

# **UNIVERSITY OF SWAZILAND**

**Faculty of Health Sciences**

**(BSC) IN ENVIRONMENTAL HEALTH**

**SECOND SEMESTER FINAL EXAMINATION PAPER MAY 2014**

**TITLE OF PAPER** : ENVIRONMENTAL IMPACT ASSESSMENT

**COURSE CODE** : EHS 403

**DURATION** : TWO HOURS

**MARKS** : 100

**INSTRUCTIONS** : ANSWER ONLY FOUR QUESTIONS

: EACH QUESTION CARRIES 25 MARKS

: BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER

**DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED BY THE INVIGILATOR**

## **QUESTION ONE**

A car washing company has been operating for several years (more than 10 yr) in a terrain with the following characteristics: porous, filterable with an erratic level near to the surface (1.5 m depth). The company is located close by to a river which is quite useful for them since they discharge all the disposables and waste generated by this activity directly into the river. This disposal contains a high level of oils and greases. All the dumping from the car wash goes directly into the soil since there are no palettes or gutters. The company operates for 10hrs for seven days per week. The Municipality, since local people have complained has arranged the execution of an Environmental Audit (EA) and you are part of it.

- a. Describe in detail the type of environmental audit (EA) to be performed by the Municipality according to this case? (13 marks)
- b. What type of professionals will be part of the consultancy group performing the EIA? What will be the minimum that you can propose? (6 Marks)
- c. Mention three environmental impacts of this activity. (3 Marks)
- d. Mention three mitigation measures you would recommend as part of your mitigation plan for the identified impacts. (3 Marks)

**TOTAL 25 MARKS**

## **QUESTION TWO**

The development of a holiday park comprising a number of self-catered lodges, a swimming pool, catering and retail units is proposed for an area of Woodland close to a small rural town. Identify the environmental impacts that could arise during the construction of the park and those that could arise during the operation time. For each impact, propose a possible mitigation measure.

**TOTAL 25 MARKS**

### **QUESTION THREE**

An Investor wants to put up an Industrial Plant for the manufacture of paper and its derivatives for both local and external market. The Investor intends to establish the paper manufacturing mill in a relatively wet and forested area in one of the regions in Swaziland. As part of the paper mill, the Investor will also provide infrastructure and social amenities in the region. In view of the socio-economic and bio-physical environmental implications that may result due to the proposal, there has been public debate particularly on the loss of habitat/biodiversity and competition for scarce water resources in the region. Assuming your consultancy firm has won a contract to undertake Environmental Impact Assessment (EIA) study on this proposed project:

- a) Discuss the logical steps in the EIA process that your study team is likely to follow in order to achieve the task assigned to you. Justify the formation of the Interdisciplinary Team for this EIA study. (12 marks)
  
- b) Who would you consider to be the Key Stakeholders to participate in the EIA study process? Give reasons for your answer. (13 marks)

**TOTAL 25 MARKS**

### **QUESTION FOUR**

3. With reference to suitable illustration, explain what you understand by the following typology of environmental impacts of development projects:

- a) Direct Impacts (3 marks)
- b) Indirect Impacts (5 marks)
- c) Cumulative Impacts (6 marks)
- d) Synergistic Impacts (6 marks)
- e) Induced or generated impacts (5 marks)

**TOTAL 25 MARKS**

### **QUESTION FIVE**

4. a) What are the main differences between Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA)? (15 marks)
- b) Assess the case for using professional judgement as a key prediction method in EIA. (5 marks)
- c) How can uncertainty in the prediction of impacts be handled in EIA? (5 marks)

**TOTAL 25 MARKS**