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Program: B.Sc.Engg. (IPE)
Semster: 4th Semester

Date: 08 March 2024
Time: 10:00 AM to 11:30 AM

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
DEPARTMENT OF MECHANICAL AND PRODUCTION ENGINEERING

MID SEMESTER EXAMINATION
IPE-4403 Manufacturing Processes-II

SUMMER SEMESTER: 2022-2023
TIME : 1 HR 30 MIN
FULL MARKS : 75

There are 3 (Three) questions. Answer all Questions. Marks in the Margin indicate full marks

- 1(a) Explain the need and purposes of chip breaking in machining process and hence (13)
write down the different types of chip breaking techniques with necessary [CO1,
diagram used in machining processes. PO1]
- (b) Explain the construction and working mechanism of a lathe machine with (12)
necessary diagram and list the different types of methods for holding the [CO1,
workpiece in lathe machine. PO1]
- 2(a) How the tool life can be calculated? In a turning operation of a steel rod with a (10)
single point cutting tool at a given machining condition under a given [CO3,
environment (cutting fluid application), the tool life decreases from 80 min to 20
min. due to increase in cutting velocity, from 60 m/min to 120 m/min., then at [CO3,
what cutting velocity the life of that tool under the same condition and [CO3,
environment will be 40 min.? PO2]
- (b) Explain with neat sketches the chip formation model in metal cutting processes (15)
and hence find out the evaluation method of finding the shear angle and Chip [CO3,
thickness ratio. PO2]
- 3 (a) How the general purposes drills can be classified used in different types of (12)
drilling processes and hence explain the different components of a twist drill [CO2,
with necessary diagram? PO1]
- (b) Write down the differences between pillar drill machine and radial drill machine (13)
with necessary diagram. [CO2,
PO1]