DU MSc Microbiology

Topic:- DU_J18_MSC_MICRO

1) Sanger's method of sequencing is: [Question ID = 51724]

1. Sequencing by chain synthesis [Option ID = 86888]
2. Sequencing by chain cleavage [Option ID = 86890]
3. Sequencing by chain termination [Option ID = 86889]
4. Sequencing by chain ligation [Option ID = 86891]

Correct Answer :-

- Sequencing by chain termination [Option ID = 86889]

2) What is the hydrogen ion concentration in moles/L, if pH of a solution is 3.0?

[Question ID = 51740]

1. 1×10^{-3} [Option ID = 86954]
2. 4×10^{-3} [Option ID = 86955]
3. 3×10^{-3} [Option ID = 86953]
4. 3 [Option ID = 86952]

Correct Answer :-

- 1×10^{-3} [Option ID = 86954]

3) A taxonomic system which takes into consideration a large number of phenotypic and genotypic characteristics of the organism is called: [Question ID = 51757]

1. Numerical taxonomy [Option ID = 87021]
2. Molecular taxonomy [Option ID = 87022]
3. Phylogenetics [Option ID = 87020]
4. Phylogenomics [Option ID = 87023]

Correct Answer :-

- Numerical taxonomy [Option ID = 87021]

4) The cytokine which is most commonly used for proliferation of bone marrow cells *in vitro:*

[Question ID = 51768]

1. TGF-β [Option ID = 87066]
2. GM-CSF [Option ID = 87064]
3. IFN-γ [Option ID = 87065]
4. IL-2 [Option ID = 87067]

Correct Answer :-

- GM-CSF [Option ID = 87064]

5) The interaction of two proteins within a cell can be visualized by:

[Question ID = 51689]

1. All of the above [Option ID = 86751]
2. Biomolecules with fluorescence complementation [Option ID = 86749]
3. Fluorescence recovery effectively transferred [Option ID = 86748]
4. Fluorescence resonance energy transfer [Option ID = 86750]

Correct Answer :-

- Fluorescence resonance energy transfer [Option ID = 86750]

6) The arrangement in which flagella are distributed all around the bacterial cell is known as:

[Question ID = 51727]

1. Amphitrichous [Option ID = 86901]
2. Peritrichous [Option ID = 86902]
3. Monotrichous [Option ID = 86903]
4. Lophotrichous [Option ID = 86900]

Correct Answer :-

- Peritrichous [Option ID = 86902]

7) The dried female flowers of *Humulus lupulus* are used in the production of:

[Question ID = 51725]

1. Wine [Option ID = 86893]
2. Bread [Option ID = 86892]
3. Beer [Option ID = 86894]
4. Tofu [Option ID = 86895]

Correct Answer :-

- Beer [Option ID = 86894]

8) The Swiss cheese ripening process is done using:

[Question ID = 51738]

1. *Geotrichium candidum* [Option ID = 86947]
2. *Penicillium roqueforti* [Option ID = 86945]
3. *Penicillium camemberti* [Option ID = 86944]
4. *Propionibacterium* sp. [Option ID = 86946]

Correct Answer :-

- *Propionibacterium* sp. [Option ID = 86946]

9) The culture media containing heat labile constituents are best sterilized by:

[Question ID = 51687]

1. UV-irradiation [Option ID = 86743]
2. Filtration using membrane filter [Option ID = 86742]
3. Dry heat at 180^{0}C for 30 min [Option ID = 86740]
4. Autoclaving at 15 psi for 30 min [Option ID = 86741]

Correct Answer :-

- Filtration using membrane filter [Option ID = 86742]

10) The koji for miso is a culture of:

[Question ID = 51736]

1. *Aspergillus oryzae* [Option ID = 86937]
2. *Aspergillus lentulus* [Option ID = 86939]
3. *Aspergillus flavus* [Option ID = 86936]
4. *Aspergillus fumigatus* [Option ID = 86938]

Correct Answer :-

- *Aspergillus oryzae* [Option ID = 86937]

11) Klinefelter syndrome is characterized by: [Question ID = 51712]

1. chromosome 19 trisomy [Option ID = 86841]
2. chromosome 21 monosomy [Option ID = 86843]
3. one or more extra X chromosomes [Option ID = 86840]
4. fragile X chromosome [Option ID = 86842]

Correct Answer :-

- one or more extra X chromosomes [Option ID = 86840]

12) Peptidoglycan is also known as: [Question ID = 51732]

1. N-acetyl glucosamine [Option ID = 86922]
2. N-acetyl muramic acid [Option ID = 86920]
3. Murein mucopeptide [Option ID = 86921]
4. Mesodiaminopimelic acid [Option ID = 86923]

Correct Answer :-

- Murein mucopeptide [Option ID = 86921]

13) All of the following are sporicidal except: [Question ID = 51706]

1. Formaldehyde [Option ID = 86818]
2. Glutaraldehyde [Option ID = 86816]
3. Ethylene oxide [Option ID = 86817]
4. Alcohol [Option ID = 86819]

