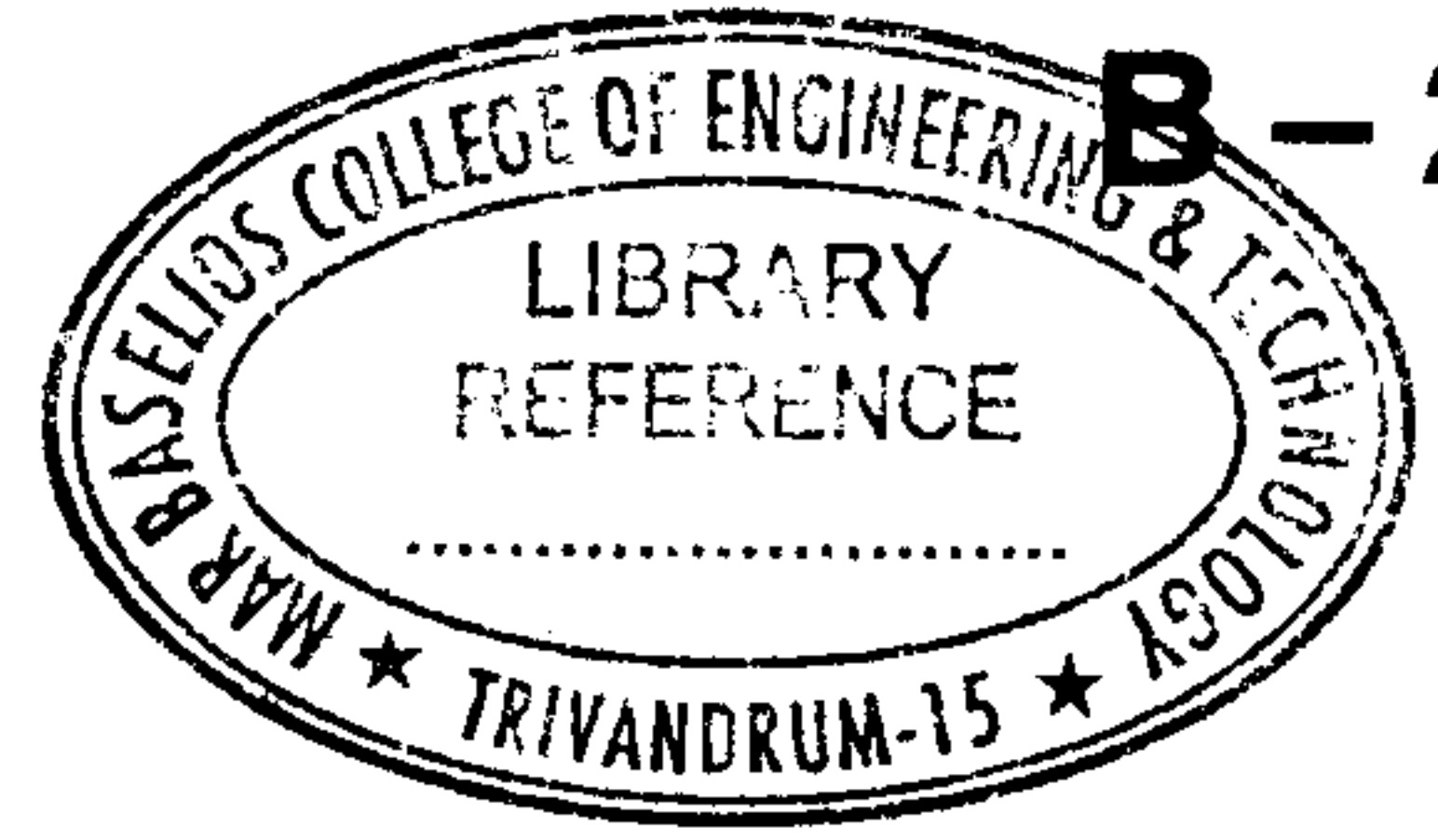




(Pages : 2)



**B – 2904**

Reg. No. : .....

Name : .....

**Second Semester M.Tech. Degree Examination, December 2016  
(2013 Scheme)  
Branch : Electrical Engineering  
ECE2001 : Adaptive Control**

Time : 3 Hours

Max. Marks : 60

***Instruction : Answer any two questions from each Part.***

**PART – A**

1. a) What is the significance of sampling process in adaptive control ? **4**
- b) On what circumstances an adaptive control scheme is not advisable ? **3**
- c) Explain the significance of exponential forgetting factor. **3**
2. With the help of a block schematic explain the working of MRAS. **10**
3. a) What are the significances of persistency of excitation ? **5**
- b) What are the advantages of Direct STR ? **5**

**PART – B**

4. How disturbances with known characteristics are dealt with in adaptive control ? **10**
5. a) Comment on the stability aspects while using an adaptive PID for control systems. What are the limitations ? **5**
- b) Explain the special features of Linear Quadratic STR. **5**
6. Explain how pole-placement technique is used in adaptive control. **10**

P.T.O.



PART – C

- 7. With block schematic and practical examples, demonstrate the principle of Gain Scheduling. 10
  
- 8. a) Non-linear transformation can make the system independent of operating conditions-Comment on the statement. 5  
b) Why Pre-and Post-filtering of signals required ? 5
  
- 9. Make a brief on the practical and operational issues in the implementation of adaptive control schemes. 10

