



Answer all the following questions:

Question 1:

(25 marks)

- Use neat sketch to show the operating principle of RUM.
- What are parameters affecting SRR in AJM? Give an example for three typical materials which can be effectively machined by AJM. Describe at least three typical applications of AJM
- Comment on the depth of material removed from a metal surface by AJM?
- Describe the process of USM and showing the advantages and limitations of the process.

Question 2:

(25 marks)

- As you know, precision engineering is a term that is used to describe manufacturing high-quality parts with close tolerances and good surface finish. Based on their process capabilities, make a comprehensive list of abrasive machining processes with decreasing order of quality of parts produced. Include brief commentary on each method?
- In AWJM at what stage is the abrasive introduced in the water jet?
- Describe the operating principles of UAM process.
- In what ways orbital grinding differs from ordinary grinding process?

Question 3:

(25 marks)

- What are the constituents of slurry used in USM? Mention three types of abrasive materials which are frequently used in USM.
- Discuss the operating principle of orbital grinding.
- Describe at least three typical applications of AJM.
- What is the principle of MAF and what are the special features of it?

WITHOUT BEST WISHES
Prof. Dr / Taha Ali El-Jawel

This exam measures the following ILOs												
Question Number	Q1-a,b	Q2-a,b	Q3	Q4	Q1-c,d	Q2-d	Q3	Q4	Q1-e	Q2-e	Q3	Q4
	a2-1	a5-2	a4-1	a4-2	b4-1	b5-2	b4-2	b5-1	c4-1	c8-1	c2-1	c4-2
Skills	Knowledge & Understanding Skills				Intellectual Skills				Professional Skills			