

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATION**

**RESIT/SPECIAL EXAMINATIONS**

**SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR  
OF SCIENCE IN BIOCHEMISTRY**

**BMET 221: PATHOPHYSIOLOGY**

**STREAMS:**

**TIME: 2 HOURS**

**DAY/DATE: TUESDAY 02/02/2021**

**2.30 P.M – 4.30 P.M**

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**INSTRUCTIONS:**

**Answer question one and any other two questions**

**QUESTION ONE (30 MARKS)**

- a. Cells adapt to their environment to escape and protect themselves from injury. Outline four (4) most significant adaptive changes that can occur in cells. (4 marks)
- b. Explain four (4) way through which oxidative free radicals can be damaging to cells. (4 marks)
- c. Describe any three (3) types of necrosis that can occur in tissues as a result of cellular injury. (6 marks)
- d. Explain how an increase in capillary hydrostatic pressure and a decrease in capillary oncotic pressure cause edema. (6 marks)
- e. Describe the two general types of disorders associated with of target cell insensitivity to hormones. (4 marks)
- f. Briefly describe the pathophysiology of primary hypertension. (6 marks)

**QUESTION TWO (20 MARKS)**

- a. Describe the pathophysiology of Type 1A diabetes mellitus. (10 marks)
- b. Describe the mechanisms through which obesity contributes to the development of insulin resistance. (10 marks)

**QUESTION THREE (20 MARKS)**

- a. Describe the clinical manifestations of the different types of aneurysms. (10 marks)
- b. Describe the characteristics of the various types of emboli based on their occurrence. (10 marks)

**QUESTION FOUR (20 MARKS)**

- a. Describe the features that characterize Macrocytic-Normochromic Anemias. (10 marks)
  - b. Describe the pathophysiology of Pernicious Anemia. (10 marks)
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