

Sr No.	MSc Microbiology
1	Find the missing term in the following series: 3,15,?,63,99,143...?
Alt1	27
Alt2	35
Alt3	45
Alt4	56

2	Choose word from the given options which bears the same relationship to the third word, as the first two bears: Horse : Jockey :: Car : ?
Alt1	Mechanic
Alt2	Chauffeur
Alt3	Steering
Alt4	Brake

3	Food is to Fad as Religion is to.....?.....
Alt1	Crucification
Alt2	Notion
Alt3	Superstition
Alt4	Mythology

4	Select the lettered pair that has the same relationship as the original pair of words: Fond: Doting
Alt1	Sollicitous: Concern
Alt2	Verbose: Wordiness
Alt3	Flurry: Blizzard
Alt4	Magnificent: Grandiose

5	Which of the following is the same as Emancipate, Free, Release?
Alt1	Liberate
Alt2	Quit
Alt3	Pardon
Alt4	Ignore

6	Spot the defective segment from the following:
Alt1	I met one of the mountaineers
Alt2	that have returned
Alt3	to their base camp
Alt4	the last week

7	Choose the meaning of the idiom/phrase from among the options given: To call names
Alt1	to abuse
Alt2	to recall something
Alt3	to count the prisoners
Alt4	to take attendance

8	Our tour programme fell ----- because of inclement weather.
Alt1	through
Alt2	off
Alt3	out
Alt4	down

9	Choose the option closest in meaning to the given word: POIGNANT
Alt1	unbearable
Alt2	maximal
Alt3	pathetic
Alt4	sharp

10	Choose the antonymous option you consider the best: WANTON
Alt1	rational
Alt2	abstemious
Alt3	dearth
Alt4	deliberate

11	Six people K, L, M, N, O and P are sitting around a table as per the following conditions. <span style="float: right;">i. N</span> and O are opposite each other ii. K is to the right of M iii. L and K are opposite each other iv. N is to the left of P Who is to the left of L ?
Alt1	P
Alt2	M
Alt3	N
Alt4	O

12	Study the following table carefully to answer the questions that follow (15 to 17) :Total number of employees in different departments in an organisation and (of these) percentage of females and males Department Total number of employees Percentage of female employees Percentage of male employees IT 840 45 55 Accounts 220 35 65 Production 900 23 77 HR 360 65 35 Marketing 450 44 56 Customer Service 540 40 60 What is the total number of male employees in the IT and Customer Service departments put together?
Alt1	115
Alt2	786

Alt3	768
Alt4	85

13	<p>Study the following table carefully to answer the questions that follow (15 to 17) :Total number of employees in different departments in an organisation and (of these) percentage of females and males</p> <table border="1"> <thead> <tr> <th>Department</th> <th>Total number of employees</th> <th>Percentage of female employees</th> <th>Percentage of male employees</th> </tr> </thead> <tbody> <tr> <td>IT</td> <td>840</td> <td>45</td> <td>55</td> </tr> <tr> <td>Accounts</td> <td>220</td> <td>35</td> <td>65</td> </tr> <tr> <td>Production</td> <td>900</td> <td>23</td> <td>77</td> </tr> <tr> <td>HR</td> <td>360</td> <td>65</td> <td>35</td> </tr> <tr> <td>Marketing</td> <td>450</td> <td>44</td> <td>56</td> </tr> <tr> <td>Customer Service</td> <td>540</td> <td>40</td> <td>60</td> </tr> </tbody> </table> <p>What is the total number of employees in all departments put together ?</p>	Department	Total number of employees	Percentage of female employees	Percentage of male employees	IT	840	45	55	Accounts	220	35	65	Production	900	23	77	HR	360	65	35	Marketing	450	44	56	Customer Service	540	40	60
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Alt1	3260																												
Alt2	3310																												
Alt3	3140																												
Alt4	3020																												

14	<p>Select the alternative that logically follows from the two given statements, but not from one statement alone:</p> <p>All Cats are dogs No dogs are rats</p>
Alt1	All cats are rats
Alt2	Some cats are rats
Alt3	No cat is rat
Alt4	None of the above

15	<p>In a certain code language, “ When did you come” is written as ‘ti na ki ja’. “Will you come again” is written as ‘na pa sa ja’ and “She will go” is written as ‘pa da ra’. How is “again” written in that code language ?</p>
Alt1	Na
Alt2	sa
Alt3	ja
Alt4	da

