



**FACULTY OF ENGINEERING AND ENVIRONMENT  
DEPARTMENT OF SURVEYING AND GEOMATICS**

**Project Management**

**ESG 5106**

**Final Examination Paper**

This examination paper consists of 4 printed pages

**Time Allowed: 3 hours**

**Total Marks: 100**

**Examiner's Name: Eng C Musiiwa**

**INSTRUCTIONS**

1. Answer any 5 questions
2. Use of calculators is permissible, but programmable calculators are not allowed in the exam

**MARK ALLOCATION**

|                         |                 |
|-------------------------|-----------------|
| <b>Question 1</b>       | <b>20Marks</b>  |
| <b>Question 2</b>       | <b>20 Marks</b> |
| <b>Question 3</b>       | <b>20 Marks</b> |
| <b>Question 4</b>       | <b>20 Marks</b> |
| <b>Question 5</b>       | <b>20 Marks</b> |
| <b>Question 6</b>       | <b>20 Marks</b> |
| <b>Total Attainable</b> | <b>100</b>      |

|                              |                                                                                                    |      |
|------------------------------|----------------------------------------------------------------------------------------------------|------|
| <b>Question 1 [25 Marks]</b> |                                                                                                    |      |
| 1                            | Occupational Health and Safety                                                                     |      |
|                              | As a Geomatician, explain on any 3 theories of accidents faced in the industry.                    | [15] |
|                              | b. Can cost of accidents and cost of accidents prevention be used as motivators in OHS investment. | [10] |

|                              |                                                                                                                                                                                                                        |      |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Question 2 [20 Marks]</b> |                                                                                                                                                                                                                        |      |
| 2a)                          | GSU is about to undertake a construction project for the first time. They approached a construction company called Bubbles and Padmac to engage in a Design and Build contract. Draft a template for this arrangement. | [20] |

|                              |                                                                                                    |      |
|------------------------------|----------------------------------------------------------------------------------------------------|------|
| <b>Question 3 [20 Marks]</b> |                                                                                                    |      |
| 3a)                          | PFI are popular in new infrastructure projects. Explain the advantages and disadvantages of PFI's. | [20] |

|                              |                                                                                                                                                                                                     |      |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Question 4 [20 Marks]</b> |                                                                                                                                                                                                     |      |
| 4a)                          | Gwanda state university wants to tender for survey works for the new university campus. Advise on the tendering method to be used clearly outlining the various stages involved during the process. | [20] |

|    |                                                                                                                                                                   |                  |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|    | <b>Question 5 [ 20 Marks]</b>                                                                                                                                     |                  |
|    | Explain the process of resolving disputes using a FIDIC contract. In what ways is this process efficient in dispute resolution.                                   | [20]             |
| d) | <b>Question 6 [20 Marks]</b><br><br>Elaborate and expand on the following<br><br>a. Any three pillars of sustainability.<br>b. Any two theories of sustainability | [10]<br><br>[10] |

END OF EXAMINATION