

III B.Tech. I Semester Regular Examinations, November -2005

BASIC CLINICAL SCIENCES-II

(Bio-Medical Engineering)

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. (a) Discuss broad principles suitable for treatment of common fractures. [8]
(b) What are the complications of fracture healing discuss the prevention and treatment of bone infections. [8]
2. (a) Explain about pre operating procedures for a patient. [8]
(b) Discuss in detail different types of anesthesia administered to the patients? [8]
3. (a) Explain about different illumination setups inside the operation theatre? [10]
(b) Write short notes on artificial respiration? [6]
4. (a) classify the Tumors based on radiosensitivity with atleast two examples for each type ? [8]
(b) Explain the effect of oxygen on radiosensitivity of the tumor cell ? [8]
5. Explain radiation carcinogenesis and leukemogenesis ? [16]
6. Explain in details the effects of radiation exposure on various parts of human body and various protective measures taken corresponding to each effect? [16]
7. Write a note on Echocardiography? [16]
8. (a) What are the therapeutic of radio isotopes? Explain. [8]
(b) Write a note on Metastatic bone diseases? [8]

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1. (a) Classify skeletal joints and gives one example for each. Explain in detail about hip joint. [8]
(b) Write about the composition of blood. What is the different blood groups? [8]
2. (a) Explain the techniques used to monitor the respiration and temperature of a Patient undergoing surgery. [8]
(b) What are the precautions to be observed while handling anesthetic gases? [8]
3. (a) Explain about the measurement of intravascular pressures in the human body? [8]
(b) Write short notes on: [4x2]
 - i. CSSD
 - ii. theatre organization.
4. (a) Write about significance of therapeutic ratio ? [8]
(b) Explain briefly Cell Survival Theory ? [8]
5. (a) what are the types of modifiers used in regulating the radiation response.Explain The methods used to design these modifiers in clinical practise? [8]
(b) Write a note on LD-50. [8]
6. (a) Describe the protective measure taken against radiation ? [10]
(b) What are the units of measuring radiation what are the permissible limits ?[6]
7. Discuss any two imaging instruments and its diagnostic applications in details?[16]
8. (a) What are the therapeutic of radio isotopes? Explain. [8]
(b) Write a note on Metastatic bone diseases? [8]

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1. Write short notes on:
 - (a) Blood groups [6]
 - (b) Biopsy procedure [5]
 - (c) Reduction [5]
2. (a) Discuss the monitoring of patient parameters non-invasively during surgery. [8]
(b) What is the role of artificial respiration in an anesthetized patient? [8]
3. (a) Discuss the recent trends of invasive and non invasive patient monitoring systems? [8]
(b) Write a note on plethysmography? [8]
4. (a) Distinguish between Interstitial Therapy and Intra Cavitory Therapy. [8]
(b) Write short notes on Linear Energy Transfer (LET) ? [8]
5. Explain radiation carcinogenesis and leukemogenesis ? [16]
6. (a) Describe the protective measure taken against radiation ? [10]
(b) What are the units of measuring radiation what are the permissible limits ? [6]
7. (a) Explain about the imaging procedures of the thyroid and the cardiovascular system? [10]
(b) What are the difficulties encountered in diagnosis and treatment of pancreatic diseases? [6]
8. (a) Write short notes on : [6]
 - i. Thyroid cancer.
 - ii. Thyroid diseases.
(b) Explain the terms : [10]
 - i. Radio immunoassay.
 - ii. polycythemia.

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1. (a) What are the precautions that you will take before and during transfusion of blood in the hospital patient? [6]
(b) Name three common diseases related to blood parameters and give details of the investigations and other manifestations related to each of the disease. [10]
2. (a) What are the different types of anesthesia administered to the patients? [8]
(b) Describe the properties of anesthesia gases. [8]
3. (a) Discuss the recent trends of invasive and non invasive patient monitoring systems? [8]
(b) Write a note on plethysmography? [8]
4. (a) classify the Tumors based on radiosensitivity with atleast two examples for each type ? [8]
(b) Explain the effect of oxygen on radiosensitivity of the tumor cell ? [8]
5. Effect of radiation on Bone Marrow. [16]
6. (a) Descibe the protection measures taken in a hospital during radiation dosage and theraph? [8]
(b) Explain the permissible exposures to radiation and its hazards. [8]
7. (a) Explain about the imaging procedures of the thyroid and the cardiovascular system? [10]
(b) What are the difficulties encountered bin diagnosis and treatment of pancreatic diseases? [6]
8. (a) Describe briefly the determination of distribution of radioactive material within the body? [8]
(b) Write a note on Malignantural plural effision and ascites? [8]
