Important instructions:

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

Write short notes on:

1. Describe the mechanisms of Apoptosis. Discuss morphological and biochemical changes in Apoptosis. 6+(2+2)

2. a) Microwave tissue processing  
   b) Biomedical waste management  5+5

3. a) RANKL in metastasis.  
   b) Natural killer cells in tumour immunity  5+5

4. a) FISH and its applications  
   b) Lifestyle associated diseases  5+5

5. a) Role of Arachidonic acid metabolites in inflammation.  
   b) Role of growth factors & cytokines in wound healing.  5+5

6. a) Etiopathogenesis of SLE.  
   b) List the antinuclear antibodies in various autoimmune diseases.  6+4

7. a) Role of Vitamin D in calcium metabolism.  
   b) Acute radiation injury  5+5

8. a) Septic shock  
   b) Fat embolism  5+5

9. a) Endothelial – Leucocyte Adhesion Molecules  
   b) The RAS oncogene in neoplasia.  5+5

     b) List the trace metals and the syndromes associated with their deficiencies.  6+4

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POSSESSION / USE OF CELL PHONES OR ANY SUCH ELECTRONIC GADGETS IS NOT PERMITTED INSIDE THE EXAMINATION HALL.