

Seat No.	
-------------	--

**B.Sc.(Part-III) (Semester-VI) (CBCS) Examination, March - 2023**

**ENGLISH (Compulsory) (Paper - IV)**

**English for Communication**

**Sub. Code : 81667**

**Day and Date : Tuesday, 06 - 06 - 2023**

**Total Marks : 40**

**Time : 10.30 a.m. to 12.30 p.m.**

- Instructions :** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q1) A) Choose the appropriate answer and complete the following sentences: [3]**

- i) Buffalo bill charges the Indians \_\_\_\_\_ buck a head to enter.  
a) 5  
b) 12  
c) 20  
d) 7
- ii) The earth and \_\_\_\_\_ continue to rise up.  
a) Tree  
b) Stone  
c) Women  
d) Grass
- iii) \_\_\_\_\_ asks Govind Singh to go to the x-ray institute.  
a) The general manager  
b) The accountant  
c) An ex-compounder  
d) His wife

**B) Answer the following questions in one word\phrase\sentence each: [3]**

- i) What did Barr.P.G.Patil think when he saw the Blackburns?  
ii) Where was Lachmi at the beginning of the story?  
iii) What could Granny's piercing eyes reach straight?

**P.T.O.**

**Q2) A) Answer the following questions in three to four sentences each (2 out of 3) [4]**

- i) Where did Barrister P.G.Patil visit during his educational tour?
- ii) What kind of mad things does Govind Singh do after he receives the letter?
- iii) How was the absence of Granny felt by the poetess?

**B) Write a short note on the following in about 7-8 sentences. (Any One) [4]**

- i) The absence of Granny in the bouse
- ii) Sir Mohan Lal

**C) Do as directed: [2]**

- i) Antonym of “Efficient”.
- ii) Synonym of “Solicitude”.

**Q3) A) Build up a short piece of Group Discussion on the following topics making use of expressions and interactions used in Group Discussion. [8]**

- i) Stay at home, stay safe.

OR

- ii) Indian Television channels expose us to Indian ways of life

**B) You are planning a family trip to your favourite place. Make notes of what you must do to get most out of this trip. Use the ‘mind mapping’ technique for this purpose. [8]**

**Q4) A) You happen to be the editor of and English newspaper published from Maharashtra. You are expected to write an editorial on death of a famous film/sports personality. [8]**

OR

**B) As a guest editor you are supposed to write an editorial on the floods in Maharashtra to an English newspaper published from state. Develop an outline of the editorial.**



Seat No.	
-------------	--

**B.Sc. (Part - III) (Semester - VI) Examination, March - 2023****MICROBIOLOGY (Paper - XIII) (CBCS)****Microbial Genetics (DSE F - 49)****Sub. Code : 81704****Day and Date : Thursday, 01 - 06 - 2023****Total Marks : 40****Time : 10.30 a.m. to 12.30 p.m.**

- Instructions :**
- 1) All questions are compulsory.
  - 2) Figures to the right indicate full marks.
  - 3) Draw neat diagrams wherever necessary.

**Q1) Rewrite the following sentences by selecting correct alternative: [8]**

- i) In permissive condition mutant behaves as.....type organism.
  - a) Wild
  - b) Mutant
  - c) Auxotrophs
  - d) Resistant
- ii) To maintain folded organization of *E.coli* DNA, nascent....molecule is required.
  - a) Protein
  - b) Spermine
  - c) RNA
  - d) Histone
- iii) In structural region of tryptophan operon ..... genes are present.
  - a) 3
  - b) 6
  - c) 5
  - d) 4

**P.T.O.**

- iv) Reproduction of Kappa particles is dependent upon.....gene.
- a)  $\lambda$
  - b)  $\mu$
  - c) R
  - d) K
- v) The end of phenotypic lag is indication of formation of mutant.....
- a) Homopolymer
  - b) Homokaryon
  - c) Heterokarryon
  - d) Heteropolymer
- vi) PUC possesses.....Gene.
- a) Lac Z
  - b) Lac Y
  - c) Lac A
  - d) Lac E
- vii) Sanger's di-deoxynucleotide chain termination method is used for.....
- a) DNA synthesis
  - b) DNA finger printing
  - c) DNA amplification
  - d) DNA sequencing
- viii) DNA fingerprinting is based on.....
- a) Bulk DNA
  - b) Polymorphism in sequence
  - c) Error in base sequence
  - d) DNA coiling

**Q2) Attempt any Two of the following:**

**[16]**

- a) Explain various methods of isolation and detection of mutants with suitable examples.
- b) What is suppression? Describe genetic and nongenetic suppression with suitable examples.
- c) What is genetic engineering? Explain various methods of isolation of desired gene.

