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UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE

ALLIED HEALTH SCIENCES DEGREE PROGRAMME

FIRST BPHARM PART II EXAMINATION - JANUARY 2017

PH 1232 BIOCHEMISTRY II (SEQ)

TIME: TWO HOURS

INSTRUCTIONS

- Answer **all** questions in the booklets given.
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

1.

1.1 State the types of immunoglobulin present in human. (***10 marks***)

1.2 Briefly explain the following.

1.2.1 Basic structure of an immunoglobulin. (***30 marks***)

1.2.2 Role of IgE in type I hypersensitivity reaction. (***30 marks***)

1.3 Explain the significance of C-reactive protein in the monitoring of treatment efficacy in inflammation. (***30 marks***)

2.

2.1 Sate **two** major types of haemoglobin present in adults. (***10 marks***)

2.2 State the major type of haemoglobin present in foetal life. (***10 marks***)

2.2 Briefly explain the functional difference between adult and foetal haemoglobin in relation to their structure. (***30 marks***)

2.3 Explain the biochemical basis for the occurrence of haemolytic anaemia in β thalssaemia major. (***50 marks***)

3. Although ammonia is constantly produced in the tissues, it is present in very low concentration in blood.

3.1 State **three** mechanisms that produce ammonia in the body. (***15 marks***)

3.2 State the main mechanism that utilizes ammonia in the body. (***10 marks***)

3.3 Explain briefly the consequences, if the mechanism mentioned in 3.2 is defective. (**25 *marks***)

3.4 State **two** other processes involved in detoxification of ammonia. (***10 marks***)

3.5 Serum creatinine is used as a renal function test. Explain briefly. (***40 marks***)

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4.1 The information pertaining to each protein is stored on a section of the DNA called gene.

4.1.1 Briefly explain how genetic information resides on a gene is carried to the site of protein synthesis. ***(25 marks)***

4.1.2 State **three** important features of genetic code. ***(15 marks)***

4.1.3 What are the stages of translation process? ***(20 marks)***

4.2 Allopurinol is used in the treatment of gout.

4.2.1 What is the end product of purine catabolism? ***(10 marks)***

4.2.2 Briefly explain the mechanism of action of allopurinol. ***(30 marks)***

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