16	<p>In each of the following questions some statements are followed by two conclusions (i) and (ii). Read the statements carefully and then decide which of the conclusions follow beyond a reasonable doubt. Mark your answer as</p> <p>Statement: The aspirants should apply through a proper channel for permission Conclusions: (i) Those who apply through proper channel will get permission (ii) Those who do not apply through proper channel will not get permission</p>
Alt1	If only conclusion (i) follows

Alt2	If only conclusion (ii) follows
Alt3	If neither conclusion (i) nor (ii) follows
Alt4	If both the conclusions follow

17	The average height of 3 children is 115 cms. If the heights of 2 children are 117 cms. And 112 cms. Respectively, the height of the third child is
Alt1	112 cms.
Alt2	113 cms.
Alt3	115 cms.
Alt4	116 cms.

18	What is the 30% of 40% of 2/5th of 5000?
Alt1	500
Alt2	800
Alt3	240
Alt4	720

19	There are n persons in a room. Each one is shaking hand with the other . Ultimately there are 66 hand-shakes. Then n=
Alt1	11
Alt2	12
Alt3	16
Alt4	33

20	A problem is given to students 10 students choose option A ; 6 students choose option B ; 2 students choose option C; Gopal choose option D; 5 students did not answer. which option is correct if the teacher tells that One-Twelth of the class gave the correct answer.
Alt1	B
Alt2	A
Alt3	C
Alt4	D

21	TAB vaccination is a:-
Alt1	Neonatal Immunization
Alt2	Combined Immunization
Alt3	Passive immunization
Alt4	Active Immunization

22	Heterolactic acid bacteria produce:-
Alt1	Lactic acid only
Alt2	Lactic acid + H <sub>2</sub> O + CO <sub>2</sub>
Alt3	Lactic acid + CO <sub>2</sub>
Alt4	Lactic acid + alcohol + CO <sub>2</sub>

23	Which of the following refers to the addition of microorganisms to the diet in order to provide health benefits beyond basic nutritive value?
Alt1	Adjuvants
Alt2	Antibiotics
Alt3	Probiotics
Alt4	Prebiotics

24	In the technique of FRET, for the energy transfer which of the following condition needs to be satisfied?
Alt1	Absorption spectrum of the acceptor must overlap with the emission spectrum of the donor
Alt2	The energy donor must not be fluorescent
Alt3	Absorption spectrum of the acceptor must not overlap with the emission spectrum of the donor
Alt4	Activation energy is higher than free energy

25	Milk fever in cow is caused due to the deficiency of:-
Alt1	Nitrogen
Alt2	Phosphorus
Alt3	Calcium
Alt4	Sodium

26	Almost 95% of compounds are of carbon because it can form:-
Alt1	Double bonds
Alt2	Triple bonds
Alt3	Multiple bonds
Alt4	Single bonds

27	An open reading frame is one that has:-
Alt1	No start and stop codon
Alt2	A start & stop codon
Alt3	No start but stop codon
Alt4	A start but no stop codon

28	Streptokinase is also termed as:-
Alt1	Hyaluronidase
Alt2	Fibrinolysin
Alt3	Catalase
Alt4	Coagulase

29	In a diploid organism, what is the maximum number of alleles that can exist in a population for any given gene?
Alt1	2
Alt2	1
Alt3	4
Alt4	Unlimited

30	In a Sephadex gel filtration column, a mixture of albumin, lysozyme and thymidine was loaded. In what sequence these will be eluted from the column:-
Alt1	Albumin > Lysozyme > Thymidine
Alt2	Thymidine > Lysozyme > Albumin
Alt3	Lysozyme > Thymidine > Albumin
Alt4	Thymidine > Albumin > Lysozyme

31	The ions generated in mass spectrometry technique are separated according:-
Alt1	Mass
Alt2	Charge
Alt3	Shape of the molecule
Alt4	Mass: charge ratio

32	A minimal medium contains 0.00015% CaCl <sub>2</sub> . To prepare 250 ml of the medium _____ should be taken from a solution of 1.5mg/ml CaCl <sub>2</sub> .
Alt1	0.25 ml
Alt2	0.025 ml
Alt3	25 ml
Alt4	2.5 ml

33	Moutax reaction is used for detection of:-
Alt1	T. B.
Alt2	HIV
Alt3	Diphtheria
Alt4	Cholera

34	Which of the following is the most immunogenic in typhoid?
Alt1	O antigen
Alt2	Vi antigen
Alt3	Somatic antigen
Alt4	H antigen