Correct Answer :-

- Alcohol [Option ID = 86819]

14) The time required to kill 90% of the micro-organisms in a sample at a specific temperature is the [Question ID = 51698]

1. Decimal reduction time [Option ID = 86785]
2. Log reduction [Option ID = 86786]
3. Thermal inactivation constant [Option ID = 86787]
4. Thermal death point [Option ID = 86784]

Correct Answer :-

- Decimal reduction time [Option ID = 86785]

15) The new antigens which appear on the tumors produced by irradiation are called: [Question ID = 51705]

1. Tumor-specific transplantation antigens (TSTA) [Option ID = 86813]
2. Carcino-embryonic antigens [Option ID = 86814]
3. Tumor associated antigens (TAA) [Option ID = 86812]
4. Tumor infiltrating antigens [Option ID = 86815]

Correct Answer :-

- Tumor-specific transplantation antigens (TSTA) [Option ID = 86813]

16) Thermoduric bacteria are majorly found in:

[Question ID = 51729]

1. Pasteurized milk and dried milk [Option ID = 86909]
2. Ice-creams [Option ID = 86908]
3. None of the these [Option ID = 86911]
4. Vegetables [Option ID = 86910]

Correct Answer :-

- Pasteurized milk and dried milk [Option ID = 86909]

17) The phenomenon in which the severity of symptoms in genetic disorders increases from generation to generation is called: [Question ID = 51699]

1. Genetic drift [Option ID = 86788]
2. Genetic anticipation [Option ID = 86789]
3. Genetic polymorphism [Option ID = 86791]
4. Genetic erosion [Option ID = 86790]

Correct Answer :-

- Genetic anticipation [Option ID = 86789]

18) Deviation in Hardy-Weinberg equilibrium in a population would be caused by [Question ID = 51720]

1. Small population size [Option ID = 86875]
2. Lack of mutation [Option ID = 86874]
3. Lack of selection [Option ID = 86873]
4. Random mating [Option ID = 86872]

Correct Answer :-

- Small population size [Option ID = 86875]

19) If the specific growth rate of the microorganism is 0.25 h-1, find out it's doubling time? [Question ID = 51750]

1. 1.77 h [Option ID = 86992]
2. 2.77 h [Option ID = 86993]
3. 4.77 h [Option ID = 86995]
4. 3.77 h [Option ID = 86994]

Correct Answer :-

- 2.77 h [Option ID = 86993]

20) A polymerase that extends DNA chains in template-independent manner is: [Question ID = 51726]

1. Klenow [Option ID = 86897]
2. DNA pol I [Option ID = 86896]
3. Terminal deoxynucleotidyl transferase [Option ID = 86898]
4. Pfu DNA polymerase [Option ID = 86899]

Correct Answer :-

- Terminal deoxynucleotidyl transferase [Option ID = 86898]

21) The Pathogenicity Islands (PAI) which are responsible for emergence of new pathogens are part of: [Question ID = 51696]

1. Integral part of integrons [Option ID = 86778]
2. Core genome of bacteria [Option ID = 86776]
3. Part of plasmids [Option ID = 86779]
4. Flexible genome pool of bacteria [Option ID = 86777]

Correct Answer :-

- Core genome of bacteria [Option ID = 86776]

22) Universal primers used in Sanger's sequencing of plasmid DNA are: [Question ID = 51769]

1. primers complementary to the vector sequences flanking the multiple cloning site [Option ID = 87071]
2. primers complementary to the antibiotic resistance gene of the vector [Option ID = 87069]
3. primers complementary to the multiple cloning sequence of the vector [Option ID = 87070]
4. primers of random sequence of length 18 nucleotides [Option ID = 87068]

Correct Answer :-

- primers complementary to the vector sequences flanking the multiple cloning site [Option ID = 87071]

23) In 2011, which virus was declared by OIE to be eradicated from earth after successful culmination of global vaccination and monitoring program for that virus?

[Question ID = 51700]

1. Rinderpest virus [Option ID = 86794]
2. Sheeppox virus [Option ID = 86793]
3. Smallpox virus [Option ID = 86792]
4. *Peste-des-petits ruminants* virus [Option ID = 86795]

Correct Answer :-

- Rinderpest virus [Option ID = 86794]

24) In the latent state, Herpes simplex virus makes an 8.3 kilobase RNA transcript called: [Question ID = 51682]

1. LMT or latent membrane transcript [Option ID = 86722]
2. None of the above [Option ID = 86723]
3. LAT or latency associated transcript [Option ID = 86720]
4. LANA or latency associated nuclear antigen [Option ID = 86721]

Correct Answer :-

- LAT or latency associated transcript [Option ID = 86720]

25) Variegation in four o'clock plants is an example of:

[Question ID = 51743]

1. Maternal effect [Option ID = 86964]
2. Nuclear inheritance [Option ID = 86966]
3. Organelle heredity [Option ID = 86965]
4. None of the these [Option ID = 86967]

