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CA Final Paper 2

Advanced Financial Management Formulas

Complete AFM formula cheat sheet for CA Final May 2026. Covers Valuation, Derivatives, Forex, and Portfolio Management.

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1 Valuation Formulas

Formula Name	Formula	Notes
DCF Value	$V = CF_1/(1+r)^1 + CF_2/(1+r)^2 + \dots + CF_n/(1+r)^n$	Sum of discounted future cash flows
Gordon Growth Model	$P_0 = D_1 / (K_e - g)$	D_1 = Next dividend, K_e = Cost of equity, g = Growth rate
Two-Stage DDM	$P_0 = \sum D_t(1+g_1)^t/(1+K_e)^t + P_n/(1+K_e)^n$	High growth phase + stable phase
Enterprise Value	$EV = \text{Market Cap} + \text{Debt} - \text{Cash}$	Total firm value
Equity Value	$\text{Equity} = EV - \text{Net Debt}$	Value to shareholders
EV/EBITDA Multiple	EV / EBITDA	Enterprise value to earnings ratio
Free Cash Flow to Firm	$\text{FCFF} = \text{EBIT}(1-t) + \text{Dep} - \text{CapEx} - \Delta\text{NWC}$	Cash available to all investors
Free Cash Flow to Equity	$\text{FCFE} = \text{FCFF} - \text{Int}(1-t) + \text{Net Borrowing}$	Cash available to equity holders

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Formula Name	Formula	Notes
CAPM	$K_e = R_f + \beta(R_m - R_f)$	R_f = Risk-free, β = Beta, R_m = Market return
Cost of Debt (Post-tax)	$K_d = r \times (1 - t)$	r = Interest rate, t = Tax rate
WACC	$WACC = K_e(E/V) + K_d(D/V)(1-t)$	Weighted average cost of capital
Unlevered Beta	$\beta_u = \beta_L / [1 + (1-t)(D/E)]$	Asset beta (no debt)
Levered Beta	$\beta_L = \beta_u \times [1 + (1-t)(D/E)]$	Equity beta with debt
Cost of Equity (Earnings)	$K_e = (EPS/MPS) + g$	Earnings yield approach
Cost of Preference	$K_p = \text{Dividend} / \text{Net Proceeds}$	Pref dividend / Issue price

3 Derivatives Basics

Formula Name	Formula	Notes
Call Option Payoff	$\text{Max}(S - K, 0)$	S = Spot, K = Strike
Put Option Payoff	$\text{Max}(K - S, 0)$	K = Strike, S = Spot
Put-Call Parity	$C + PV(K) = P + S$	C = Call, P = Put, S = Spot, K = Strike
Forward Price	$F = S \times e^{(r \times t)}$	Continuous compounding
Forward Price (Dividend)	$F = (S - PV \text{ of Div}) \times e^{(r \times t)}$	Asset paying dividends
Futures Price	$F = S(1 + r)^t$	Discrete compounding
Cost of Carry	$F = S + \text{Carrying Cost} - \text{Convenience Yield}$	Storage + Interest - Benefits

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Delta (Call)	$\Delta = N(d_1)$	Change in option price per unit change in stock
Hedge Ratio	$HR = (C_u - C_d) / (S_u - S_d)$	Binomial model hedge ratio

4 Black-Scholes Model

Formula Name	Formula	Notes
Call Option Value	$C = S \times N(d_1) - K \times e^{-rt} \times N(d_2)$	Black-Scholes Call
Put Option Value	$P = K \times e^{-rt} \times N(-d_2) - S \times N(-d_1)$	Black-Scholes Put
d_1	$d_1 = [\ln(S/K) + (r + \sigma^2/2)t] / (\sigma\sqrt{t})$	S=Spot, K=Strike, r=Rate, σ =Volatility, t=Time
d_2	$d_2 = d_1 - \sigma\sqrt{t}$	Adjusted for volatility

Remember: N(d) is the cumulative standard normal distribution. For exams, N(d) tables are provided.

5 Foreign Exchange

Formula Name	Formula	Notes
Interest Rate Parity	$F/S = (1 + r_a) / (1 + r_b)$	Forward rate relation to interest rates
IRP (Continuous)	$F = S \times e^{(r_a - r_b)t}$	Continuous compounding
Purchasing Power Parity	$F/S = (1 + i_a) / (1 + i_b)$	Forward rate relation to inflation
Forward Premium/Discount	$\text{Premium} = [(F - S)/S] \times (12/n) \times 100$	Annualized forward premium %
Cross Rate	$A/C = (A/B) \times (B/C)$	Derive rate through common currency
Swap Points	$\text{Swap} = \text{Forward} - \text{Spot}$	Difference between forward and spot

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Formula Name	Formula	Notes
Portfolio Return	$R_p = \sum w_i \times R_i$	Weighted average of returns
Portfolio Variance (2 assets)	$\sigma_p^2 = w_1^2 \sigma_1^2 + w_2^2 \sigma_2^2 + 2w_1 w_2 \sigma_1 \sigma_2 \rho_{12}$	ρ = Correlation coefficient
Sharpe Ratio	$(R_p - R_f) / \sigma_p$	Excess return per unit risk
Treynor Ratio	$(R_p - R_f) / \beta_p$	Excess return per unit systematic risk
Jensen's Alpha	$\alpha = R_p - [R_f + \beta_p(R_m - R_f)]$	Actual vs CAPM expected return
Information Ratio	$(R_p - R_b) / \text{Tracking Error}$	Active return vs benchmark
Beta	$\beta = \text{Cov}(R_i, R_m) / \text{Var}(R_m)$	Systematic risk measure
Correlation	$\rho = \text{Cov}(A, B) / (\sigma_A \times \sigma_B)$	Co-movement measure

7 Mergers & Acquisitions

Formula Name	Formula	Notes
Synergy Value	$VAB - (VA + VB)$	Combined value minus standalone values
Exchange Ratio	$ER = (\text{Offer Price}) / (\text{Acquirer's MPS})$	Shares offered per target share
Post-Merger EPS	$\text{Combined Earnings} / \text{Combined Shares}$	EPS after merger
Maximum Price	$VA + \text{Synergy}$	Max acquirer should pay
Minimum Price	$VB \text{ (standalone)}$	Min target should accept
Gain to Acquirer	$\text{Synergy} - \text{Premium Paid}$	Net benefit to buyer

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