

171 PU Ph.D Medical Microbiology

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Bird Flu is caused by which of the following group of viruses?

- H3N2
- H1N1
- H5N1
- H5N2

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Plasmids in bacteria helps in:-

- Transformation
- Replication
- Conjugation
- Transduction

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Reduvid bug is a vector for transmission of:-

- Lyme disease
- Relapsing fever
- Chaga's disease
- Scrub typhus

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What is the culture medium for the growth of Leptospira?

- EMJH (Ellinghausen, McCullough, Johnson and Harris) Medium
- Lowenstein-Jensen (LJ) medium
- McLeod's and Hoyle's medium
- MacConkey agar

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Which of the following disease is caused by virus and transmitted by mosquito?

- Filariasis
- Plague
- Typhus

- Yellow fever

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Most abundant antibody present in serum:-

- IgE
- IgM
- IgA
- IgG

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Which of the following vectors can carry the longest piece of foreign DNA?

- Yeast Artificial Chromosomes
- Plasmids
- Bacteriophages
- Cosmids

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Bergey's Manual of Systematic Bacteriology groups bacteria into species according to their:-

- Morphology
- Pathogenic properties
- Phylogenetic relationships
- Nutritional requirements

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Bacteria which derive their energy from sunlight are called:-

- Autotrophs
- Heterotrophs
- Phototrophs
- Chemotrophs

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The primary function of lymphoid organs:-

- Produce T and B lymphocytes
- Reserve tank in the formation of RBC
- Process and present antigens to T cells

- Serves as the graveyard for effect blood cells

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What is prophage?

- DNA of temperate phage inserted into host chromosome
- Lamda phage DNA
- Transposons
- Stage of cell cycle

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Prokaryotic cells, but not eukaryotic cells, have:-

- Endoplasmic reticulum
- Nucleoid
- Nucleus
- Histones

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Which refers to the overall level of immunity in a community?

- Local immunity
- Herd immunity
- Acquired immunity
- Innate immunity

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Genetic element in bacteria that can replicate in the cytoplasm or can integrate into the bacterial chromosome and replicate with the host chromosome:-

- Episome
- Plasmid
- Plastome
- Retrovirus

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Holiday structure of DNA refers to:-

- Translation
- Transposition

- Transcription
- Recombination

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An organism grown on agar shows green colored colonies; likely organism is:-

- Peptostreptococcus*
- E. coli*
- Staphylococcus*
- Pseudomonas*

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The anticodon is present in:-

- rRNA
- tRNA
- mRNA
- DNA

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Which of the following viruses has not been associated with human cancer?

- Herpes simplex virus type 2
- Varicella-Zoster virus
- Hepatitis C virus
- Hepatitis B virus

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Lowenstein-Jensen medium is used for culturing:-

- Salmonella
- Gram Positive Bacteria
- Tuberculosis
- Enterobacteria

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Which of the following bacteria produces coagulase?

- Staphylococcus aureus*
- Staphylococcus saprophyticus*

- Staphylococcus epidermis*
- Staphylococcus hominis*

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Rapid examination of Tubercle bacilli is possible with:-

- Kinyoun stain
- Auramine-Rhodamine stain
- Giemsa stain
- Ziel-nelson stain

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Which of the following disease is transmitted by egg ingestion?

- Trichinosis
- Taeniasis
- Hydatidosis
- Strongyloidosis

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The flask used in spontaneous generation experimental was:-

- flat flask
- swan-necked flask
- round flask
- None of the above

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Presence of Negri bodies is the characteristic histopathological feature in which viral infection?

- Hepatitis virus
- Herpes virus
- Rabies virus
- Smallpox virus

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Reagent used in catalase test is:-

- H₂O₂
- H₂O

- H₂S₂
- HS₂O

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The five-kingdom system of classification was set up by:-

- Masaki Ogata
- Robert Whittaker
- Robert Koch
- Louis Pasteur

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Which of the following macromolecule denaturates at 65 °C?

