Assignment 6
Due on 2020-05-11, 23:59 IST.

1. A mild steel bar of 60 mm diameter is being turned using a tool with the signature to 10 HRC and feed is 2/3 mm (per AAM system). The feed and depth of cutting are 0.3 mm and 0.6 mm respectively. The unhardened chip thickness at the radius of 0.04 mm is 0.1 mm, respectively.

   No, the answer is incorrect.
   Accepted Answer: 0.02667

2. A mild steel bar of 100 mm diameter is turned with tool. The feed velocity and rotational speed of tool are 1.5 mm and 800 rpm respectively. The cutting speed is in mm/s and feed in mm/min are respectively.

   No, the answer is incorrect.
   Accepted Answer: 5.625

3. The height of a machined surface at 6 points from the main line over a surface length of 1 mm are 8, 5, 11, 7, 13, 9, 8, and 14 mm. The measurement surface roughness (Ra) up to one decimal place accurate to 0.

   No, the answer is incorrect.
   Accepted Answer: 5.625

4. During turning of a mild steel bar of 100 mm diameter, two different tools are used. In one tool, nose radius is very small, the side cutting and feed is 2/3 mm per revolution. In the other tool, nose radius is 0.5 mm and the tool is engaged for the first time. The feed is used in each case is 2.2 mm. The peak to valley height (Ra) in the generated surfaces for first and second tool are respectively.

   No, the answer is incorrect.
   Accepted Answer: 0.02667

5. A turning operation, average cutting face temperature as

   No, the answer is incorrect.
   Accepted Answer: 1.000

If the tool fixed rate (f) and depth of cut (c) are doubled, the percentage increase in the average cutting face temperature is __________.

6. A 10 mm diameter, 60 HRC, 14 mm long turning tool is used for turning a rotating workpiece. Under constant cutting speed of 750 m/min, cutter speed of 49 mm/min and depth of cut at 2.5 mm. The allowable face turning after one revolution is to be __________.

   No, the answer is incorrect.
   Accepted Answer: 0.02667

7. The incorrect statements are

   No, the answer is incorrect.
   Accepted Answer: 0.02667

8. (a) Given feed-diameter (12 mm), point angle (~110°), both angle (~29) and feed (~0.5 mm/rev). The normal radius angle (in degrees) at the middle of each cutting edge and each chip thickness are respectively, __________.

   No, the answer is incorrect.
   Accepted Answer: 0.02667

9. Given a surface grinding, wheel size = 1200 x 25 mm, number of cutting points = 6, wheel rpm = 1800, work speed = 1/3 mm/s, depth of cut = 0.04 mm and the value of the ratio of mean chip width to mean chip thickness = 18. The undeformed chip thickness (at exit) of the 1st surface after grinding is __________.

   No, the answer is incorrect.
   Accepted Answer: 0.02667

10. A grinding wheel material (ABC) & 80% indicates a grinding wheel with __________.

   No, the answer is incorrect.
   Accepted Answer: 0.02667