BANK EXAMS WITH SWARNAKSHI

JAIIB AFM Formula Sheet 2026

Accounting ratios, interest, annuities, bonds, forex, WACC, capital budgeting, working capital, break-even and variances

USE IT IN THREE PASSES

1. Identify the required output. 2. Match the inputs and time period. 3. Substitute, calculate and test whether the answer is reasonable.

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1. Accounting Essentials and Ratios

Core accounting formulas

Accounting equation	Assets = Liabilities + Owners' Equity Every transaction preserves the equation.
Cost of goods sold	Opening stock + Purchases + Direct expenses - Closing stock Use net purchases if returns are given.
Gross profit	Net sales - Cost of goods sold Net sales normally means sales less sales returns.
Working capital	Current assets - Current liabilities Positive working capital is an amount, not a ratio.
Straight-line depreciation	(Cost - Residual value) / Useful life Apply time apportionment if the asset was used for part of a year.
WDV depreciation	Opening written-down value x Rate Closing WDV = Opening WDV - Depreciation.

Liquidity, efficiency and profitability

Current ratio	Current assets / Current liabilities Read the required convention in the question.
Quick ratio	(Current assets - Inventory - Prepaids) / Current liabilities Sometimes called liquid ratio or acid-test ratio.
Inventory turnover	Cost of goods sold / Average inventory Average inventory = (Opening + Closing) / 2.
Receivables turnover	Net credit sales / Average trade receivables Use credit sales where available.
Average collection period	365 / Receivables turnover Use 12 months or 360 days only if the question specifies.
Gross profit margin	Gross profit / Net sales x 100 Keep numerator and denominator from the same period.
Net profit margin	Profit after tax / Net sales x 100 Some questions specify profit before tax; follow the wording.
ROCE	EBIT / Capital employed x 100 Capital employed convention may be total assets less current liabilities.
ROE	Profit after tax / Average shareholders' funds x 100 Use average funds when opening and closing values are supplied.
Debt-equity ratio	Long-term debt / Shareholders' funds Use the definition specified in the question.
Interest coverage	EBIT / Interest expense Higher coverage generally indicates more capacity to service interest.

Trap check: a ratio can be numerically correct but conceptually wrong if you use closing balance where the question expects an average, or total sales where it supplies credit sales.

2. Interest, Present Value and Annuities

Symbols: P = principal or present value; FV = future value; i = rate per period in decimal; n = number of periods; PMT = periodic payment.

Interest and discounting

Simple interest	SI = P x i x n Amount = P(1 + in). Match rate and time units.
Compound future value	FV = P(1 + i)^n For m compounding periods per year: i = annual nominal rate / m and n = years x m.
Present value	PV = FV / (1 + i)^n Discount future money back to time 0.
Effective annual rate	EAR = (1 + j/m)^m - 1 j is nominal annual rate; m is compounding frequency.
Discount factor	DF(n) = 1 / (1 + i)^n PV = FV x DF.

Annuities and loans

FV of ordinary annuity	PMT x [((1 + i)^n - 1) / i] Payments occur at the end of each period.
PV of ordinary annuity	PMT x [(1 - (1 + i)^(-n)) / i] Use for a level end-of-period payment stream.
FV of annuity due	FV ordinary annuity x (1 + i) Payments occur at the beginning of each period.
PV of annuity due	PV ordinary annuity x (1 + i) One extra period of earning/discount relief.
Loan instalment / EMI	P x i(1 + i)^n / [(1 + i)^n - 1] i is the rate per instalment period.
Balance after k payments	P(1+i)^k - PMT[((1+i)^k - 1)/i] Useful for outstanding principal after k end-period payments.
Perpetuity	PV = C / i First cash flow occurs one period from now.
Growing perpetuity	PV = C1 / (i - g) Requires i > g and first cash flow C1 next period.

QUICK EXAMPLE	Rs. 10,000 invested for 2 years at 10% compounded annually: FV = 10,000 x (1.10)^2 = Rs. 12,100.

Trap check: 12% per annum compounded monthly is 1% per month, not 12% per month. Convert the rate and the number of periods together.