35	Which one the following denotes production phase in fermentation:-
Alt1	Lag phase
Alt2	Trophophase
Alt3	Decline phase
Alt4	Indiophase

36	Which of the following is a micronutrient?
Alt1	Hydrogen
Alt2	Silica
Alt3	Carbon
Alt4	Oxygen

37	Malaria is caused by the infection of:-
Alt1	Virus
Alt2	Bacterium

Alt3	Protozoan
Alt4	Fungus

38	A delayed hypersensitivity reaction is characterized by:-
Alt1	an infiltrate composed of neutrophils
Alt2	an infiltrate composed of helper T cells and macrophages
Alt3	an infiltrate composed of eosinophils
Alt4	edema without a cellular infiltrate

39	Pili, elongated tubular structures composed of pilin, are only found on what type of organisms
Alt1	Spirochetes
Alt2	Gram-negatives
Alt3	Gram-positives
Alt4	Encapsulated organisms

40	Elek's gel diffusion test is used for the detection of:-
Alt1	Toxoid
Alt2	Cholera toxin
Alt3	Diphtheria toxin
Alt4	Tetani toxin

41	Which Immunoglobulin can cross the placenta?
Alt1	IgE
Alt2	IgG
Alt3	IgD
Alt4	IgA

42	The following are used for the preservation of virus, except:-
Alt1	Ether
Alt2	Formaldehyde
Alt3	Lyophilization
Alt4	Freezing (-20°C-70°C)

43	Transposons:-
Alt1	Can insert into plasmids but not the bacterial chromosome
Alt2	Insert into DNA by homologous recombination
Alt3	Contain the equivalent of insertion (IS) element
Alt4	Cannot be transferred by phage mediated transduction

44	Where do you dispose the radioisotope solid waste material?
Alt1	General trash
Alt2	Any available trash
Alt3	Oceans
Alt4	Trash specifically assigned for isotope

45	The acrosome of the sperm is formed from the:-
Alt1	Mitochondria

Alt2	Lysosome
Alt3	Golgi bodies
Alt4	Centrosome

46	When a solution containing ds DNA is heated above its $T_m$ , the change observed in uv-visible spectra before and after treatment is called _____.
Alt1	Achromic shift
Alt2	Hyperchromic shift
Alt3	Bathochromic shift
Alt4	Hypsochromic shift

47	The test used for detection of typhoid fever:-
Alt1	WIDAL test
Alt2	Western blotting
Alt3	ELISA
Alt4	Rosewaller test

48	The minor histocompatibility antigens on cells:-
Alt1	are controlled by several genes in the major histocompatibility complex
Alt2	induce reactions that can cumulatively lead to a strong rejection response
Alt3	are unimportant in human transplantation
Alt4	are detected by reaction with antibodies and complement

49	Hypersensitivity to penicillin and hypersensitivity to poison oak are both:-
Alt1	initiated by Th-2 cells
Alt2	mediated by IgE antibody
Alt3	initiated by haptens
Alt4	mediated by IgG and IgM antibody

50	During Mitosis suddenly the chromosomes starts moving toward the opposite poles during:-
Alt1	Anaphase
Alt2	Prophase
Alt3	Metaphase
Alt4	Telophase

51	The order of stains in Gram-staining procedure is:-
Alt1	Iodine solution, Crystal Violet, Saffranine, Alcohol
Alt2	Alcohol, Iodine solution, Saffranine, Crystal Violet
Alt3	Alcohol, Crystal Violet, Iodine solution, Saffranine
Alt4	Crystal violet, Iodine solution, Alcohol, Saffranine

52	Citrus canker is caused by:-
Alt1	Phytomonas
Alt2	Hay bacillus
Alt3	Lactobacillus
Alt4	Salmonella



53	Which of the following is not associated with cell cycle?
Alt1	Myosins
Alt2	CDK
Alt3	DNA polymerases
Alt4	Cyclins

54	The pH of a solution is 3.75. What is the concentration of hydrogen ion in the solution?
Alt1	$1.8 \times 10^{-4} \text{ M}$
Alt2	$1.8 \times 10^{-3} \text{ M}$
Alt3	$1.8 \times 10^{-2} \text{ M}$
Alt4	$18 \times 10^{-4} \text{ M}$

