

## ISI ME I - 2010

1. (a) is 99
2. (a) continuously differentiable at  $x = 0$
3. (a)  $r - 1$
4. (d) 12
5. (a)  $\frac{\alpha\beta}{\beta - \alpha}$
6. (c) 8
7. (b) 2
8. (b)  $\infty$
9. (c) four
10. (a)  $[0, 1)$
11. (c)  $2b - a - c$
12. (e) None of the above
13. (b)  $2g'(\theta)$
14. (b) greater than 2
15. (c)  $2 \log_e 3 - 3 \log_e 2$
16. (c)  $\frac{1-x}{x}$
17. (b)  $\rho$
18. (c)  $\frac{1}{2}$
19. (b) 1
20. (d) 6
21. (d)  $\binom{n+m+1}{n+1}$
22. (b) 0
23. (d) None of these
24. (c) homogeneous of degree 1
25. (a) positive valued for all  $x > 1$
26. (b)  $\left(x^* = \frac{100}{c}, y^* = 0\right)$
27. (c)  $(-\infty, -6] \cup [+6, \infty)$
28. (d) 1
29. (b)  $-\left(\frac{2a_2b_1}{a_1^2 - a_2^2}\right)$
30. (c) a constant function