3. Bonds, Yield, Duration and Forex

Bond formulas

Bond price	P = Sum[C/(1+y)^t] + M/(1+y)^n C = coupon per period, M = maturity value, y = yield per period.
Semi-annual bond	Use C/2, y/2 and 2n periods Keep coupon and yield on the same periodic basis.
Current yield	Annual coupon / Current market price x 100 Ignores capital gain/loss to maturity and time value.
Approximate YTM	[C + (M-P)/n] / [(M+P)/2] x 100 An approximation, not the exact IRR of bond cash flows.
Macaulay duration	Sum[t x PV(CF_t)] / Bond price Weighted average time to receive cash flows.
Modified duration	Macaulay duration / (1 + y/m) m is payments per year when y is annual nominal yield.
Approx. price change	Delta P / P approximately = -Modified duration x Delta y Yield change must be in decimal form.

Bond logic: when required yield rises, the present value of fixed cash flows falls, so bond price generally falls. Longer duration means greater price sensitivity, all else equal.

Forex arithmetic

Direct quote	Domestic currency per unit of foreign currency For India, Rs. per USD is a direct quote.
Indirect quote	Foreign currency per unit of domestic currency It is the reciprocal of the corresponding direct quote.
Reciprocal quote	A/B = 1 / (B/A) Use consistent bid/ask treatment when spreads are given.
Cross rate	If A/B and B/C are aligned, then A/C = (A/B) x (B/C) First orient quotes so the common currency cancels.
Covered parity form	Forward = Spot x (1 + domestic rate x t) / (1 + foreign rate x t) Use compatible day-count and rate conventions.

Bid-ask rule: the dealer buys at the bid and sells at the ask. For reciprocal two-way quotes, invert and swap the sides.

Fast reasonableness checks

Situation	Expected direction
Coupon rate > required yield	Bond normally trades above par
Coupon rate < required yield	Bond normally trades below par
Yield rises	Fixed-rate bond price falls
Time to maturity/duration rises	Price sensitivity generally rises

4. Cost of Capital, Leverage and Investment Decisions

Component costs and WACC

After-tax cost of debt	Kd(after tax) = Kd(before tax) x (1 - T) Use the debt yield or question-specified cost before tax.
Irredeemable preference cost	Kp = Annual preference dividend / Net proceeds Preference dividend is not adjusted for corporate tax in the standard formula.
Dividend-growth equity cost	Ke = D1/P0 + g D1 is next-period dividend; g is constant growth.
CAPM equity cost	Ke = Rf + Beta(Rm - Rf) Rm - Rf is the market risk premium.
WACC	Sum of (Capital weight x Component cost) Use market or book weights as directed by the question.

Leverage

Operating leverage	DOL = Contribution / EBIT Measures EBIT sensitivity to sales around the measured level.
Financial leverage	DFL = EBIT / EBT With only interest as the financing charge in the basic case.
Combined leverage	DCL = DOL x DFL = Contribution / EBT Measures EPS/profit sensitivity to sales in the simplified case.

Investment appraisal

Payback period	Years before recovery + Unrecovered amount / Next year's cash inflow For uneven inflows; ignores post-payback cash flows.
Accounting rate of return	Average accounting profit / Average investment x 100 Conventions vary. Use the denominator stated in the question.
Net present value	NPV = Sum[CF_t/(1+k)^t] - Initial outlay Accept an independent project when NPV > 0, subject to constraints.
Profitability index	PV of future cash inflows / Initial outlay PI > 1 corresponds to positive NPV in the basic case.
Internal rate of return	Rate r at which NPV = 0 Compare with the required return for a conventional project.
IRR interpolation	Lower rate + [Positive NPV/(Positive NPV + |Negative NPV|)] x Rate gap Approximation using two discount rates around the root.

Decision hierarchy: for mutually exclusive projects, NPV is normally the stronger value-addition criterion when NPV and IRR rankings conflict.

Trap check: use cash flows, not accounting profit, in NPV. Keep the initial outlay at time 0 unless the question specifies otherwise.