55	E. coli O157: H7 is thought to have acquired enterohaemorrhagic genes from:-
Alt1	Shigella
Alt2	Clostridium
Alt3	Campylobacter
Alt4	Bacillus

56	Which one of the following substances is NOT released by activated helper T cells?
Alt1	gamma interferon
Alt2	interleukin-2
Alt3	interleukin-4
Alt4	interleukin-1

57	E-test is employed for testing of _____.
Alt1	Probiotics
Alt2	Antigen
Alt3	Antibiotics
Alt4	Antibody

58	Halophiles can survive in:-
Alt1	high-temperature environment
Alt2	salt-rich environment
Alt3	acidic environment
Alt4	Freshwater

59	Proteins show maximum absorbance at 280 nm due to the presence of:-
Alt1	Sulphur containing amino acids
Alt2	Hydroxyl group containing amino acids
Alt3	Aromatic amino acids
Alt4	Charged amino acids

60	Kuru disease in Humans is caused by:-
Alt1	Mycoplasma
Alt2	Bacteria
Alt3	Viroides
Alt4	Prions

61	Sites where mutations occur at rates higher than normal are known as:-
Alt1	Hotspots
Alt2	Mutator sites
Alt3	Suppressor sites
Alt4	Cistrons

62	Agar is obtained from:-
Alt1	Blue-green algae
Alt2	Green algae
Alt3	Red algae
Alt4	Brown algae

63	The acid fast stain is used to identify organisms containing what chemical in their cell walls?
Alt1	Mycolic acid
Alt2	Lipoteichoic acids
Alt3	Liposaccharides
Alt4	Porin proteins

64	Which of the following is an example of a monosaccharide?
Alt1	Cellulose
Alt2	Chitin
Alt3	Glucose
Alt4	Starch

65	Special feature of Retro viruses include:-
Alt1	RNA directed DNA polymerases
Alt2	Reverse transcriptase
Alt3	Both of the above
Alt4	Boils

66	What type of bond best describes the linkage between Acyl Carrier Protein (ACP) and fatty acids in fatty acid biosynthesis?
Alt1	Amide
Alt2	Ester
Alt3	Phosphoanhydride
Alt4	Thioester

67	Rancidity in spoiled foods is due to:-
Alt1	Toxigenic microbes
Alt2	Lipolytic organisms
Alt3	Proteolytic organisms
Alt4	Saccharolytic microbes

68	A technician wanted to make antibody specific for mouse IgM. Accordingly he injected a rabbit with purified mouse IgM and obtained an antiserum that reacted strongly with mouse IgG. Unfortunately, however antiserum was also found to react with other mouse Ig classes. Such result would be obtained if antiserum contained antibodies directed against:-
Alt1	The constant region of heavy chain
Alt2	The light chain of Ig molecule
Alt3	The Fc portion of Ig molecule
Alt4	The variable region of heavy chain

69	Which is the reservoir of Neisseria meningitidis?
Alt1	Domesticated animals
Alt2	Human carriers
Alt3	Soil
Alt4	Salt water

70	Mycorrhiza was first observed by:-
Alt1	Frank
Alt2	Crick
Alt3	Fisher
Alt4	Funk

71	Which of the following groups of gases contribute to the 'Green House Effect'?
Alt1	Carbon tetrafluoride and Nitrous oxide
Alt2	Carbon dioxide and Methane
Alt3	Ammonia and Ozone
Alt4	Carbon monoxide and Sulphur dioxide

72	Autoclaving uses _____ to sterilise
Alt1	air mixed with steam
Alt2	short periods of temperature
Alt3	chemicals
Alt4	steam and pressure

73	DPT vaccine will not be able to protect the person from the infection of:-
Alt1	Corynebacterium diphtheriae
Alt2	Bordetella pertussis
Alt3	Salmonella typhi
Alt4	Clostridium tetani

74	Late blight potato is caused by genera:-
Alt1	Verticillium
Alt2	Phytophthora
Alt3	Synchytrium
Alt4	Alternaria

75	RFLP (Restriction Fragment Length Polymorphism) study is a technique for:-
Alt1	Transferring genes from unrelated species

Alt2	Identifying genetic (DNA) homologies
Alt3	Isolating single gene products
Alt4	Isolating single genes

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77	SDS PAGE separates proteins by:-
Alt1	size only
Alt2	native charge only
Alt3	size and native charge
Alt4	Zwitter ions

78	Gasgangarene bacillus is:-
Alt1	Obligate anaerobe
Alt2	Obligate aerobe
Alt3	Facultative anaerobe
Alt4	Facultative aerobe