- DNA
- Proteins
- Carbohydrates
- Lipids

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Organisms whose optimum temperature for growth is 37°C are known as:-

- Thermophiles
- Halophiles
- Psychrophiles
- Mesophiles

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Oral polio vaccine is a:-

- Live vaccine
- Recombinant vaccine
- Killed vaccine
- Toxoid

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DNA replication takes place during:-

- G1 - Phase
- S- Phase

- G2 - Phase
- Prophase

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Vaccination against Smallpox was developed for the first time by:-

- Edward Jenner
- Robert Hook
- Louis Pasteur
- Paul Ehrlich

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Which of the following infestations leads to mal-absorption?

- Giardia lamblia*
- Ascarislumbricoidis*
- Necatoramerica*
- Ancylostomaduodenale*

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The cell wall of a fungus is generally made up of:-

- Chitin
- Peptidoglycan
- Murein
- Cellulose

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Which of the following prevents the conversion of prothrombin to thrombin in an undamaged blood vessel?

- Calcium ions
- Thromboplastin
- Heparin
- Fibrinogen

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Among the following most primitive eukaryotes are:-

- Tricomonads

- Diatoms
- Fungi
- Diplomonads

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Amoeba not found in human intestine:-

- E. gingivalis*
- E. nana*
- E. histolytica*
- E. coli*

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The Gram stain and acid-fast stain are based on chemical properties of the:-

- plasma membrane
- periplasmic space
- cell walls
- outer membrane

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Which one of the following cells is not a phagocytic cell?

- Monocyte
- Basophil
- Neutrophil
- Macrophage

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How does DNA differ from RNA?

- DNA consists of two strands in a double helix.
- They contain different sugars.
- One of their nitrogenous bases is different.
- DNA is larger.

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Enzyme neuraminidase is carried by which of the following viruses?

- Influenza virus

- Adenovirus
- Epstein-Barr virus
- Human immunodeficiency virus

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Mannitol is:-

- Amino Acid
- Sugar alcohol
- Sugar acid
- Amino alcohol

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A mutagen is:-

- an organism that has been changed by a mutation
- a gene that has been altered by a mutation
- the portion of a chromosome altered by a mutation
- something that causes a mutation

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Optochin is used to test:-

- Lactose fermentation
- Antibiotic susceptibility
- Glucose fermentation
- Motility

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What does penicillin act upon?

- Cell membrane
- DNA synthesis
- Protein Synthesis
- Cell wall synthesis

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The reaction between antibody and soluble antigen is demonstrated by:-

- Haemagglutination test

- Complement fixation
- Precipitation
- Agglutination

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Transposable genetic elements (mobile genes) was first discovered by:-

- Alfred Griffith
- Van Niel
- Barbara McClintock
- Van Ermengem

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Which of the following biological substances is similar to a scissor in action?

- DNA polymerases
- Vectors
- Restriction Enzymes
- DNA probes

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Cerebral malaria is caused by *Plasmodium*:-

- P. vivax*
- P. falciparum*
- P. malaria*
- P. ovale*

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Who discovered Polymerase Chain Reaction (PCR) ?

- F. Crick
- Kary Mullis
- James Watson
- David Baltimore

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Semi-conservative replication of DNA was first demonstrated in:-

- Streptococcus pneumonia*

- Salmonellatyphimurium*
- Drosophilamelanogaster*
- Escherichia coli*

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Fumonisin are the fungal contaminants of corn that were produced by _____.

- Penicilliumcrysoginum*
- Aspergillusflavus*
- Fusarium moniliforme*
- Clavicepspurpura*

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Louis Pasteur is not associated with:-

- Discovery of Rabies Vaccine
- Discovery of M. tuberculosis
- Introduction of Complex media
- Disproved spontaneous regression theory

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Sonication is a laboratory practice used to:-

- Disrupt bacterial cell walls
- Pellet down bacteria
- Kill the bacteria
- Grow bacteria effectively

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Bacterial conjugation was first described by:-

- Lederberg and Tatum
- Luria and Delbruck
- Hershey and Chase
- Avery Macleod and McCarty

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The types of ribosomes found in prokaryotic cell are _____.

- 100S

- 60S
- 80S
- 70S

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Immediate type of allergic reaction is mediated by the following antibody?

- IgA
- IgM
- IgD
- IgE

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Antigenic drift is commonly seen in:-

- Cholera
- Diphtheria
- Typhoid
- Influenza virus

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Where does glycolysis occur in a cell?

