

**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH**  
**(A DEEMED TO BE UNIVERSITY)**

**M.Sc. Molecular Biology & Human Genetics**

**First Year (Semester-I) November 2020 Examination**

**Time: 2.00 Hrs**

**Anatomy**

**[Max. Marks: 60]**

**Q.P. Code: M1110**

*Your answers should be specific to the questions asked.*

*Draw neat labelled diagrams wherever necessary*

**LONG ESSAY**

**1 X 10 = 10 Marks**

1. Define Joint. Classify the Joints with examples. Describe in detail about Synovial Joint.  
(1+4+5)

**SHORT ESSAYS**

**7 X 5 = 35 Marks**

2. Name the parts and Blood supply of long bone.
3. Differences between Small and Large intestine
4. Illustrate the microscopic structure of cardiac muscle
5. Describe the supports of Uterus
6. Illustrate the Costo diaphragmatic and Costo mediastinal recesses of Pleura.
7. Describe Middle ear – Boundaries & contents
8. Describe the Medulla oblongata – Features and functions.

**SHORT ANSWERS**

**5 X 3 = 15 Marks**

9. Name the parts of Gall bladder.
10. Illustrate the microscopic structure of Hyaline cartilage
11. Name the cartilages of larynx
12. Name the parts of fallopian tube
13. Coronary sinus – Location, Tributaries & importance.

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Time: 2.00 Hrs

Biochemistry

[Max. Marks: 60]

Q.P. Code: M1130

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*Draw neat labelled diagrams wherever necessary.*

**Long Essay**

**1 x 10 = 10 Marks**

1. What is normal blood pH? Describe the various mechanisms regulating it (1 + 9)

**Short Essay**

**7 x 5 = 35 Marks**

2. List the properties and functions of lipids (3 + 2)
3. Classify amino acids based on structure and also based on essentiality (2.5 + 2.5)
4. Define ampholytes? Explain the term isoelectric point and its significance. (1+2+2)
5. Explain the Watson and Crick model of DNA structure
6. Describe the different models illustrating enzyme activity
7. Explain the concept of free energy change with an example
8. Enumerate the sources of reducing equivalents. Describe two shuttles involved in transfer of reducing equivalents from cytoplasm to mitochondria.(1+4)

**Short Answers**

**5 x 3 = 15 Marks**

9. Define RCF
10. Define isomers? List different types of isomers that exist in biological system
11. List the biological functions of macronutrients
12. Give the coenzyme forms of thiamine, riboflavin and niacin
13. Mention any three inhibitors of oxidative phosphorylation and indicate their site of action

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**Time: 2.00 Hrs**

**Microbiology**

**[Max. Marks: 60]**

**Q.P. Code: M1140**

*Your answers should be specific to the questions asked.*

*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY**

**1 X 10 = 10 Marks**

1. Enumerate Antigen Antibody reactions. Define Agglutination its types & uses.  
( 3+2+3+2)

**SHORT ESSAY**

**7 X 5 = 35 Marks**

2. Classical complement pathway.
3. Map the lesions of Staphylococcus aureus on Human body.
4. Map the lesions of Treponema pallidum on Human body.
5. Map the lesions of Candida albicans on Human body.
6. Flagella : Structure, type, functions, methods of detection, clinical significance.
7. Bacterial growth curve.
8. Bacteriophage : structure & clinical significance.

**SHORT ANSWERS**

**5 X 3 = 15 Marks**

9. Enumerate different types of hypersensitivity.
10. Enumerate 3 immunodeficiency diseases.
11. Enumerate the Infections caused by E.coli.
12. Complications of Corynebacterium diphtheria.
13. Enumerate 3 DNA viruses.

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