Correct Answer :-

- Organelle heredity [Option ID = 86965]

26) Tetracycline blocks protein synthesis by: [Question ID = 51762]

1. Inhibiting translocase enzyme [Option ID = 87043]
2. Inhibiting peptidyl transferase [Option ID = 87042]
3. Inhibiting binding of aminoacyl tRNA to ribosomes [Option ID = 87040]
4. Inhibiting initiation of translation [Option ID = 87041]

Correct Answer :-

- Inhibiting binding of aminoacyl tRNA to ribosomes [Option ID = 87040]

27) Winogradsky column is often used for the isolation of:

[Question ID = 51734]

1. *Escherichia* spp. [Option ID = 86930]
2. *Pyrolobus* spp. [Option ID = 86931]
3. *Desulfovibrio* spp. [Option ID = 86928]
4. *Sulfolobus* spp. [Option ID = 86929]

Correct Answer :-

- *Desulfovibrio* spp. [Option ID = 86928]

28) What are the end products of Entner-Doudoroff pathway? [Question ID = 51713]

1. Pyruvate [Option ID = 86846]
2. Acetaldehyde, pyruvate and CO2 [Option ID = 86847]
3. Acetaldehyde and pyruvate [Option ID = 86845]
4. Ethanol and pyruvate [Option ID = 86844]

Correct Answer :-

- Ethanol and pyruvate [Option ID = 86844]

29) Flagella move the cell by: [Question ID = 51723]

1. An individual flagellum beating in a whip-like motion [Option ID = 86886]
2. Attaching to nearby particles and contracting [Option ID = 86885]
3. Spinning like a propeller [Option ID = 86884]
4. Many flagella beating in a synchronous whip-like motion [Option ID = 86887]

Correct Answer :-

- Spinning like a propeller [Option ID = 86884]

30) Use of microbes for the break down or removal of toxic wastes in water and soil is called as: [Question ID = 51765]

1. Putrefaction [Option ID = 87053]
2. Recycling [Option ID = 87055]
3. Bioremediation [Option ID = 87054]
4. Decomposition [Option ID = 87052]

Correct Answer :-

- Bioremediation [Option ID = 87054]

31) Leucine rich repeats (LRR) are an integral part of which immunological receptor? [Question ID = 51679]

1. Dendritic cell receptor [Option ID = 86710]
2. Toll-like receptor (TLR) [Option ID = 86708]
3. T cell receptor (TCR) [Option ID = 86711]
4. NK cell receptor [Option ID = 86709]

Correct Answer :-

- Toll-like receptor (TLR) [Option ID = 86708]

32) Chondroid of some bacteria are better known as:

[Question ID = 51755]

1. Bacterial plasmids [Option ID = 87014]
2. Bacterial plastids [Option ID = 87013]
3. Bacterial mitochondria [Option ID = 87015]
4. Mesosomes [Option ID = 87012]

Correct Answer :-

- Mesosomes [Option ID = 87012]

33) A condition in which a single mutation causes multiple phenotypic effects is: [Question ID = 51675]

1. Multiphenotypy [Option ID = 86695]
2. Pleiotropy [Option ID = 86692]
3. Epigenesis [Option ID = 86694]
4. Epistasis [Option ID = 86693]

Correct Answer :-

- Pleiotropy [Option ID = 86692]

34) The blood samples of athletes can be tested for the presence of certain performance enhancing drugs using: [Question ID = 51686]

1. Real time PCRs [Option ID = 86738]
2. Microarrays [Option ID = 86737]
3. Mass spectrometry [Option ID = 86736]
4. Fluorescence spectroscopy [Option ID = 86739]

Correct Answer :-

- Mass spectrometry [Option ID = 86736]

35) Cork screw shaped forms of bacteria are [Question ID = 51721]

1. Stalked bacteria [Option ID = 86877]
2. Bacilli [Option ID = 86876]
3. Spirochaetes [Option ID = 86878]
4. Actinomycetes [Option ID = 86879]

Correct Answer :-

- Spirochaetes [Option ID = 86878]

36) How many molecules of carbon dioxide are released after five rounds of Krebs cycle? [Question ID = 51719]

1. 18 [Option ID = 86871]
2. 12 [Option ID = 86870]
3. 10 [Option ID = 86869]
4. 6 [Option ID = 86868]

Correct Answer :-

- 10 [Option ID = 86869]

37) The atomizer is used in the following process: [Question ID = 51756]

1. Liquid-liquid extraction [Option ID = 87017]
2. None of the these [Option ID = 87019]
3. Cross flow filtration [Option ID = 87018]
4. Spray drying [Option ID = 87016]

Correct Answer :-

- Spray drying [Option ID = 87016]

38) The process of nonreciprocal recombination by which one allele in a heterozygote is converted into the corresponding allele is called: [Question ID = 51707]

1. Gene targeting [Option ID = 86820]
2. Gene knockout [Option ID = 86821]

3. Gene amplification [Option ID = 86823]
4. Gene conversion [Option ID = 86822]

Correct Answer :-

- Gene conversion [Option ID = 86822]

