



INSTITUTE OF ENGINEERING
AND TECHNOLOGY

JK LakshmiPat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY
B. Tech. in Mechanical Engineering,
2nd Year (4th Semester)
Theory Exam-III, May, 2019

Course No. : ME405
Course Title : Production Technology - I
Nature of Exam : Closed book
Weightage : 30%
Max Marks : 30
Duration : 180 Minutes
Date of Exam : 02-05-2019

No. of Pages = 01
No. of Questions = 05

Session: 02:00 PM – 05:00 PM

Note:

1. Please read through and follow all the instructions given on the cover page of the answer book.
2. Draw neat diagrams using pencil.
3. Electronic gadgets including cell phones (other than calculator) not allowed during the examination.
4. All questions are compulsory.

- Q1. A screw with thread length 2 feet and diameter 2 inch was to produce through turning operation. In order to perform the required operations a follower rest is needed. With neat diagram explain the working of four jaw combination chuck and follower rest. [Marks: 6] LO: 01
- Q2. Joining of a railway track is performed in two locations having ambient temperature -30 °C (location A) and 40 °C (Location B) respectively. With neat diagram explain the fabrication process that can be used. Also, discuss about the various welding defects with neat diagram. [Marks: 6] LO: 08
LO: 05
LO: 04
- Q3. In an air compressor air pressure can be drained out using a diffuser. With neat diagram explain the process that can be adopted to manufacture a brass diffuser. [Marks: 6] LO: 08
- Q4. Threading on bolt is performed using thread rolling operations. The thread length was prepared using lathe machine tool. Further using grinding operations pitch circle diameter was obtained using the grinding operation. With neat diagram explain a suitable grinding operation that can be used. Also explain how honing and lapping are different from grinding operation. [Marks: 6] LO: 06
LO: 07
- Q5. A company has planned to produce 1000 ton of cast iron per day. With neat diagram explain the melting process that can be followed to fulfill the production requirement economically. Also discuss various defects that may occur. [Marks: 6] LO: 04