

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI.
SCHOOL OF ENGINEERING AND ENGINEERING TECHNOLOGY (SEET)
DEPARTMENT OF MECHANICAL ENGINEERING

2019/2020 HARMATTAN SEMESTER EXAMINATION

MEE 303 MANUFACTURING PROCESSES I

TIME ALLOWED: 3 HRS

INSTRUCTION: ATTEMPT ANY FIVE QUESTIONS

1. Draw block diagram of a centre lathe showing its main components. Using this diagram indicate and discuss the following:
 - (i) Headstock
 - (ii) Tailstock
 - (iii) Saddle
 - (iv) Cross-slide.
2. In terms of cutting action, differentiate between shaping machines and milling machines.
3. Describe with the aid of relevant diagrams the operation of the Quick-Return-mechanism of the shaping machine.
4. Describe the differences between the configuration and uses of the capstan and turret lathe and schematically differentiate the two.
5. What is indexing? Describe the function of the indexing head and hence explain how a 52-teeth gear can be manufactured using a 42-hole.
6. What is work holding? With aid of diagrams, name and explain five work holding devices used on lathes.
7. Name and explain five milling attachments in use.