39) The process of RNA inactivation by siRNAs is termed as: [Question ID = 51758]

1. RNA dysfunction [Option ID = 87027]
2. RNA silencing [Option ID = 87024]
3. RNA interference [Option ID = 87025]
4. Short RNA inactivation [Option ID = 87026]

Correct Answer :-

- RNA interference [Option ID = 87025]

40) The production of high-fructose corn syrup (HFCS) from glucose involves which of the following enzymes? [Question ID = 51760]

1. Hexokinase [Option ID = 87035]
2. Invertase [Option ID = 87034]
3. Glucose isomerase [Option ID = 87032]
4. Glucose oxidase [Option ID = 87033]

Correct Answer :-

- Glucose isomerase [Option ID = 87032]

41) This food-borne pathogen is very well known to grow even at refrigeration temperature:

[Question ID = 51691]

1. *Salmonella enteritidis* [Option ID = 86759]
2. *Bacillus subtilis* [Option ID = 86756]
3. *Listeria monocytogenes* [Option ID = 86757]
4. *Vibrio cholerae* [Option ID = 86758]

Correct Answer :-

- *Listeria monocytogenes* [Option ID = 86757]

42) The term ecosystem was coined by: [Question ID = 51761]

1. Winogradsky [Option ID = 87036]
2. Pasteur [Option ID = 87039]
3. Flor [Option ID = 87038]
4. Tansley [Option ID = 87037]

Correct Answer :-

- Tansley [Option ID = 87037]

43) In lactic acid fermentation the final electron acceptor is:

[Question ID = 51735]

1. Acetyl CoA [Option ID = 86934]
2. NAD^+ [Option ID = 86932]
3. Pyruvate [Option ID = 86933]
4. Glucose [Option ID = 86935]

Correct Answer :-

- Pyruvate [Option ID = 86933]

44) Trickling filters are used in the following process [Question ID = 51770]

1. Waste water treatment [Option ID = 87072]
2. Protein recovery from biomass [Option ID = 87074]
3. Milk pasteurization [Option ID = 87073]
4. All of the these [Option ID = 87075]

Correct Answer :-

- Waste water treatment [Option ID = 87072]

45) The polio virus receptor which is an integral membrane protein is a member of immunoglobulin superfamily of proteins, and also is involved in establishment of intercellular junctions between epithelial cells: [Question ID = 51688]

1. CD 55 [Option ID = 86744]
2. CD 51 [Option ID = 86746]
3. CD 15 [Option ID = 86747]
4. CD 155 [Option ID = 86745]

Correct Answer :-
- CD 155 [Option ID = 86745]

46) Endotoxic shock produced by gram negative bacteremia is characterized by:

[Question ID = 51693]

1. Loss of large volumes of blood from host [Option ID = 86765]
2. Extensive internal haemorrhage in the organs of the host [Option ID = 86764]
3. Disseminated intravascular coagulation in the host [Option ID = 86766]
4. Release of minimal amount of cytokines in the host [Option ID = 86767]

Correct Answer :-
- Disseminated intravascular coagulation in the host [Option ID = 86766]

47) Interferon free direct acting antivirals (DAAs) therapy has revolutionized treatment for which virus infection in recent years? [Question ID = 51715]

1. Human papilloma virus [Option ID = 86855]
2. Hepatitis C virus [Option ID = 86854]
3. Chickenpox virus [Option ID = 86852]
4. Human Immunodeficiency virus [Option ID = 86853]

Correct Answer :-
- Hepatitis C virus [Option ID = 86854]

48) A transmembrane protein that mediates the adhesion of cells to the extracellular matrix is: [Question ID = 51692]

1. Fibronectin [Option ID = 86761]
2. Laminin [Option ID = 86760]
3. Entactin [Option ID = 86763]
4. Integrin [Option ID = 86762]

Correct Answer :-
- Integrin [Option ID = 86762]

49) Degranulation of most cells during hypersensitivity type I is known to produce: [Question ID = 51681]

1. Histamine, serotonin and leukotrienes [Option ID = 86718]
2. Histamine alone [Option ID = 86716]
3. Histamine, epinephrine and nor-epinephrine [Option ID = 86719]
4. Only Histamine and serotonin [Option ID = 86717]

Correct Answer :-
- Histamine, serotonin and leukotrienes [Option ID = 86718]

50) Thiosulphate citrate bile salt sugar (TCBS) medium is used for selective isolation of:

[Question ID = 51685]

1. Non-cholera Vibrios only [Option ID = 86732]
2. Non-01 non-0139 *Vibrio cholerae* [Option ID = 86735]
3. Most Vibrios [Option ID = 86733]
4. Mostly *Vibrio parahemolyticus* [Option ID = 86734]

Correct Answer :-
- Most Vibrios [Option ID = 86733]

51) Howard Walter Florey and Ernst Boris Chain were given the Nobel Prize for the process development of: [Question ID = 51752]

