

**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

# **UNIVERSITY EXAMINATIONS 2014/2015**

**THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN ……………………………….?**

**IPH 2315 DRAINAGE AND CONSERVATION**

**DATE: DECEMBER 2014 TIME: 2 HOURS**

**INSTRUCTIONS:**

**ANSWER ALL QUESTIONS IN SECTION A AND ONLY ONE QUESTION IN SECTION B**

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**SECTION A [48 MARKS][ANSWER ALL QUESTIONS]**

1. As a public health officer what are the general guiding principles that you may consider when recommending provision of access to sewer drains. [6 marks]
2. State six guidelines that have to be observed when permitting construction of privies [6 marks]
3. Define the term trap in relation to drainage works and list five features that a sound trap must posses [6 marks]
4. Briefly describe any three drainage fitting available either in sanitary pipe work or underground drainage pipeline [6 marks]
5. Briefly describe the following sanitary appliances and give two examples in each category
6. Ablutionary appliances [3 marks]
7. Soil-appliances [3 marks]
8. List six guidelines that a public health officer should observe when carrying out maintenance of sanitary pipe work systems. [6 marks]
9. List six drain cleansing tools that can be attached at drain rods during the process of cleaning drains. [6 marks]
10. Briefly describe the drainage activities that are involved before provision of a drainage pipe line from a built up area to a treatment facility [6 marks]

**SECTION B [ANSWER ANY ONE QUESTION] – 22 MARKS**

1. (a) Using a clear sketch, draw a priority ventilated stack disposal system for a two storey building [10 marks]

(b) Clearly describe the procedure that can be adopted in the process of buying pipes in a newly excavated trench [12 marks]

1. (a) Discuss three support excavation methods that may be used during provision of drainage pipe work system [10 marks]
2. (a) Discuss three fall water drainage systems giving their advantages and disadvantages [12 marks]

(b) Briefly discuss five ways that a sanitary appliance tap may loose its water seal [10 marks]