**JAIPURIA INSTITUTE OF MANAGEMENT, INDORE**

**PGDM**

**FIFTH TRIMESTER (Batch 2020-22)**

**END TERM EXAMINATION, JAN-2022**

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| Course Name | **Fixed Income Securities** | Course Code | **FIN 504** |
| Max. Time | **2 hours** | Max. Marks | **40** |

**INSTRUCTIONS:**

1. All answers calculated on Excel must be reproduced in the answer sheet
2. Students may use EXCEL in the allotted computers

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**Questions.1 (10 Marks)**

A bond with a face value of Rs 1000 with a coupon of 8% per annum paid semi-annually is trading at Rs 1016. It has a maturity of 10 years. If the YTM increases by 200 basis points, what will be the change in price using the convexity method? Evaluate your result if the YTM reduces by 200 bp.

**Questions.2 (10 Marks)**

You are the treasurer of a firm that will need to borrow Rs 10 million at LIBOR+250 bps in 45 days. The loan will have a maturity of 180 days at which time loan will be repaid with interest. The interest will be determined by that day’s LIBOR with a strike of 9% for a premium of Rs 32,000. Compute the amount you will have to pay and the annualized cost of borrowing for LIBORs of 6% and 12%. Assume payoff is based on 180 days and a 360-day year. The current LIBOR is 9%.

**Questions.3 (10 Marks)**

Refer to Excel file FIS\_Data\_Q3. It contains monthly data of a 3-year G-Sec rate. Using the Vasicek model, find the speed of adjustment of the rate.

**Questions.4 (10 Marks)**

Refer to Excel file FIS\_Data\_Q4. It contains parameters of the Nelson Siegel model. Using this data, segregate the level, slope and curvature of the yield curve. Evaluate your results with respect to each of these components. Copy the graphs in this sheet and write the interpretation in the answer script.