Real-Data Mini-Assignment

Apply Reading 1 to real Indian investments. About 60 minutes. Use your BA II Plus or Excel and write the formula before the numbers.

Name: _____ **Batch:** _____ **Date:** _____

TASK 1 — Total return on a dividend-paying stock

Module 1.1 · Single period · 10 marks

Where to look: NSE website — pick a dividend-paying Nifty 50 company. Note its price one year ago, today, and the dividends paid in between (corporate actions page).

Company	Price 1 year ago (P_0)	Price today (P_1)	Dividends (₹)	Price return	Distribution return	Total return

a) Is your return ex post or ex ante? Realized or unrealized (if you still held the stock)?

TASK 2 — Five years of the Nifty 50

Module 1.1 · Arithmetic vs geometric · 12 marks

Where to look: NSE historical data — the Nifty 50 close on the last trading day of each of the last 6 calendar years (5 yearly returns).

Year	Nifty close	Yearly return	1 + return	Growth of ₹100
Start		—	—	100

a) Arithmetic mean = _____ Geometric mean = _____ Difference = _____. Explain the difference in one line.

b) Find the continuously compounded return for each year with ln(1 + r). Add them. Does the total equal ln(ending ÷ starting)?

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TASK 3 Compare a bank FD, a T-bill and a liquid fund

Module 1.1 · Annualizing · 10 marks

Where to look: a bank's 91-day FD rate; the latest RBI 91-day T-bill cut-off price; a liquid fund's 30-day return from its factsheet.

Investment	Return as given	Holding period (days)	Annualized return (show formula)
91-day FD			
91-day T-bill (from price)			
Liquid fund (30-day return)			

a) Rank them on an annualized basis. Why can't you compare the raw period returns directly?

TASK 4 Is your FD beating inflation?

Module 1.2 · Real return & risk premia · 10 marks

Where to look: latest CPI inflation (MOSPI or RBI), a 1-year bank FD rate, the 91-day T-bill yield, and a 10-year government bond yield.

Rate	Nominal (%)	Approx real = nominal − inflation	Exact real = (1 + n)/(1 + i) − 1
1-year FD			
91-day T-bill			
10-year G-Sec			

a) Why is the 10-year yield different from the 91-day yield? Name the premium.

b) A corporate bond of the same maturity yields more than the G-Sec. Name the premiums that explain the gap.

TASK 5 Fees, taxes and leverage

Module 1.2 · Measures of return · 12 marks

a) Pick an equity mutual fund. From its factsheet note the **direct** and **regular** plan 1-year returns and expense ratios. Which is closer to a gross return? Why do they differ?

b) You earned a 20% price gain and a 2% dividend yield. Using today's Indian long-term capital gains tax rate and your slab rate on dividends, compute your after-tax return. Show the formula.

c) A trader buys ₹10 lakh of stock using ₹4 lakh of own money and ₹6 lakh borrowed at 10%. Compute the leveraged return if the stock returns +15% and −15%. What does this teach you?

Marking guide (54 marks): data with source and date · formula before numbers · correct calculation · a one-line interpretation. Interpretation carries the most weight. Tax rates change — always cite the rate you used and its source.

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