1. Monoclonal antibodies [Option ID = 87000]
2. Penicillin [Option ID = 87001]
3. Erythromycin [Option ID = 87002]
4. Glutamic acid [Option ID = 87003]

Correct Answer :-

- Penicillin [Option ID = 87001]

52) A type of cell adhesion molecule that recognizes oligosaccharides exposed on the cell surface: [Question ID = 51710]

1. Exportins [Option ID = 86834]
2. Integrins [Option ID = 86835]
3. Laminins [Option ID = 86832]
4. Selectins [Option ID = 86833]

Correct Answer :-

- Selectins [Option ID = 86833]

53) The method of post-transcriptional gene silencing is particularly useful in: [Question ID = 51753]

1. Animals [Option ID = 87004]
2. Microbes [Option ID = 87007]
3. Plants [Option ID = 87005]
4. Insects [Option ID = 87006]

Correct Answer :-

- Plants [Option ID = 87005]

54) When B DNA is slightly dehydrated, it acquires: [Question ID = 51733]

1. Z conformation [Option ID = 86926]
2. Positive supercoils [Option ID = 86925]
3. A conformation [Option ID = 86927]
4. Negative supercoils [Option ID = 86924]

Correct Answer :-

- A conformation [Option ID = 86927]

55) The Toll-like receptor (TLR) which is known to bind the lipopolysaccharide (LPS) of gram negative bacteria: [Question ID = 51677]

1. TLR-4 [Option ID = 86702]
2. TLR-2 [Option ID = 86701]
3. TLR-1 [Option ID = 86700]
4. TLR-10 [Option ID = 86703]

Correct Answer :-

- TLR-4 [Option ID = 86702]

56) Which of the following skin disinfectant(s) is/are used frequently? [Question ID = 51703]

1. Isopropyl alcohol [Option ID = 86804]
2. Ethyl alcohol [Option ID = 86805]
3. Both of the above [Option ID = 86806]
4. None of the these [Option ID = 86807]

Correct Answer :-

- Both of the above [Option ID = 86806]

57) Which of the following statements is not true? [Question ID = 51672]

1. Linkers are often used as cloning aids when making cDNA libraries [Option ID = 86682]
2. cDNA libraries made in lambda phage vectors are screened by colony hybridization. [Option ID = 86683]
3. To obtain single stranded DNA of a target sequence we clone the sequence into a phagemid [Option ID = 86681]
4. When cloning large genomic contigs into YACs we may get chimeric inserts [Option ID = 86680]

Correct Answer :-

- cDNA libraries made in lambda phage vectors are screened by colony hybridization. [Option ID = 86683]

58) Which of the following has beads on a string structure? [Question ID = 51674]

1. Chromatin [Option ID = 86689]
2. Chromosomes [Option ID = 86688]
3. Heterochromatin [Option ID = 86691]
4. Nucleosomes [Option ID = 86690]

Correct Answer :-

- Nucleosomes [Option ID = 86690]

59) Which of the following is NOT a feature of eukaryotic gene expression? [Question ID = 51764]

1. Multiple copies of nuclear genes and pseudogenes can occur [Option ID = 87051]
2. RNA synthesis and protein synthesis are coupled [Option ID = 87050]
3. Many genes are interrupted by noncoding DNA sequences [Option ID = 87049]
4. Polycistronic mRNAs are very rare [Option ID = 87048]

Correct Answer :-

- RNA synthesis and protein synthesis are coupled [Option ID = 87050]

60) Which of the following is the best explanation of lock and key theory of enzyme action? [Question ID = 51697]

1. Enzyme determines the direction of reaction [Option ID = 86780]
2. Enzyme interacts with substrate and lowers activation energy of the reaction [Option ID = 86783]
3. Enzyme speeds up reaction as it comes in contact with reactants [Option ID = 86781]
4. Compounds similar in structure to substrate inhibit enzyme activity [Option ID = 86782]

Correct Answer :-

- Compounds similar in structure to substrate inhibit enzyme activity [Option ID = 86782]

61) Which of the following is not an A-B type of toxin? [Question ID = 51763]

1. Diphtheria toxin [Option ID = 87044]
2. Tetanus toxin [Option ID = 87046]
3. Pertussis toxin [Option ID = 87047]
4. Cholera toxin [Option ID = 87045]

Correct Answer :-

- Tetanus toxin [Option ID = 87046]

62) Which of the following methods are used for enzyme immobilization? [Question ID = 51759]

1. All of the these [Option ID = 87031]
2. Covalent binding [Option ID = 87030]
3. Adsorption [Option ID = 87028]
4. Affinity binding [Option ID = 87029]

Correct Answer :-

- All of the these [Option ID = 87031]

63) Which of the following is responsible for unusual resistance of bacterial spores to heat? [Question ID = 51766]

1. Polylysine [Option ID = 87056]
2. Dipicolinic acid [Option ID = 87057]
3. Mycolic acid [Option ID = 87058]
4. NAM-NAG [Option ID = 87059]

Correct Answer :-

- Dipicolinic acid [Option ID = 87057]

