# Table of Contents



## Payroll Accounting

Payroll accounting involves the systematic computation and management of employee salaries within an organization. It includes calculati
statutory deductions.

**Key Definitions / Features:**

- **Basic Pay (BP):** The pay in the pay scale plus grade pay, excluding special pay.
- **Grade Pay (GP):** Additional pay based on employee designation and pay band.
- **Dearness Pay (DP):** Portion of Dearness Allowance merged with Basic Pay.
- **Dearness Allowance (DA):** Compensation for inflation, calculated as a percentage of (Basic Pay + Dearness Pay).
- **House Rent Allowance (HRA):** Amount paid to facilitate residential accommodation.
- **Transport Allowance (TRA):** Amount to facilitate commuting to the workplace.
- **Deductions:** Include Professional Tax, Provident Fund, Tax Deduction at Source (TDS), Loan Installments, and other statutory or organ

**Elements Used in Payroll Calculation:**

- **Basic Pay Earned (BPE):** Calculated as BP multiplied by the ratio of Number of Effective Days Present (NOEDP) to Number of Days ir
- **NOEDP:** Number of days in a month minus leave without pay and unauthorized absence.
- **Total Earnings (TE):** Sum of BPE, DA, HRA, and TRA.
- **Total Deductions (TD):** Sum of PF, TDS, Loan recovery, and other deductions.
- **Net Salary (NS):** Total Earnings minus Total Deductions.

**Illustrative Example:**

A payroll spreadsheet for 14 employees includes columns for employee details, attendance, pay components, deductions, and net salary. F

| Column | Column Heading | Abbrev Ref | First line shows Required Formula<br>Second line refers the cell content |
|---|---|---|---|
| A | Employee No | Emp No | Value entered directly |
| B | Employee Name | Emp Name | Value entered directly |
| C | Employee Type | Emp Type | Value entered directly |
| D | Deduction Days | Ded Days | Value entered directly |
| E | Basic Pay | BP | Value entered directly |
| F | No. of Effective Days Present | NOEP | = NODM – (Ded Days)<br>= $I$3-D12 |
| G | Basic Pay Earned | BPE | = BP * NOEP/NODM = E12*F12/$I$3 |
| H | Dearness Allowance | DA | = BPE * DA Rate (in %) = G12*$I$4 |
| I | House Rent Allowance | HRA | = If (Emp Typ = "Sup" then 40% of BPE else if (Emp Typ = "Nsup" then 30% of BPE else 0))<br>= IF(C12="Sup", G12*$I$5, IF(C12 ="Nsup", G12*$I$6,0)) |
| J | Transport Allowance | TRA | = If (Emp Typ = "Sup" then 1000 else if (Emp Typ = "Nsup" then 500 else 0))<br>= IF(C12="Sup",$I$7,IF(C12 ="Nsup",$I$8,0)) |
| K | Gross Salary | TE | = BPE + DA + HRA + TRA<br>= G12+H12+I12+J12 |
| N | Provident Fund | PF | = BPE * PF Rate (in %)<br>= G12*$I$9 |
| O | Tax Deduction at Source | TDS | Value entered directly |
| P | Loan Repayment Inst. | LOAN | Value entered directly |
| Q | Total Deductions | TD | = PF + TDS + LOAN= N12+O12+P12 |
| R | Net Salary | NS | = TE – TD= K12-Q12 |

*Figure 3.1: Spreadsheet Columns and the Cells Content in Spreadsheet shown in Figure 3.3 A*

| Variable/Type of Employee | Value in % or Fix Value | Remark |
|---|---|---|
| Dearness Allowance (DA) | 35% of Basic Pay | I4 |
| House Rent Allowance (HRA) –: | | |
| Supervisory Employee (Sup) | 40% of Basic Pay | I5 |
| Non-supervisory Employee (Nsup) | 30% of Basic Pay | I6 |
| Consultant or Contract Employee | Nil | |
| Provident Fund (PF) | 12% of BP +DA | I9 |

*Figure 3.2: Rules for Computing Some of Payroll Elements*

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | **Payroll fo** |
| 3 | | | No. of Days in a Mon | | |
| 4 | | | DA Rate Applicable fo | | |
| 5 | | | HRA Rate for Superv | | |
| 6 | | | HRA Rate for Non-su | | |
| 7 | | | Transport Allowance | | |
| 8 | | | Transport Allowance | | |
| 9 | | | PF Rate: | | |
| 10 | **Emp. No.** | **Emp Name** | **Emp Type** | **Ded Days** | **Basic Pay** |
| 11 | 101 | Sanjay | Sup | 1.5 | 1650 |
| 12 | 341 | Nimita | Sup | 0.0 | 3400 |
| 13 | 461 | Rohanlal | Sup | 0.0 | 1900 |
| 14 | 561 | Aishwarya | Sup | 3.0 | 2300 |
| 15 | 701 | Rohitkumar | Sup | 1.0 | 1500 |
| 16 | 941 | Kapildev | Sup | 0.0 | 4000 |
| 17 | 1061 | Anshuman | Sup | 4.0 | 3600 |
| 18 | 1181 | Sachin | Nsup | 0.0 | 950 |
| 19 | 1421 | Priyanka | Sup | 0.0 | 2300 |
| 20 | 1541 | Nargis | Nsup | 0.0 | 800 |
| 21 | 1661 | Ashok | Nsup | 0.0 | 850 |
| 22 | 1781 | Rajesh | Nsup | 0.5 | 900 |
| 23 | 2021 | Motilal | Cont | 0.5 | 2000 |

| | | | | | |
|---|---|---|---|---|---|
| 24 | 2141 | Balraj | Cnst | 2.0 | 2500 |
| 25 | | **Total** | | | |