**Q3) Write short notes on any Four of the following:**

**[16]**

- a) Folded fiber model of *E.coli*. Chromosome
- b) Phenotypic lag
- c) Linkers and adapters
- d) Genetic complementation
- e) Blue and white screening
- f) Applications of genetic engineering in medicine



Seat No.	
----------	--

**B.Sc. (Part - III) (Semester - VI) (CBCS) Examination, March - 2023**

**MICROBIOLOGY**

**Microbial Biochemistry (Paper - XIV)**

**Sub. Code : 81705**

**Day and Date : Friday, 02 - 06 - 2023**

**Total Marks : 40**

**Time : 10.30 a.m. to 12.30 p.m.**

- Instructions :**
- 1) All questions are compulsory.
  - 2) Draw neat labelled diagram wherever necessary.
  - 3) Figures to the right indicate full marks.

**Q1) Rewrite the sentences by selecting correct alternatives: [8]**

- a) In Lac operon, the gene product of Lac Z gene is \_\_\_\_\_.
- i) Beta-galactosidase
  - ii) Beta-galactoside permease
  - iii) Beta-galactoside transacetylase
  - iv) Beta-galactoside isomerase
- b) Koshland proposed \_\_\_\_\_ model.
- i) Fluid mosaic model
  - ii) Induced fit model
  - iii) Lock & key model
  - iv) Operon model
- c) Conversion of Glucose to Glucose-6-Phosphate is catalyzed by \_\_\_\_\_.
- i) Hexokinase
  - ii) Lactonase
  - iii) Isomerase
  - iv) Dehydrogenase
- d) An enzyme that joins the ends of two strands of nucleic acid is \_\_\_\_\_.
- i) Polymerase
  - ii) Helicase
  - iii) Ligase
  - iv) Synthase
- e) DNA replication is \_\_\_\_\_.
- i) Conservative
  - ii) Dispersive
  - iii) Non-conservative
  - iv) Semiconservative

**P.T.O.**

- f) The first immobilized enzyme was \_\_\_\_\_.
- i) Isomerase
  - ii) Hydrolase
  - iii) Ligase
  - iv) Invertase
- g) Allosteric enzymes are \_\_\_\_\_ enzymes.
- i) Regulatory
  - ii) Nonregulatory
  - iii) Inducible
  - iv) Iso
- h) Ribosomes are made up of \_\_\_\_\_.
- i) RNA
  - ii) RNA and Proteins
  - iii) RNA, DNA and Proteins
  - iv) Nucleic acids, proteins and lipids

**Q2) Attempt any Two:** [16]

- a) Explain in detail Biosynthesis of DNA.
- b) Explain different methods of preparation of Immobilization of enzymes.
- c) Explain factors affecting enzyme activity in detail.

**Q3) Attempt any Four:** [16]

- a) ED Pathway.
- b) Ara operon.
- c) Proximity and orientation.
- d) Applications of Immobilization of enzymes.
- e) Competitive inhibition.
- f) t-RNA.



Seat No.	
-------------	--

**B.Sc. (Part - III) (Semester - VI) Examination, March - 2023****MICROBIOLOGY (Paper - XVI) (CBCS)****DSE F52: Medical Microbiology****Sub. Code : 81707**

Day and Date : Monday, 05 - 06 - 2023

Total Marks : 40

Time : 10.30 a.m. to 12.30 p.m.

- Instructions : 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat labelled diagram wherever necessary

**Q1) Rewrite the following sentences by selecting correct answer from given alternatives: [8]**

i) \_\_\_\_\_ occurs in hepatic cell infected with malarial parasite.

- a) Hypnozoite
- b) Sporozoites
- c) Merozoites
- d) Schizonts

ii) Painless chancres are formed in ---disease.

- a) Tuberculosis
- b) Leptospirosis
- c) Malaria
- d) Syphilis

iii) \_\_\_\_\_ is also called as Friedlander's bacillus.

