

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

M.Sc. Molecular Biology & Human Genetics

First Year (Semester - I) December 2022 Examination

Time: 3 Hrs.

[Max. Marks: 100]

Cell Biology

Q.P. Code: M1510

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

Long Essay

10 x 2 = 20 marks

1. Explain the types and functions of cell junctions in human tissue.
2. Explain the structure and functions of Golgi complex and Endoplasmic Reticulum.

Short Essay

5 x 10 = 50 marks

3. Distinguish between a prokaryotic and eukaryotic cell. Explain the endosymbiotic theory.
4. Describe the structure and functions of ribosome.
5. Differentiate between peroxisomes and lysosomes.
6. Distinguish between heterochromatin and euchromatin.
7. Describe the salient features of extracellular matrix.
8. Explain the phases of cell cycle and their significance.
9. Describe the attributes of signal transduction.
10. Explain the mechanism of cell signalling mediated by epidermal growth factor.
11. Describe the mechanism of protein degradation by proteasome. Mention its significance.
12. Explain the mechanism and biological significance of apoptosis.

Short Notes

3 x 10 = 30 marks

13. Describe the salient features of protein half-life.
14. Describe the role of signal peptide in protein sorting.
15. Draw the schematic representation of the components of cell signalling pathway.
16. Describe the attributes of ion channel linked receptor.
17. Describe the significance of cross-talk in signal transduction.
18. Describe the salient features of stimulus for cell signalling pathway.
19. Describe the salient features of protein domain.
20. Describe the salient features of hormone responsive elements.
21. Distinguish between apoptosis and necrosis.
22. Describe the cellular and molecular basis of inflammation.

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M.Sc. Molecular Biology & Human Genetics

First Year (Semester-I) December 2022 Examination

Time: 3.00 Hrs

ANATOMY

[Max. Marks: 100]

Q.P. Code: M1530

*Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.*

LONG ESSAY

2x10=20 Marks

1. Describe Spinal cord under the following headings a) Extension b) Gross features c) Blood supply d) Applied aspects (2+3+3+2)
2. Describe the Kidney - under the following headings –
a) External features b) Anterior Relations c) Coverings d) Blood supply. (2+4+3+1)

SHORT ESSAYS

10X5=50 Marks

3. Illustrate the microscopic structure of Supra renal gland.
4. Describe the External and internal features of Right atrium.
5. Describe the supports of Uterus.
6. Describe the Nasal septum with clinical importance.
7. Illustrate the Cell membrane with Fluid mosaic model and Functions.
8. Describe the gross features, ligaments and blood supply of spleen.
9. Illustrate the mediastinal surfaces of Left lung.
10. Describe the fetal circulation.
11. Describe the blood and nerve supply of Urinary bladder.
12. Describe the external features of testis with coverings.

SHORT NOTES

10X3=30 Marks

13. Name the Ear ossicles.
14. Name the structures passing through Parotid gland
15. List the peculiarities of Sesamoid bone.
16. Name the branches of arch of Aorta.
17. Illustrate microscopic structure of Pancreas.
18. List the contents of Porta hepatis.
19. Name cartilages of Larynx.
20. Name the contents of Spermatic cord.
21. List the tributaries of Coronary sinus.
22. List the parts of Respiratory system.

