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| Internal Assesment Test – 2 | | | | | | | | | | | |
| Sub: Control Engineering | | | | | | | | Code: 10ME82 | | | |
| Date: 19/04/2018 | | Duration: 90 mins | | Max Marks: 50 | Sem: 8 | Branch (sections): ME (A,B) | | | | | |
| Answer any ONE question from Part A and TWO questions from Part B. Good luck! | | | | | | | | | | | |
| **PART A** | | | | | | | Marks | | OBE | | |
| CO | | RBT |
| 1 | Obtain the overall transfer function of the block diagram by reduction technique.  C:\Users\CMRIT\Downloads\New Doc 2018-04-16.jpg | | | | | | [10] | | CO2 | | L3 |
| 2 | Obtain the overall transfer function by using Mason’s gain formula. | | | | | | [10] | | CO2 | | L3 |
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| Internal Assesment Test – 2 | | | | | | | | | | | |
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| Date: 19/04/2018 | | Duration: 90 mins | | Max Marks: 50 | Sem: 8 | Branch (sections): ME (A,B) | | | | | |
| Answer any ONE question from Part A and TWO questions from Part B. Good luck! | | | | | | | | | | | |
| **PART A** | | | | | | | Marks | | OBE | | |
| CO | | RBT |
| 1 | Obtain the overall transfer function of the block diagram shown in fig. 1 by reduction technique.  C:\Users\CMRIT\Downloads\New Doc 2018-04-16.jpg | | | | | | [10] | | CO2 | | L3 |
| 2 | Obtain the overall transfer function by using Mason’s gain formula. | | | | | | [10] | | CO2 | | L3 |
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| 3 | **PART B**  The open loop transfer function of a unity feedback system is  Find K to get PM = +30° | [20] | CO6 | L4 |
| 4 | Sketch the Bode plot for the transfer function  Determine the value of K for the gain cross over frequency to be 5 rad/sec. | [20] | CO6 | L4 |
| 5 | For a certain feedback system .  Sketch the Bode plot and comment on G.M, P.M and stability. | [20] | CO6 | L4 |

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| 3 | **PART B**  The open loop transfer function of a unity feedback system is  Find K to get PM = +30° | [20] | CO6 | L4 |
| 4 | Sketch the Bode plot for the transfer function  Determine the value of K for the gain cross over frequency to be 5 rad/sec. | [20] | CO6 | L4 |
| 5 | For a certain feedback system .  Sketch the Bode plot and comment on G.M, P.M and stability. | [20] | CO6 | L4 |