- Ribosome
- Cytoplasm
- Mitochondrial matrix
- Nucleoplasm

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In a microscope, the oil is used in oil immersion lenses for:-

- Changing the refractive index of the medium
- Lubricating the specimen on the slide for better view
- Lubricating the lens
- Improving the clarity of the lens

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To determine fatty acid composition, which of the following tests would be performed?

- Fingerprinting

- Ribotyping
- Gas-liquid chromatography
- Immunoassay

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Which of the following structure is present in prokaryotic cells?

- Mesosome
- Mitochondria
- Chloroplasts
- Golgi structure

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Which centre is stimulated during increase in body temperature?

- Limbic system
- Posterior hypothalamus
- Anterior hypothalamus
- Red nucleus

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239 PU_2016_171_M

Heat labile instruments for use in surgical procedure can be best sterilized by:-

- Ethylene oxide gas
- Ultra violet rays
- Chlorhexidine
- Absolute alcohol

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Which of the following is the most predominant constituent of sulphur granules of Actinomycosis?

- Monocytes and Lymphocytes
- Organisms
- Neutrophils and Monocytes
- Eosinophils

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230 PU_2016_171_M

During replication process in bacteria:-

- Both bacteria possess only parental DNA

- Half of the DNA in both bacteria is parental while another half is newly synthesized
- Both bacteria possess new copy
- One bacteria possess parental DNA while another possess new copy

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A person is suffering from frequent episodes of nasal discharge, nasal congestion, reddening of eyes and watery eyes. These are the symptoms of:-

- Bronchitis
- Cyanosis
- Bronchial carcinoma
- Rhinitis

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247 PU_2016_171_M

In the following examples, find out the one which is NOT the same or closely related?

- Insertion Sequence Elements
- Jumping genes
- Transposons
- Cosmids

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223 PU_2016_171_M

The word cell was first used by:-

- Ronald Ross
- Louis Pasteur
- Theodor Schwann
- Robert Hooke

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Which is the correct order, from smallest to largest number of base pairs?

- plasmid, transposon, chromosomal DNA
- plasmid, chromosomal DNA transposon
- transposon, plasmid, chromosomal DNA
- chromosomal DNA, transposon, plasmid

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Interspecific hybrids have proved very useful for:-

- Gene structure
- Gene mapping
- Gene function
- Genetic manipulation

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259 PU_2016_171_M

The proofreading of newly synthesized DNA, to excise incorrect nucleotides which have been inserted, is done by:-

- DNA ligase
- DNA gyrase
- DNA polymerase III
- Restriction endonucleases

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Branch septate hyphae found on corneal smear in a case of corneal ulcer is:-

- Mucor
- Candida
- Aspergillus
- Histoplasma

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The consensus sequence in eukaryotic Hogness box is:-

- TATAAA
- TATATA
- TATATT
- TATAATG

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The high risk Human Papilloma Virus (HPV) in India is:-

- HPV 24 & 26
- Both B and C
- HPV 17 & 19
- HPV 16 & 18

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The major site of attack by HIV-virus on immune system is:-

- Macrophages
- MHC
- B- Lymphocytes
- T-Lymphocytes

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A gene which suppresses the action of another gene not situated on the same locus on the same chromosome is termed:-

- Hypostatic gene
- Jumping gene
- Supplementary gene
- Epistatic gene

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246 PU_2016_171_M

The following methods of diagnosis utilize labelled antibodies except:-

- Immunofluorescence
- Haemagglutination inhibition test
- Radio Immuno Assay
- ELISA

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Structural lipids of cell membrane:-

- Chromo lipids
- Phospholipids
- Steroid
- Simple lipid

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226 PU_2016_171_M

The DNA sequence for two DNA was found to be different then also they code similar protein. It may be due to:-

- Due to mutation in DNA
- Using similar enzymes for transcription
- More the one codon can code single amino acid
- Start of transcription at different sites

80 of 100

251 PU_2016_171_M

An *E.coli* strain lacking of DNA polymerase I would be deficient in DNA:-

- Elongation
- Repair
- Splicing
- Methylation

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292 PU_2016_171_D

Some hyperthermophilic organisms that grow in highly acidic (pH2) habitats belong to the two groups:-

- Protists and mosses
- Cyanobacteria and diatoms
- Liverworts and yeasts
- Eubacteria and archaea

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295 PU_2016_171_D

Which of the following is correct about Arbovirus?