64) Which of the following is not true of RNA synthesis (transcription)? [Question ID = 51739]

1. In transcription, U is inserted opposite T [Option ID = 86950]
2. RNA polymerase needs a primer to initiate transcription [Option ID = 86949]
3. New nucleotides are added on to the 3' OH of the ribose sugar [Option ID = 86951]
4. RNA synthesis is always in the 5' - 3' direction. [Option ID = 86948]

Correct Answer :-

- RNA polymerase needs a primer to initiate transcription [Option ID = 86949]

65) Pathogen associated molecular patterns (PAMP) are detected by: [Question ID = 51722]

1. B cell receptors [Option ID = 86882]
2. Non-leucine rich receptors [Option ID = 86883]
3. Toll-like receptors [Option ID = 86880]
4. T cell receptors [Option ID = 86881]

Correct Answer :-

- Toll-like receptors [Option ID = 86880]

66) Examples of epimers are: [Question ID = 51714]

1. Both a and c [Option ID = 86851]
2. Glucose and galactose [Option ID = 86848]
3. Glucose and mannose [Option ID = 86850]
4. Glucose and fructose [Option ID = 86849]

Correct Answer :-

- Both a and c [Option ID = 86851]

67) In 1961, Tim Loeb and Norton Zinder discovered these as the result of their search for phages whose replication depends on *E. coli* F-pili which is used for bacterial conjugation

[Question ID = 51678]

1. Bacteriophage Lambda [Option ID = 86706]
2. Bacteriophage T7 [Option ID = 86705]
3. RNA coliphage [Option ID = 86704]
4. PhiX174 [Option ID = 86707]

Correct Answer :-

- RNA coliphage [Option ID = 86704]

68) The most abundant type of RNA in the cells is: [Question ID = 51731]

1. rRNA [Option ID = 86916]
2. tRNA [Option ID = 86917]
3. mRNA [Option ID = 86918]
4. hnRNA [Option ID = 86919]

Correct Answer :-

- rRNA [Option ID = 86916]

69) Expression of which of the early genes of Lambda phage leads to the replication of its DNA? [Question ID = 51676]

1. O and P [Option ID = 86696]
2. P and Q [Option ID = 86697]
3. O, P and Q [Option ID = 86699]
4. O and Q [Option ID = 86698]

Correct Answer :-

- O and P [Option ID = 86696]

70) The 3, 5-Dinitrosalicylic acid is used for the estimation of: [Question ID = 51747]

1. Phenols [Option ID = 86983]
2. Amino acids [Option ID = 86981]
3. Starch [Option ID = 86980]
4. Reducing sugars [Option ID = 86982]

Correct Answer :-

- Reducing sugars [Option ID = 86982]

71) You have isolated glucose oxidase which catalyses glucose oxidation and exhibits 50% V_{max} at 0.05 M glucose. If you want to increase the reaction rate to 90% then what concentration of glucose you should use in the reaction?

[Question ID = 51694]

1. 1M [Option ID = 86768]
2. 0.45 M [Option ID = 86769]
3. 0.30 M [Option ID = 86770]

4. 0.40 M [Option ID = 86771]

Correct Answer :-

- 0.45 M [Option ID = 86769]

72) Which of the following is not used in the pulping process of paper making? [Question ID = 51767]

1. Kraft process [Option ID = 87060]
2. Chlorite treatment [Option ID = 87063]
3. Bioleaching process [Option ID = 87062]
4. Sulfite process [Option ID = 87061]

Correct Answer :-

- Bioleaching process [Option ID = 87062]

73) Which among these kinds of viruses do not exist? [Question ID = 51702]

1. Helical non-enveloped plant viruses [Option ID = 86800]
2. Helical enveloped animal viruses [Option ID = 86803]
3. Helical non-enveloped animal viruses [Option ID = 86802]
4. Icosahedral plant viruses [Option ID = 86801]

Correct Answer :-

- Helical non-enveloped animal viruses [Option ID = 86802]

74) Which one is not a subviral agent? [Question ID = 51684]

1. Viroid [Option ID = 86728]
2. Virusoid [Option ID = 86730]
3. Prion [Option ID = 86731]
4. Mimivirus [Option ID = 86729]

Correct Answer :-

- Mimivirus [Option ID = 86729]

75) Ames Test uses *Salmonella typhimurium* mutants to screen chemical agents that might be carcinogenic. The rationale behind this test is:

[Question ID = 51746]

1. DNA repair in bacteria is inefficient [Option ID = 86979]
2. most carcinogenic agents are mutagenic [Option ID = 86977]
3. the rate of spontaneous mutations in bacteria is much higher than in eukaryotes [Option ID = 86978]
4. mutations in bacteria result in auxotrophy [Option ID = 86976]

Correct Answer :-

- most carcinogenic agents are mutagenic [Option ID = 86977]

76) Brandy is a distilled form of: [Question ID = 51730]