- a) *Streptococcus pneumoniae*
- b) *Klebsiella pneumoniae*
- c) *Pseudomonas aeruginosa*
- d) *Candida albicans*



- iv) *Staphylococcus aureus* causes-----infection.
- a) Wound
  - b) Ear
  - c) Eye
  - d) Lung
- v) \_\_\_\_antibiotic binds to 30S ribosomal subunit there by blocking the binding of aminoacyl-tRNA to the acceptor site.
- a) Penicillin
  - b) Polymyxin
  - c) Streptomycin
  - d) Tetracycline
- vi) Quinolones inhibits the action of DNA-----enzyme.
- a) Helicase
  - b) Gyrase
  - c) Ribonuclease
  - d) Polymerase
- vii) \_\_\_\_drug inhibits the action of dihydropteroate synthase there by blocking conversion of PABA to dihydropterate.
- a) Sulphonamides
  - b) Imidazoles
  - c) Zydovudine
  - d) Acyclovir
- viii) Hyper immunoglobulins from Animal origin are used for-----immunization.
- a) Artificial Active
  - b) Natural Active
  - c) Natural Passive
  - d) Artificial Passive

**Q2) Answer any Two of the following:**

**[16]**

- a) Describe in brief Causative agent, Mode of transmission, Pathogenesis, Prevention and control of disease caused by *Vibrio cholerae*.
- b) Define chemotherapy, Discuss in brief mode of action of Trimethoprim, Sulphonamides and quinolones.
- c) What is drug resistance? Discuss in brief any three mechanism of drug resistance.

**Q3) Answer any Four of the following:**

**[16]**

- a) Microscopic examination of Tuberculosis
- b) Mode of action of Piperacillin
- c) Naglers reaction
- d) Toxins produced by *Clostridium perfringens*
- e) Prophylaxis of Rabies
- f) Mode of action of Griseofulvin



Seat No.	
-------------	--

**B.Sc. (Part - III) (Semester - VI) (CBCS) Examination,  
March - 2023**

**MICROBIOLOGY (Paper - XV)**

**Environmental Microbiology**

**Sub. Code : 81706**

**Day and Date : Saturday, 03 - 06 - 2023**

**Total Marks : 40**

**Time : 10.30 a.m. to 12.30 p.m.**

- Instructions :**
- 1) All questions are compulsory.
  - 2) Figures to the right indicate full marks.

**Q1) Rewrite the sentences by selecting correct alternatives : [8]**

- i) \_\_\_\_\_ is used as an oxidizing agent in COD determination.
  - a)  $K_2Cr_2O_7$
  - b)  $MnSO_4$
  - c)  $CaSO_4$
  - d)  $KH_2PO_4$
- ii) As per standards prescribed by MPCB, the treated wastewater intended to discharge into inland surface water should have BOD less than \_\_\_\_\_ mg/l.
  - a) 15
  - b) 30
  - c) 45
  - d) 60
- iii) In \_\_\_\_\_ lakes quantity of nutrients is very low.
  - a) hypereutrophic
  - b) eutrophic
  - c) mesotrophic
  - d) oligotrophic
- iv) The value of Secchi depth (metres) is usually high in case of \_\_\_\_\_ lakes.
  - a) oligotrophic
  - b) mesotrophic
  - c) eutrophic
  - d) both oligo and mesotrophic
- v) \_\_\_\_\_ is the waste generated by distillery industry.
  - a) Spent wash
  - b) Bagasse
  - c) Molasses
  - d) Pressmud

**P.T.O.**

- vi) In hospital waste, human anatomical waste is categorized as category number \_\_\_\_\_.
- a) 1    b) 2  
c) 3    d) 4
- vii) \_\_\_\_\_ species is used in copper bioleaching.
- a) Bacillus    b) Pseudomonas  
c) Thiobacillus    d) Lactobacillus
- viii) Phytoremediation involves the use of \_\_\_\_\_ for removal of pollutants from the contaminated environment.
- a) bacteria    b) plant  
c) protozoa    d) fungi

**Q2) Long answer questions (Any two). [16]**

- a) Describe in detail characteristics and treatment of waste generated by dairy industry.
- b) Discuss bioremediation process with respect to its types and applications.
- c) Describe routine environmental monitoring programme in pharmaceutical industry with reference to air monitoring.

**Q3) Write short notes (Any Four) : [16]**

- a) Environmental impact assessment
- b) Sewage microflora
- c) Bioleaching of Uranium
- d) Classification of lakes
- e) General characteristics of solid waste
- f) Prevention and control of eutrophication

