

King Fahd University of Petroleum and Minerals  
Department of Mathematics and Statistics  
Math-102 Semester-153 QUIZ 03

NAME:

S.No.

ID:

Maximum Marks: 10

Section: 02

Time Allowed: 30 minutes

- (1) Find the average value of  $f(x) = \cos^6(x) \sin(x)$  on  $[0, \pi]$ .
- (2) Evaluate  $\int_0^s e^t \sin(s - t) dt$ .
- (3) Find the volume of the solid obtained by rotating the region bounded by  $x = y - y^2$  and  $x = 0$  about the line  $y = 2$ .