1. Wine [Option ID = 86915]
2. Whisky [Option ID = 86913]
3. Beer [Option ID = 86912]
4. Vodka [Option ID = 86914]

Correct Answer :-

- Wine [Option ID = 86915]

77) A CSTR process where only feed rate is used to control the specific growth rate is called:

[Question ID = 51745]

1. Turbidostat [Option ID = 86974]
2. DOstat [Option ID = 86975]
3. Retentostat [Option ID = 86973]
4. Chemostat [Option ID = 86972]

Correct Answer :-

- Chemostat [Option ID = 86972]

78) An automated machine which is used for rapid (90 minutes) identification of *Mycobacterium tuberculosis* in the clinical sample:

[Question ID = 51711]

1. Gene Expert [Option ID = 86837]
2. BATAC [Option ID = 86836]
3. Vitek-2 [Option ID = 86838]
4. Microscan by Siemens [Option ID = 86839]

Correct Answer :-

- Gene Expert [Option ID = 86837]

79) An antimicrobial agent which was a very common constituent of several toiletries but has recently been banned:

[Question ID = 51695]

1. Hexachlorophene [Option ID = 86773]
2. Ketoconazole [Option ID = 86775]
3. Iodine [Option ID = 86772]
4. Triclosan [Option ID = 86774]

Correct Answer :-

- Triclosan [Option ID = 86774]

80) An autosomal dominant disorder caused due to the expansion of trinucleotide repeats is [Question ID = 51680]

1. Klinefelter syndrome [Option ID = 86713]
2. Huntington disease [Option ID = 86712]
3. Alzheimer disease [Option ID = 86715]
4. Creutzfeldt-Jakob disease [Option ID = 86714]

Correct Answer :-

- Huntington disease [Option ID = 86712]

81) Type II modification methylases methylate DNA at: [Question ID = 51683]

1. Cytosine and guanine [Option ID = 86727]
2. Adenine and thymine [Option ID = 86726]
3. Cytosine and adenine [Option ID = 86725]
4. Adenine and guanine [Option ID = 86724]

Correct Answer :-

- Cytosine and adenine [Option ID = 86725]

82) The nucleotides in RNA are joined by: [Question ID = 51718]

1. 3'-5' phosphodiester bond [Option ID = 86864]
2. 3'-3' phosphodiester bond [Option ID = 86866]
3. 5'-3' phosphodiester bond [Option ID = 86865]
4. 5'-5' phosphodiester bond [Option ID = 86867]

Correct Answer :-

- 3'-5' phosphodiester bond [Option ID = 86864]

83) In prokaryotes, the first amino acid in the polypeptide chain is: [Question ID = 51741]

1. Can be any amino acid [Option ID = 86959]
2. N-methyl methionine [Option ID = 86957]
3. Methionine [Option ID = 86956]
4. N-formyl methionine [Option ID = 86958]

Correct Answer :-

- N-formyl methionine [Option ID = 86958]

84) You were asked to electrophorese a sample of hyper-immune serum using agarose gel electrophoresis at pH-8.6. Which would be the fastest moving fraction? [Question ID = 51701]

1. Fibrinogen [Option ID = 86799]

2. Albumin [Option ID = 86797]
3. β-globulin [Option ID = 86798]
4. γ-globulin [Option ID = 86796]

Correct Answer :-

- Albumin [Option ID = 86797]

85) To identify the promoter motif to which a transcription factor binds we can use: [Question ID = 51704]

1. DNA sequencing [Option ID = 86810]
2. DNA footprinting [Option ID = 86809]
3. DNA barcoding [Option ID = 86811]
4. DNA fingerprinting [Option ID = 86808]

Correct Answer :-

- DNA footprinting [Option ID = 86809]

86) Iodine used in Gram-staining serves as a: [Question ID = 51737]

1. Catalyst [Option ID = 86941]
2. Chelator [Option ID = 86940]
3. Mordant [Option ID = 86942]
4. Co-factor [Option ID = 86943]

Correct Answer :-

- Mordant [Option ID = 86942]

87) Long acting thyroid stimulating (LATS) molecule are: [Question ID = 51709]

1. Antibodies to thyroid stimulating hormone (TSH) [Option ID = 86828]
2. Antibodies to thyroxine [Option ID = 86830]
3. Antibodies to TSH receptors [Option ID = 86829]
4. Antibodies to triidothyronine [Option ID = 86831]

Correct Answer :-

- Antibodies to TSH receptors [Option ID = 86829]

88) In genetic engineering, *in vitro* packaging is used for:

[Question ID = 51751]

1. cloning a gene of size 2-4 kb into a plasmid and then incubating with packaging extracts to transform bacteria [Option ID = 86999]
2. cloning large genomic contigs into BACs and then incubating with packaging extracts to transform bacteria with the BAC clones. [Option ID = 86996]
3. Incorporating recombinant DNA into infectious bacteriophage particles. [Option ID = 86998]
4. Translating proteins using rabbit reticulocyte lysates. [Option ID = 86997]

Correct Answer :-

- Incorporating recombinant DNA into infectious bacteriophage particles. [Option ID = 86998]

89) In a bioreactor, impellers increase the surface area of:

[Question ID = 51744]

1. Substrates [Option ID = 86970]
2. Cells [Option ID = 86968]
3. All of the these [Option ID = 86971]
4. Air bubbles [Option ID = 86969]

Correct Answer :-

- Air bubbles [Option ID = 86969]

90) Which one of these is not an obligatory intracellular parasite?

