

**Govt. M.H. College of Home Science & Science for women, Autonomous  
Jabalpur M.P.**

**Code No. OBS/201/MB/21**

**M.Sc. II Semester Open Book Main Examination July 2021**

**Subject : - Microbiology**

**Paper-I : Molecular Biology & Recombinant DNA Technology**

**Max. Marks : 35**

**Min. Marks : 12**

**Note : Attempt all questions in about 250 to 300 words.  
All questions carry equal marks.**

- Q.1 Describe DNA replication.**
- Q.2 Explain the mechanism of DNA synthesis in retroviruses.**
- Q.3 Describe mechanism of transcription in prokaryotes in detail.**
- Q.4 Discuss positive and negative control of gene expression in prokaryotes.**
- Q.5 Discuss the basic principles of gene cloning.**

**• • •**

Govt. M.H. College of Home Science & Science for women, Autonomous  
Jabalpur M.P.

**Code No. OBS/202/MB/21**

**M.Sc. II Semester Open Book Main Examination July 2021**

**Subject : - Microbiology**

**Paper-II : Biostatistics and computer Application**

**Max. Marks : 35**

**Min. Marks : 12**

**Note : Attempt all questions in about 250 to 300 words.  
All questions carry equal marks.**

**Q.1 What is probability? Discuss addition and multiplication theorems of probability with example.**

**Q.2 Define Arithmetic, geometric and harmonic means and find out the erythemetic mean with the help of following data-**

No of Bacterial Colonies	0-10,	10-20,	20-30,	30-40,	40-50,	50-60
No of plates	12	18	27	20	17	6

**Q.3 Explain different steps for analysis of variance in two way classification.**

**Q.4 Write note on-**  
(i) Chi-Square test.  
(ii) Linear regression.

**Q.5 What is software. Describe system and application software.**

● ● ●

**Govt. M.H. College of Home Science & Science for women, Autonomous  
Jabalpur M.P.**

**Code No. OBS/203/MB/21**

**M.Sc. II Semester Open Book Main Examination July 2021**

**Subject : - Microbiology**

**Paper-III : Microbial Genetics**

---

**Max. Marks : 35**

**Min. Marks : 12**

**Note : Attempt all questions in about 250 to 300 words.  
All questions carry equal marks.**

- Q.1    What are mutagens? Describe various types in detail.**
- Q.2    Explain Genetic recombination in Bacteria.**
- Q.3    Describe the methods of repair of damaged DNA.**
- Q.4    What are plasmids? Give the types & functions with diagram.**
- Q.5    Write a detailed note on recombinant DNA vaccines.**

**• • •**

**Govt. M.H. College of Home Science & Science for women, Autonomous  
Jabalpur M.P.**

**Code No. OBS/204/MB/21**

**M.Sc. II Semester Open Book Main Examination July 2021**

**Subject : - Microbiology**

**Paper-IV : Microbial Metabolism**

---

**Max. Marks : 35**

**Min. Marks : 12**

**Note : Attempt all questions in about 250 to 300 words.  
All questions carry equal marks.**

- Q.1    What is microbial growth? Derive its mathematical expression.**
- Q.2    Give a brief account of various photosynthetic pigments?**
- Q.3    Give a detailed account of Kreb's cycle.**
- Q.4    Describe the process of Nitrogen assimilation.**
- Q.5    Explain the process of microbial development.**

**• • •**

**Govt. M.H. College of Home Science & Science for women, Autonomous  
Jabalpur M.P.**

**Code No. OBS/201/MB/21**

**M.Sc. II Semester Practical Sessional Examination July 2021**

**Subject : - Microbiology**

**Practical - I**

**Max. Marks : 10**

**Note : All questions are compulsory.**

**Each question carry one mark.**

- Q.1 What is the mobile and stationary phase in thin layer chromatography?**
- Q.2 What is the purpose of using agarose gel electrophoresis?**
- Q.3 How many types of gel (with components are used in SDS PAGE?)**
- Q.4 What is the use of phenol and chloroform in DNA isolation?**
- Q.5 What is the principle of plasmid isolation?**
- Q.6 What do you mean by standard Deviation?**
- Q.7 What is Probability explain it with example.**
- Q.8 What do you mean by Bioinformatics.**
- Q.9 What do you mean by ANOVA?**
- Q.10 What is Regression explain it.**

**• • •**



**Govt. M.H. College of Home Science & Science for women, Autonomous  
Jabalpur M.P.**

**Code No. OBS/202/MB/21**

**M.Sc. II Semester Practical Sessional Examination July 2021**

**Subject : - Microbiology**

**Practical - II**

**Max. Marks : 10**

**Note : All questions are compulsory.  
Each question carry one mark.**

- Q.1 Write principle of genomic DNA extraction?**
- Q.2 What is thymine dimer, explain it?**
- Q.3 Explain detection of antibiotic auxotrophic mutant by replica plating technique?**
- Q.4 Which enzyme is used in photo repair?**
- Q.5 Write principle and function of Colorimeter?**
- Q.6 Write the effect of pH on microbial growth?**
- Q.7 Explain the standard growth curve of bacteria?**
- Q.8 Write the effect of temperature on bacterial growth?**
- Q.9 What is generation time of bacteria? Give one example.**
- Q.10 What do you understand by active transport system?**

**• • •**