UNIVERSITY OF BOLTON

SCHOOL OF SPORT AND BIOLOGICAL SCIENCES

BSc (HONS) MEDICAL BIOLOGY

SEMESTER TWO EXAMINATIONS 2018/19

CELLULAR BASIS OF LIFE

MODULE NO: BIO4004

Date: Friday 24 May 2019 **Time: 10.00 am – 1.00 pm**

INSTRUCTIONS TO CANDIDATES:

Candidates are advised that the examiners attach importance to legibility of writing and clarity of expression. YOU ARE STRONGLY ADVISED TO PLAN YOUR ANSWERS

There are FIVE questions.

Answer ANY three questions.

All questions carry equal marks.

Marks for parts of questions are shown in brackets.

This examination paper carries a total of 150 marks.

All working must be shown. A numerical solution to a question obtained by programming an electronic calculator will not be accepted.

School of Sport and Biological Sciences
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Cellular Basis of Life
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Answer ANY THREE questions

PLEASE USE A SEPARATE BOOKLET FOR EACH ANSWER.

1. Describe in detail at least three examples of how microfilaments and microtubules contribute to cell function. As part of your answer, you should describe the structure of both microfilaments and microtubules.

[50 marks]

2. Give an account of the light dependent stage of photosynthesis. Include diagrams where appropriate.

[50 marks]

3. Discuss the role of proteins in each of the stages of cell signalling. In your answer, you should explain why it is important for a cell to be able to respond to extracellular signals.

[50 marks]

4. Explain the three major biochemical stages of respiration. Include diagrams where appropriate.

[50 marks]

5. Give an account of the technique of differential centrifugation that can be used to isolate organelles (include theoretical background and practical procedures).

[50 marks]

END OF QUESTIONS