[Question ID = 51671]

1. *Rickettsia rickettsii* [Option ID = 86676]
2. *Chlamydia suis* [Option ID = 86677]
3. *Rhodococcus equi* [Option ID = 86678]
4. *Mycobacterium leprae* [Option ID = 86679]

Correct Answer :-

- *Rhodococcus equi* [Option ID = 86678]

91) Which of these is a cancer associated virus belonging to gammaherpesvirus subfamily of *Herpesviridae* family?

[Question ID = 51690]

1. Human herpesvirus 3 [Option ID = 86754]
2. Human herpesvirus 1 [Option ID = 86752]
3. Human herpesvirus 2 [Option ID = 86753]
4. Human herpesvirus 4 [Option ID = 86755]

Correct Answer :-

- Human herpesvirus 4 [Option ID = 86755]

92) Which of the following is true of the genus *Rickettsia?*

[Question ID = 51749]

1. All of the these [Option ID = 86991]
2. They are evolutionary similar to chloroplast [Option ID = 86990]
3. They primarily use glycolysis for oxidation of glucose [Option ID = 86989]
4. They are all parasitic or mutualistic [Option ID = 86988]

Correct Answer :-

- All of the these [Option ID = 86991]

93) Which of the following indicates that *pK* of an acid is numerically equal to *pH* of the solution when the molar concentration of acid and its conjugate base are equal?

[Question ID = 51708]

1. Michaelis-Menten equation [Option ID = 86824]
2. Hardy Weinberg law [Option ID = 86826]
3. Henderson-Hasselbalch equation [Option ID = 86827]
4. Haldanes equation [Option ID = 86825]

Correct Answer :-

- Henderson-Hasselbalch equation [Option ID = 86827]

94) Which of the following methods is used for microbial cell disruption?

[Question ID = 51742]

1. Solid Shear method [Option ID = 86961]
2. All of the these [Option ID = 86963]
3. Freeze-thawing methods [Option ID = 86962]
4. Liquid shear Method [Option ID = 86960]

Correct Answer :-

- All of the these [Option ID = 86963]

95) Which of the following is not a cause of food poisoning?

[Question ID = 51754]

1. *Clostridium perfringens* [Option ID = 87010]
2. *Salmonella typhi* [Option ID = 87009]
3. *Bacillus cereus* [Option ID = 87008]
4. *Staphylococcus aureus* [Option ID = 87011]

Correct Answer :-

- *Salmonella typhi* [Option ID = 87009]

96) Which of the following bacteria is called the super bug that could clean up oil spills?

[Question ID = 51673]

1. *Bacillus denitrificans* [Option ID = 86687]
2. *Pseudomonas putida* [Option ID = 86684]
3. *Pseudomonas aeruginosa* [Option ID = 86685]
4. *Thiobacillus denitrificans* [Option ID = 86686]

Correct Answer :-

- *Pseudomonas putida* [Option ID = 86684]

97) Which is not true of archaebacteria?

[Question ID = 51728]

1. Archaebacterial cell wall is made up of N-acetyl glucosamine and N-acetyl muramic acid [Option ID = 86906]
2. Archaebacterial cell wall is rich in ether lipids [Option ID = 86904]
3. Archaebacteria are insensitive to all major antibiotics [Option ID = 86905]
4. None of the these [Option ID = 86907]

Correct Answer :-

- Archaebacterial cell wall is made up of N-acetyl glucosamine and N-acetyl muramic acid [Option ID = 86906]

98) Knallgas-bacteria are bacteria that oxidize [Question ID = 51748]

1. Sulphur [Option ID = 86987]
2. Nitrogen [Option ID = 86986]
3. Hydrogen [Option ID = 86985]
4. Iron [Option ID = 86984]

Correct Answer :-

- Hydrogen [Option ID = 86985]

99) γ/δ T lymphocytes are located: [Question ID = 51716]

1. in thymus [Option ID = 86858]
2. in gut associated lymphatic tissue (GALT) [Option ID = 86856]
3. mainly in bone marrow [Option ID = 86857]
4. in spleen [Option ID = 86859]

Correct Answer :-

- in gut associated lymphatic tissue (GALT) [Option ID = 86856]

100) The nonreciprocal interaction between non-allelic genes such that one gene influences the expression of another gene, leading to a specific phenotype, is called: [Question ID = 51717]

1. Interference [Option ID = 86863]
2. Coincidence [Option ID = 86861]
3. Dominance [Option ID = 86860]
4. Epistasis [Option ID = 86862]

Correct Answer :-

- Epistasis [Option ID = 86862]