



MACHAKOS UNIVERSITY

University Examinations 2017/2018

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

FIRST SEMESTER EXAMINATION FOR DIPLOMA IN MECHANICAL
ENGINEERING

MED-PR 102 WORKSHOP PROCESS 1

DATE: 18/12/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

This paper consists of two sections. Section A is compulsory, and then answer any other two questions from section B

SECTION A: COMPULSORY (30MARKS).

- 1
 - a) State Five objectives of industrial safety. (5 marks)
 - b) Outline any Three responsibilities of the employer and Three of employees under health and safety act. (6 marks)
 - c) Explain briefly Five types of personal protective equipment in regard to health and safety. (5 marks)
 - d) Highlight Six causes of accident in workshops. (6 marks)
 - e) Using neat sketches describe Four measuring instruments used during bench work. (8 marks)

SECTION B: ANSWER ANY OTHER TWO QUESTIONS (40 MARKS)

2.
 - a) Explain briefly the procedure of marking out. (10 marks)
 - b) Describe the operation of a micrometer screw gauge. (10 marks)

3. a) Explain the following methods of filing;
- i. Draw filing
 - ii. Cross filing (10 marks)
- b) Describe briefly the surface plate and precautions to be observed when using it. (10 marks)
4. With an aid of neat diagrams explain the following clamping tools;
- a) Bench vice (20 marks)
 - b) Pin vice
 - c) Pipe vice
 - d) V-Blocks with U – clamp
5. a) Using neat diagrams describe the following types of hammers;
- i. Ball pein (10 marks)
 - ii. Straight pein
 - iii. Cross pein
 - iv. Planishing hammer
 - v. Raising hammer
- b) Using illustrations explain the procedure of reading vernier calipers. (10 marks)



MACHAKOS UNIVERSITY

University Examinations 2017/2018

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

FIRST YEAR FIRST SEMESTER EXAMINATION FOR CERTIFICATE IN
MECHANICAL ENGINEERING

MED-PR- WORKSHOP TECHNOLOGY 1

DATE: 19/12/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

This paper consists of two sections. Section A is compulsory, and then answer any other two questions from section B

SECTION A: COMPULSORY (30MARKS).

- 1
 - a) Highlight Six causes of accident in workshops. (6 marks)
 - b) Mention Four general safety rules commonly to be observed in workshops. (4 marks)
 - c) Explain briefly Five types of personal protective equipment in regard to health and safety. (5 marks)
 - d) Give Five classes of Engineering materials listing at least Two examples of each. (5 marks)
 - e) Explain briefly the procedure of marking out. (5 marks)
 - f) Using neat sketches give Five types of hand files. (5 marks)

SECTION B (40 MARKS)

2. a) State Four objectives of industrial safety. (4 marks)
- b) Explain six safety measures in regard to the following;
- i. Fires (6 marks)
 - ii. Electric shocks
- c) Describe Five types of machine guards. (10 marks)
3. Using neat sketches describe the following measuring instruments;
- a) Angle plate (20 marks)
 - b) Combination set
 - c) Vernier caliper
 - d) Surface gauge
 - e) Dial indicator
4. a) Explain the following terms in reference to engineering materials;
- i. Strength
 - ii. Ductility
 - iii. Plasticity
 - iv. Stiffness
 - v. Elasticity (10 marks)
- b) Describe the procedure of reading a micrometer screw gauge illustrations. (10 marks)
5. a) Differentiate between cross filing and draw filing. (10 marks)
- b) Describe constructional features of hacksaw blades and their safety precaution. (10 marks)



MACHAKOS UNIVERSITY

University Examinations 2017/2018

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL AND MANUFACTURING ENGINEERING

FIRST YEAR FIRST SEMESTER EXAMINATION FOR CERTIFICATE IN
MECHANICAL ENGINEERING

ENTREPRENEURSHIP 1

DATE: 19/12/2017

TIME: 8:30 – 10:30 AM

INSTRUCTIONS

This paper consists of two sections. Section A is compulsory, and then answer any other two questions from section B

SECTION A: COMPULSORY (30MARKS).

- 1 a) Define the following terms:
 - i. Entrepreneur (5 marks)
 - ii. Entrepreneurship
 - iii. Marketing
 - iv. Business ideas
 - v. Business opportunity
- b) List and explain Five benefits of self employment. (5 marks)
- c) Explain why small businesses are prone to failure. (5 marks)
- d) i Explain the following aspects of marketing;
 - I. Market niche (3 marks)
 - II. Market segmentation
 - III. Competition

- ii Describe how possible location of a business may affect it with an example. (2 marks)
- e) List down the sources of finance for businesses. (5 marks)
- f) Read the following passage and identify Five entrepreneurial traits portrayed by John. (5 marks)

(John has owned a small restaurant for three years)

I started by working at a restaurant in another town . I waited on tables, cooked , did the purchasing and book keeping and picked up a basic understanding of the business. Later , I spend sometime at other two restaurant in town learning about managing a restaurant. Most people think if they are cooks they can open a restaurant. It is not simple! You’ve got to know every area of the food business such as purchasing, advertising, cooking and customer relation.

Young people come to me and say, “I want to learn about operating a restaurant from you so I can open my own .” I tell them , “ that’s okay with me, I’ll have you cook, bartend, wait tables and clean up tables.” They say “you don’t understand. I want to learn how to manage “.Well , I believe that you’ve got to “ feel the business from the ground up before you can run it”.

I enjoy the freedom of being in business . I like being boss . I have twelve employees , and it gives me good feeling when they come for advice. It would be difficult for me to work for someone else . But I might become an employee in the future. I’m only twenty eight years old , and my career could take many turns. I hope that if did work for someone else , I could pretty much do what I wanted. I like making decisions and being a leader .

SECTION B (40 MARKS)

- 2. State and explain the major forms of business, stating each of legal aspects, advantages and disadvantages. (20 marks)
- 3. a) i List any 5 sources of business ideas and give a brief description. (5 marks)
- ii For an entrepreneur to set up a business , they have to identity an opportunity in the market . Identify any 5 business opportunity sources and explain. (10 marks)

- b) Njoroge is an entrepreneur at Pesa market, what are some of characteristics he should have as entrepreneur. (5 marks)
4. a) Discuss the role of entrepreneur in national development. (12 marks)
- b) Giving relevant examples, explain the role of government in promoting small businesses. (8 marks)
- 5 a) Explain the procedure of starting a small business enterprise, stating all the requirements. (10 marks)
- b) State Four ways of coping with competition in a business. (4 marks)
- c) Explain Three characteristics of a good business opportunity. (6 marks)