Seat No.	

S. E. (Production) May 2017
Machine Tool Operations (211111)
(2015 Course)

Time: 02 Hours]   **[Max. Marks: 50**

Instructions to candidates:
   1) *Attempt Qu. 1 or Qu. 2, Qu. 3 or Qu. 4, Qu. 5 or Qu. 6 and Qu. 7 or Qu. 8.*
   2) *Figures to the right indicate full marks.*
   3) *Neat diagrams must be drawn wherever necessary.*
   4) *Use of non-programmable electronic pocket calculator is allowed.*
   5) *Assume suitable data, if necessary.*

Qu. 1   a) Explain with neat sketch back gear mechanism in a lathe.   **(6)**

b) Find the machining time for a facing operation on a lathe machine for 80 mm diameter shaft with 300 rpm and feed of 0.3 mm/rev. Assume approach as 5 mm, over-run as 4 mm and number of cut as 2.   **(6)**

OR

Qu. 2   a) Explain with neat sketch radial drilling machine.   **(6)**

b) The tapered portion of a job is 75 mm long, minimum diameter is 25 mm and maximum diameter is 50 mm. determine the angle at which the compound rest is to be set.   **(3)**

c) Determine the smaller diameter of a taper shaft, whose length is 300 mm, large diameter is 80 mm and conicity is 1/30.   **(3)**

Qu. 3   a) Explain with neat sketch working of universal dividing head for indexing.   **(10)**

b) The length of broach is 900 mm and the cutting speed is 2000 mm/min. calculate the machining time for broaching.   **(3)**

OR

Qu. 4   a) Explain with neat sketch crank and slotted link quick return mechanism in shaper. **(10)**

b) What do you mean by specification of the machine? What are the specifications for shaper, Planer and slotter machines   **(3)**

Qu. 5   a) Explain the standard marking system for grinding wheel   **(6)**

b) Explain with neat sketch dressing of grinding wheel.   **(6)**

OR

Qu. 6 a) With neat sketch explain center-less grinding process. **(6)**

b) Write short note on selection of grinding wheel. **(6)**

Qu. 7 a) Explain the neat sketch metal spraying process. **(6)**

b) Write short note on electroplating process **(7)**

OR

Qu. 8 a) Explain the neat sketch buffing process. **(6)**

b) Explain with neat sketch honing process. **(7)**

***************************** **THE END** *****************************