

Vinay Sanja was interviewing for a job at the State Bank of India. The bank requires all job applicants to take a competency test on basic money mathematics. Vinay has completed the interest calculations portion of the exam. Below are his questions and answers. Vinay must correctly answer in at least 3 cases to be eligible for the job. Evaluate and correct Vinay's answers. Does he qualify for the job?

- (a) Assume the bank holds a 400,000 Indian Rupee (INR) note receivable dated June 1, 20X1. This note matures on August 31, 20X1. This note is written to assume a 360 day year and 30 day months. The annual interest rate is stated at 10%. What is the maturity value of the note, including interest?

$$\begin{aligned} \text{Answer: } & 400,000 \times 10\% \times 60/360 = \\ & 6,666.67 \\ & 400,000 + 6,666.67 = \underline{\underline{406,666.67}} \end{aligned}$$

- (b) Assume the bank holds a INR 400,000 note receivable dated June 1, 20X1. This note matures on August 31, 20X1. This note is written to assume a 365 day year and actual days outstanding are used in all calculations. The annual interest rate is stated at 10%. What is the maturity value of the note, including interest?

$$\begin{aligned} \text{Answer: } & 400,000 \times 10\% \times 92/365 = \\ & \underline{\underline{10,082.19}} \end{aligned}$$

- (c) Assume the bank holds a INR 1,000,000 note receivable dated October 1, 20X5. This note matures on September 30, 20X6. This note is written to assume a 360 day year and 30 day months. The annual interest rate is stated at 8%. How much interest income should the bank record for its accounting year ending December 31, 20X5?

Answer: Zero, the note is not due until 20X6

- (d) Assume the bank holds a INR 1,000,000 note receivable dated October 1, 20X5. This note matures on September 30, 20X6. This note is written to assume a 360 day year and 30 day months. The annual interest rate is stated at 8%. How much interest income should the bank record for its accounting year ending December 31, 20X6?

$$\text{Answer: } 1,000,000 \times 8\% \times 270/360 = \underline{\underline{600,000}}$$