstrate that a disease is caused by a microorganism	CO1	(1)
14.	Thermal death time is					
	a. Time and temperature needed to kill all cells	b. Temperature that kills all cells in a given time	c. Time required to kill all cells at a given temperature	d. All of the above	CO3	(1)
15.	Working principle in a light microscope is using					

	a. white light	b. UV light	c. visible light	d. spectrum light	CO2	(1)
16.	In TEM, the microscopic column is maintained under---------					
	a. Temperature	b. Magnetism	c. Vacuum	d. Pressure	CO2	(1)
17.	Which of the following statement is incorrect regarding gram negative bacteria?					
	a. cell wall has a thin peptidoglycan layer	b. cell wall lipid content is very low	c. lipopolysaccharides layer is present	d. all of these	CO4	(1)
18.	The use of living organisms to degrade environmental pollutants is called					
	a) Microremediation	b) Nanoremediation	c) Bioremediation	d) Macroremediation	CO5	(1)
19.	The process of extracting metals from ore bearing rocks is called					
	a) Bioextraction	b) Microbial extraction	c) Biofiltration	d) Bioleaching	CO5	(1)
20.	Which organism produces insecticidal activity?					
	a) Bacillus cereus	b) Bacillus thuringiensis	c) Bacillus stearothermophilis	d) E. coli	CO5	(1)
21.	The use of nutrients or substrates to stimulate the naturally occurring organisms that can perform bioremediation is					
	a) Bioaugmentation	b) Biostimulation	c) Bioventing	d) Bioreduction	CO3	(1)
22.	All of the following are sporicidal except					
	a) Glutaraldehyde	b) Ethylene oxide	c) Formaldehyde	d) Alcohol	CO2	(1)
23.	Which of the following is not a disinfectant containing heavy metal?					
	a) Silver nitrate	b) Mercurochrome	c) Merthiolate	d) Chlorine	CO2	(1)
24.	Which of the following statements are true regarding Gram positive bacteria					
	a) Cell wall has a thick peptidoglycan layer	b) Cell wall lipid content is very low	c) Lipopolysaccharide layer is absent	d) All of these	CO4	(1)
25.	The Whittaker five kingdom system of classification divides living organisms into which of the following kingdoms?					
	a. Archaea, Bacteria, Fungi, Plants, Animals	b. Monera, Protista, Plants, Animals, Fungi	c. Monera, Protista, Archaea, Animals, Fungi	d. Monera, Protista, Plants, Animals, Archaea	CO2	(1)
26.	In SEM, the secondary electrons are converted into----------					
	a. Electric current	b. Tertiary electrons	c. Electric charge	d. All the above	CO2	(1)
27.	What would you see using a dark field microscope on bacteria that transmit light without reflecting it into the objective lens					
	a. dark bacteria on a bright background	b. bright bacteria on a dark background	c. dark on a dark background	d. bright bacteria on a bright background	CO2	(1)
28.	Which of the following general purpose media is used for culturing bacteria					
	a.VL-broth	b. Sabouraud broth	c. Nutrient broth	d. Selenite Broth	CO2	(1)
29.	Which of the following represents a series of microorganisms of increasing size?					
	a. fungus, virus, bacteria	b.virus, bacteria, fungus	c. protozoa, fungus, rickettsiae	d. rickettsiae, virus, protozoa.	CO1	(1)
30.	Phase contrast microscopy is valuable for visualizing					
	a. viruses	b. rickettsiae	c. chlamydia	d. yeast	CO4	(1)
31.	Scientific names for species must be written					
	a. In italics and/or	b. In bold and/or	c. In a different font	d. In the same format as	CO2	(1)

	underlined	underlined		the rest of the text		
32.	State the type of micro-organism that a mould is classified as					
	a. Bacteria	b. Virus	c. Fungus	d. Protozoan	CO4	(1)
33.	In viral properties tick the WRONG STATEMENT					
	a. The viral envelope contain Lipoprotein	b. Viruses can replicate in non-living media	c. Viruses need live cells to grow	d. Viruses have no ribosome	CO4	(1)
34.	Which of the following is NOT an intrinsic factor in food spoilage?					
	a. pH	b. Moisture content	c. Available nutrients	d. Temperature	CO3	(1)
35.	Which of the following refers to the addition of microorganisms to the diet in order to provide health benefits beyond basic nutritive value?					
	a. Antibiotics	b. Adjuvants	c. Prebiotics	d. Probiotics	CO5	(1)
36.	Organic farming is the technique of raising crops through uses of?					
	a. manures	b. biofertilizers	c. resistant varieties	d. all of these	CO5	(1)
37.	IPM stands for					
	a. integrated pest manufacture	b. integrated plant management	c. integrated plant manufacture	d. integrated pest management	CO5	(1)
38.	Rhizobium enters the plant through					
	a. Leaf	b. Stem	c. Root	d. Flowerd	CO5	(1)
39.	Symbiotic biofertilizer is					
	a. Nitrosomonas	b. Rhizobia	c. Azotobacter	d. Azospirillum	CO5	(1)
40.	Azotabacter biofertilizers are preferred over Rhizobium biofertilizer because					
	a. They are not host specific	b. They are cost effective	c. Azotobacter can be easily cultured	d. They add more organic matter to soil	CO5	(1)

	PART B(8 X 5 = 40 MARKS) (ANSWER ANY EIGHT)		
41.	Explain how Louis Pasteur disproved the spontaneous generation method	CO1	(5)
42.	Give a brief note on Koch's postulate with neat sketch	CO1	(5)
43.	Mention the different phases of bacterial growth curve with a neat diagram and mention the process occurring in each phase	CO3	(5)
44.	What are the different types of the culture media? Mention the nutritional types of Microorganism	CO3	(5)
45.	Illustrate the general characteristics of prokaryotic cell with a neat diagram	CO4	(5)
46.	Give a brief note on entry of virus into cell	CO4	(5)
47.	Write the principle of differencial staining technique with neat flowchart	CO2	(5)
48.	Briefly explain the bioleaching process	CO5	(5)
49.	Write the difference between phase contrast and bright field microscope	CO2	(5)
50.	Enumerate the mode of action of Bt toxin	CO5	(5)
	PART C(2 X 10 = 20 MARKS) (ANSWER ANY TWO)		
51.	Explain the working principle and application of scanning electron microscope and tanning electron microscope	CO2	(10)
52.	Enumerate the types of physical methods used to control microorganisms	CO3	(10)
53.	Define bioremediation. Explain In situ and Ex situ bioremediation of soil pollutants with appropriate examples	CO5	(10)

ALL THE BEST