



MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING
FIRST YEAR FIRST SEMESTER EXAMINATION FOR
ARTISAN IN PLUMBING
PLUMBING TRADE THEORY

DATE: 18/4/2019

TIME: 11:30 – 2:30 AM

INSTRUCTIONS:

This paper consists of SIX questions

Answer any FIVE questions

All questions carry equal marks

1. a) List down **TWO** main sources of water supply hence give **TWO** examples of each. (4 marks)
- b) By use of a neat diagram, show the process of a rain cycle. (6 marks)
- c) Draw the following plumbing tools;
 i) flat file
 ii) hacksaw
 iii) cold chisel
 iv) ball pein hammer
 v) tin snips (10 marks)
2. a) Name **FIVE** materials used in plumbing works. (5 marks)
- b) Describe the following;
 i) ferrous metals
 i) non-ferrous metals. (4 marks)
- c) Name **THREE** classes of galvanized iron (GI) pipes and state the colour code for each. (6mks)
- d) Name **THREE** classes of fire and give one example in each case. (5 marks)

3. a) List down **SIX** safety precautions to be observed in a plumbing workshop. (6 marks)
- b) Name and draw **THREE** joints on sheet metal. (9 marks)
- c) State **THREE** constituents that causes fire hence draw a fire triangle. (5 marks)
4. By means of a neat sketch, show the installation of a direct cold water supply from the mains to the storage tank. (20 marks)
5. a) Draw the following joints used in pipe work;
- i) screw joint
- ii) autogenous welded joint. (6 marks)
- b) Describe the following;
- i) communication pipe
- ii) service pipe
- iii) rising main (9 marks)
- c) List down **FIVE** categories of tools in plumbing. (5 marks)
6. a) State the importance of first aid to a victim. (4 marks)
- b) List down **FOUR** simple steps to follow when administering first aid to a victim. (8 marks)
- c) Name **FIVE** materials used for pipe work in plumbing. (5 marks)
- d) State the use of the following in a water installation;
- i) gate valve
- ii) tap. (3 marks)