5. Working Capital and Costing

Working-capital formulas

Gross working capital	Total current assets A stock concept at a point in time.
Net working capital	Current assets - Current liabilities Can be positive, zero or negative.
Operating cycle	Raw material days + WIP days + Finished goods days + Receivable days - Payable days Include only components relevant to the question.
Inventory holding days	Average inventory / Relevant annual cost x 365 Use material consumed, production cost or COGS as appropriate.
Receivable days	Average receivables / Annual credit sales x 365 Use net credit sales where available.
Payable days	Average payables / Annual credit purchases x 365 Payables reduce the cash-conversion period.
Simplified WC need	Operating cost per day x Net operating-cycle days Then adjust for desired cash balance/margin if the question asks.

Marginal costing and CVP

Contribution	Sales - Variable cost Also = Fixed cost + Profit.
Contribution per unit	Selling price per unit - Variable cost per unit The denominator for break-even units.
P/V ratio	Contribution / Sales x 100 BEP sales = Fixed cost / P/V ratio in decimal.
Break-even units	Fixed cost / Contribution per unit Round up when a whole unit is required.
Break-even sales	Fixed cost / P/V ratio Use P/V ratio as a decimal, not a percentage number.
Margin of safety	Actual sales - Break-even sales MOS ratio = MOS / Actual sales x 100.
Target-profit units	(Fixed cost + Target profit) / Contribution per unit Use after-tax target only after appropriate tax adjustment.

Quick example: SP Rs. 100, variable cost Rs. 60, fixed cost Rs. 2,00,000. Contribution per unit = Rs. 40; P/V ratio = 40%; break-even = 5,000 units or Rs. 5,00,000 sales.

Standard costing variances

Material cost variance	(SQ x SP) - (AQ x AP) Favourable if standard cost exceeds actual cost.
Material price variance	AQ x (SP - AP) Uses actual quantity.
Material usage variance	SP x (SQ - AQ) Uses standard price.
Labour cost variance	(SH x SR) - (AH x AR) Total standard labour cost minus actual labour cost.
Labour rate variance	AH x (SR - AR) Uses actual hours.
Labour efficiency variance	SR x (SH - AH) Uses standard rate.

6. Exam Traps and a 15-Minute Warm-Up

Ten traps to check before pressing submit

#	Trap	What to verify
1	Rate-period mismatch	Annual rate used with monthly n, or vice versa.
2	Percentage as whole number	Use 0.12 in a formula when the rate is 12%, unless the formula is explicitly percentage-based.
3	Beginning vs end payment	Annuity due receives one extra period compared with ordinary annuity.
4	Average vs closing balance	Turnover and return ratios often require averages.
5	Profit vs cash flow	NPV uses incremental cash flows.
6	Coupon rate vs yield	Coupon determines cash payment; yield discounts the cash flows.
7	Contribution vs profit	Contribution first covers fixed cost; the remainder is profit.
8	Units vs sales value	Use contribution per unit for BE units; P/V ratio for BE sales.
9	Quote orientation	Reorient forex quotes so the common currency cancels.
10	Premature rounding	Keep extra decimals until the final answer.

15-minute pre-mock warm-up

Minutes	Task
0-3	Write SI, compound FV, ordinary-annuity PV and EMI from memory.
3-6	Write current ratio, quick ratio, ROCE and interest coverage.
6-9	Write contribution, P/V ratio, BE units, BE sales and margin of safety.
9-12	Write bond price logic, current yield and approximate YTM.
12-15	Write NPV, PI, WACC and the six material/labour variance formulas.

Use this sheet beside your first practice set. For the second set, remove it. A formula is examination-ready only when you can select and apply it without a prompt.

Sources and scope

The topic selection follows Paper III - Accounting & Financial Management for Bankers in the official IIBF JAIIB Rules and Syllabus 2026, especially accounting, ratios, interest and annuities, bond/YTM, forex arithmetic, capital structure, investment appraisal, working capital, standard costing and marginal costing.

Official syllabus:
https://www.iibf.org.in/documents/RulesSyllabus/2026/FlagshipCourses/21%20-%20JAIIB-Final_Exam_24.07.25_Final_23.02.2026.pdf

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