

TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MEDICAL ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN MEDICAL ENGINEERING

EHL 2105: WORKSHOP TECHNOLOGY & PRACTICE II

END OF SEMESTER EXAMINATION

SERIES:AUGUST2017

TIME: Choose hours HOURS

DATE: Pick DateJul2017

Instructions to Candidates

You should have the following for this examination -Answer Booklet, examination pass and student ID This paper consists of **FIVE** questions. Attemptquestion ONE (Compulsory) and any other TWO questions. **Do not write on the question paper.**

Question ONE

a) Figure 1 shows a plan view of a centre lathe machine. Name parts marked from 1 to 12	
b) State the function(s) of each of the parts marked from 1 to 12	(12marks)
c) Explain any THREE operations that can be carried on using a centre lathe machine	(6marks)
Question TWO	
a) Describe the following metal joining methods;	
i) Soldering	
ii) Brazing	
iii) Gas welding	
iv) Arc welding	

b) Explaining any FIVE workshop Rules and Regulations. (10marks) Question THREE a) A cylindrical mild steel bar of diameter 30mm has to be reduced to 20mm diameter using a centre lathe. Determine the work piece speed in revolutions per minute, given that the cutting speed of mild steel is 30 meters per minute. (6marks) b) The available speeds in the headstock are 30,50,55,90,110,155,190,260,320,440,540,740,900,1230,1500 and2500 revolutions per minute (RPM). Citing reasons, determine the appropriate speed for this turning operation? (4marks) c) Define the following terms as applied in machine tool practice i) Cutting speed ii) Spindle speed iii) Spindle speed iiii Torulling steady (Follower Rest) i) Differentiate between the following as used on a centre lathe i) Tarvelling steady (Follower Rest) ii) Fixed steady (Centre Rest) ii) Fixed steady (Centre Rest) ii) Fixed steady (Centre Rest) ii) Explain any FIVE operations performed using a drilling machine	v) Riveting	(10	marks)
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	a) Explain any FIVE operations	performed using a drilling machine	(10marks)
b) Sketch and label thread configuration of "M10×1" (10marks)	b) Sketch and label thread config	guration of "M10×1"	(10marks)