79	Which animals may suffer from foot and mouth disease?
Alt1	Cattle
Alt2	Cattle and Sheep
Alt3	Cattle and Pigs
Alt4	Cattle, Sheep and pigs

80	Moist heat sterilizes by:-
Alt1	denaturation of proteins
Alt2	causing production of singlet oxygen
Alt3	use of chemicals
Alt4	causing the formation of thymine dimers

81	What is the key test that separates Staphylococcus aureus from other staphylococci?
Alt1	Growth on blood agar medium
Alt2	Mannose fermentation
Alt3	Coagulase test
Alt4	Susceptibility to novobiocin

82	G-protein linked receptors are transmembrane proteins of:-
Alt1	Seven-pass
Alt2	Single- pass
Alt3	Three-pass
Alt4	Five-pass

83	Fungal filaments are generally referred to as:-
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Alt1	Budding
Alt2	Conidium
Alt3	Spore
Alt4	Hyphae

84	Mosquito is not a vector for:-
Alt1	Yellow fever
Alt2	Elephantiasis
Alt3	Dengue
Alt4	Typhoid

85	By definition, an endophytic fungus lives in _____ form in biological association with the living plant.
Alt1	megasporangium
Alt2	spore
Alt3	anther
Alt4	mycelial

86	Who discovered the Polio vaccine?
Alt1	Jonas Salk
Alt2	Eli Whitney
Alt3	Louis Pasteur
Alt4	Konrad Zuse

87	Which of the following inhibits bacterial growth but does not kill bacteria?
Alt1	Lysozyme
Alt2	bactericidal agent
Alt3	antiseptic agent
Alt4	bacteriostatic agent

88	What compounds do necrotrophs generally produce in order to gain entry into the host organism while obtaining their nutrition?
Alt1	Toxins
Alt2	Sclerotia
Alt3	Conidiophore
Alt4	Stroma

89	The type of filter used in the Laminar air flow biological cabinet is:-
Alt1	High Efficiency Physical Air filter
Alt2	High Efficiency Primary Air filter
Alt3	High Efficiency Physiological Air filter
Alt4	High Efficiency Particulate Air filter

90	Which technique can be used for detection of radioactivity?
Alt1	Immuno-precipitation
Alt2	liquid scintillation counting
Alt3	Avidin-streptavidin conjugate

Alt4	Biophotometry
91	All of the following are true about antibodies, EXCEPT which one?
Alt1	They fix complement
Alt2	They occur on the surface of B-lymphocyte
Alt3	They are molecule with a single, defined amino acid sequence
Alt4	They are glycoproteins
92	Tumor inducing plasmids are extensively used in production of:-
Alt1	Single cell proteins
Alt2	Avirulent phases
Alt3	Nitrogen fixing bacteria
Alt4	Transgenic plants
93	TH-2 response is generated and maintained by which of the following pair of cytokines?
Alt1	IL-2 and IL-12
Alt2	IL-4 and IL10
Alt3	IFN - $\gamma$ and TNF- $\alpha$
Alt4	IL-12 and IFN - $\gamma$
94	How many chromosomes do bacteria have?
Alt1	Zero
Alt2	Two
Alt3	Three
Alt4	One
95	Which is most antigenic?
Alt1	Exotoxins
Alt2	Bacteria
Alt3	Endotoxins
Alt4	Viruses
96	Which of the following specially design nuclease is used for knocking out specific genes?
Alt1	I-CreI Homing endonuclease
Alt2	S1 Nuclease
Alt3	Ribonuclease H
Alt4	Flap endonuclease
97	The potential risk of using genetic engineering were first discussed in depth at the:-
Alt1	Asilomar conference 1975
Alt2	Berlin conference 1977
Alt3	Athens conference 1976
Alt4	New York conference 1974
98	The gene for Green Fluorescent Protein (GFP), a commonly used reporter gene, was cloned from:-
Alt1	Vibrio cholera
Alt2	Equoreavictoria

Alt3	Sus dometicus
Alt4	Danio rerio

99	If more than one kind of immunizing agent is included in the vaccine, it is:-
Alt1	Toxoid vaccine
Alt2	Mixed vaccine
Alt3	Cellular vaccine
Alt4	Recombinant vaccine

100	How much of globulin is present in human serum?
Alt1	0.08
Alt2	0.16
Alt3	0.04
Alt4	0.12