- Chikungunya is transmitted by Aedes
- Dengue has only one serotype
- KFD was first identified in West Bengal
- Yellow fever is endemic in India

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279 PU_2016_171_D

Blood stains are found at the site of a murder. If DNA profiling technique is to be used for identifying the criminal, which of the following is ideal for use?

- Platelets
- Leucocytes
- Serum
- Erythrocytes

84 of 100

270 PU_2016_171_D

Which therapeutic antibiotic blocks the peptidyl transferase reaction of protein synthesis?

- Tetracycline
- Chloramphenicol
- Puromycin
- Erythromycin

85 of 100

298 PU_2016_171_D

BY the statement 'survival of the fittest', Darwin meant that _____:-

- The most adaptable of the species to changes survives
- The strongest of all species survives
- The most intelligent of the species survives
- The cleverest of the species survives

86 of 100

286 PU_2016_171_D

A bacteria having the doubling time of 30 mins, assuming 100,000 bacterial cells fill the culture tube at 8 hrs. At which time half of the tube would be achieved?

- 4 hrs
- 6.5hrs
- 7.5hrs
- 2hrs

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260 PU_2016_171_D

Which of the following makes direct use of oxygen?

- Fermentation
- Glycolysis
- Kreb's citric acid cycle
- Electron transport chain

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269 PU_2016_171_D

Heat shock proteins of bacteria are originally described as proteins produced in response to heat stress. Some are known to act as:-

- Protein tyrosine kinase
- Molecular chaperones that regulate protein folding
- Protease that degrade ubiquitin- tagged proteins
- Stress related protein

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283 PU_2016_171_D

As an antibiotic inhibiting protein synthesis, what is the specific action of Rifamycin?

- Blocking binding at A-site or causing misreading of codon in prokaryotes
- Inhibition of recognition on mRNA in both prokaryotes and eukaryotes
- Denaturing RNA polymerase thereby blocking initiation at transcription in prokaryotes

- Inhibition of elongation at transcription in eukaryotes

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277 PU_2016_171_D

All the following contribute to promoter binding protein by RNA polymerase in *E.coli* except the:-

- 35 consensus sequence
- β sub unit RNA polymerase
- 10 consensus sequence
- rho Factor

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282 PU_2016_171_D

BT brinjal is an example of transgenic crop. In this, BT refers to :-

- a) Biotechnology
- b) Betacarotene
- c) *Bacillus thuringiensis*
- d) Both b & c

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299 PU_2016_171_D

Which drug is given to prevent HIV transmission from mother to child?

- Nevirapine
- Stavudine
- Lamivudine
- Abacavir

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291 PU_2016_171_D

Which one of the following is matched wrongly for a microbe and its industrial product?

- Yeast - statins
- Clostridium butylicum* - lactic acid
- Aspergillus niger* - citric acid
- Streptococcus thermophilus* - Yogurt

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When a mutation is limited to substitution of one nucleotide pair for another, it is called a:-

- Translocation
- Deletion
- Inversion

- Point mutation

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Salk vaccine is prepared from killed pathogenic:-

- Salmonellatyphi*
- Salmonellaparatyphi*
- Influenza virus Poliovirus
- Poliovirus

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274 PU_2016_171_D

Which of the following types of information cannot be determined from the traditional Northern blotting technique?

- The half -life of the mRNA species
- The size of the mRNA species
- The amino acid sequence of protein coded by an mRNA species
- The strand of DNA that is transcribed to mRNA

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265 PU_2016_171_D

Temperate bacteriophages differ from other bacteriophages on the basis of:-

- fragment the host cell chromosome
- inhibit synthesis of host cell protein
- can lysogenize the host cell
- reproduce at moderate temperature

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273 PU_2016_171_D

The probability of getting a viral infection is .0005. So out of 10,000 people, how many of them are expected to get infected?

- 0.5
- 5
- 50
- 5.5

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CD4+ is not important for which of the following?

- Cytotoxicity of T cells
- Opsonisation

- Memory B cells
- Antibody production

100 of 100

297 PU_2016_171_D

In crop improvement programmes, virus-free clones can be obtained through:-

- Shoot apex culture
- Grafting
- Hybridization
- Embryo culture