



# E.G.S. PILLAY ENGINEERING COLLEGE

Approved by AICTE, New Delhi | Affiliated to Anna University, Chennai  
Accredited by NAAC with 'A' Grade | An ISO 9001 : 2008 Certified Institution  
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## CYCLE TEST 1

Sem/Section/Year : VI/B/ III Date & Session :  
Programme : B.E.(Mech. Engg.) Max. Time : 3 Hrs  
Course Name : UCM Course Code : ME6004  
Faculty Name : Dr. S. RAMABALAN Max. Marks : 100 marks

### Answer ALL the Questions

Q.No.	PART-A (10X2=10)	CO#	KL
1.	What type of operations can be done by AJM?	2	K2
2.	What is principle of operation of wire cut EDM?	3	K2
3.	Mention few varieties of power supply circuits commonly used in EDM	3	K1
4.	What are the variables that affect the cutting phenomena in AJM?	2	K1
5.	What are the major elements of USM?	2	K1
6.	What are the ways of gap-flushing used in EDM?	3	K2
7.	Write down the energy transfer media, energy source and mechanism of metal removal for WJM.	2	K2
8.	State the difference between EDM and wire cut EDM.	3	K2
9.	What are various abrasives used in AJM?	2	K1
10.	What is the function of servo mechanism in EDM process?	3	K2

Q.No.	PART-B (5X16=80)	CO#	KL
11.	(a) Explain the principle of working of the AJM process with its applications. OR (b) Explain process parameters of the AJM process and AJM advantages.	2	K2
12.	(a) (i) Explain process parameters of USM. (ii) Describe feed mechanisms in USM. OR (b) Discuss in detail USM. Compare it with traditional abrasive machining.	2	K2
13.	(a) Explain the principle of working of the WJM process with its advantages and disadvantages. OR (b) Discuss the process parameters in water jet machining process and state WJM applications.	2	K2
14.	(a) List the recent developments in EDM process and state	3	K2

advantages, limitations and applications of EDM process.

OR

(b) Describe EDM process parameters that influence the MRR.

15. (a) Explain construction and working principle of EDM 3 K2  
OR  
(b) Explain the process of Wire cut EDM and list its applications

### Course Outcomes:

After completion of this course, students can able to

1. Explain the need and recent trends in unconventional machining processes.
  2. Use mechanical energy based unconventional machining processes.
  3. Use electrical energy based unconventional machining processes.
  4. Use chemical and electro-chemical energy based unconventional machining processes.
  5. Explain thermal energy based unconventional machining processes.
- BT Knowledge Level: K1-Knowledge, K2-Understanding, K3-Apply, K4.Analysis  
K5-Evaluate, K6-Create