*Figure 3.3 a : Partial Spreadsheet*

| | A | B | N |
|---|---|---|---|
| 2 | | | |
| 3 | | | |
| 10 | **Emp. No.** | **Emp Name** | **PF** |
| 11 | 101 | Sanjay | 1873.93 |
| 12 | 341 | Nimita | 4080.00 |
| 13 | 461 | Rohanls | 2280.00 |
| 14 | 561 | Aishwar | 2464.29 |
| 15 | 701 | Rohitku | 1735.71 |
| 16 | 941 | Kapildev | 4800.00 |
| 17 | 1061 | Anshun | 3702.86 |
| 18 | 1181 | Sachin | 1140.00 |
| 19 | 1421 | Priyank | 2760.00 |
| 20 | 1541 | Nargis | 960.00 |
| 21 | 1661 | Ashok | 1020.00 |
| 22 | 1781 | Rajesh | 1060.71 |
| 23 | 2021 | Motilal | 2357.14 |
| 24 | 2141 | Balraj | 2785.71 |
| 25 | | **Total** | **33020.36** |

*Figure 3.3 (b) : Partial Spreadshee*

**Practice Set:**

- Level 1: Define key payroll components such as Basic Pay, DA, and PF.
- Level 2: Calculate net salary given attendance, pay rates, and deductions for an employee.
- Level 3: Design a payroll template for a small organization including formulas for earnings and deductions.

**Answer Key:**

Answers should include clear calculations of Basic Pay Earned, Total Earnings, Total Deductions, and Net Salary with formula references and

**Quick Reference:**

- Net Salary = Total Earnings - Total Deductions
- Total Earnings = BPE + DA + HRA + TRA
- BPE = BP × (NOEDP / NODM)
- TD = PF + TDS + Loan + Other Deductions

**Glossary:**

- **Payroll:** The total amount paid to employees.
- **Gross Salary:** Total earnings before deductions.
- **Net Salary:** Salary payable after deductions.
- **Deduction:** Amount subtracted from gross salary.

## Asset Accounting

Asset accounting involves managing and calculating depreciation on fixed assets to reflect their consumption over time. It includes mainta

**Key Definitions / Features:**

- **Fixed Assets:** Long-term tangible and intangible resources like land, buildings, machinery, patents.
- **Depreciation:** Allocation of asset cost over its useful life to account for wear and tear.
- **Acquisition Cost:** Purchase price plus expenses like transportation and installation.
- **Salvage Value:** Estimated residual value at the end of asset life.
- **Year-to-date Depreciation:** Accumulated depreciation from asset use start to current year.

**Methods of Depreciation:**

### Straight Line Method (SLM)

Depreciation is charged evenly over the asset's useful life.

- Formula:
  Straight Line Depreciation = $\frac{\text{Acquisition Cost} - \text{Salvage Value}}{\text{Useful Life}}$
- Rate of Depreciation = $\frac{\text{Straight Line Depreciation}}{\text{Acquisition Cost} - \text{Salvage Value}} \times 100$%

**Example:** Depreciation calculation using Excel's SLN function with asset cost, salvage value, and life span.

$$\text{Straight Line Depreciaion} = \frac{\text{Total Depreciable Amount}}{\text{Expected Useful Life}}$$

$$\text{Rate of Depreciaion} = \frac{\text{Straight Line Depreciation}}{\text{Total Depreciable Amount}} \times 100$$

| *Column* | *Column Heading* | *Abbrev Ref* | *First line shows Required Formula<br>Second line refers the cell content* |
|---|---|---|---|
| A | Asset Name | Asset Name | Value entered directly |
| B | Date of Purchase | Pur. Date | Value entered directly |
| C | Date of Installation | Inst. Date | Value entered directly |
| D | Cost of Purchase | Pur. Cost | Value entered directly |
| E | Installation Expenses | Inst. Exp. | Value entered directly |
| F | Pre-operating Expenses | Pre-op Exp | Value entered directly |
| G | Cost to Use | Cost to Use | = (Cost of Purchase) + (Installation Expenses) + (Pre-operating Expenses) = D5+E5+F5 |
| H | Salvage Value | Salvage Val | Value entered directly |
| I | Life of Asset in Years | Life in Yrs | Value entered directly |
| K | Depreciation Amount | Depr. | =SLN(G5,H11,I11) |

*Figure 3.4: Column Items and their contents referred to in the Spreadsheet*

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | M/s GUNGUN Ltd. | | | | | | |
| 2 | Calculation of Depreciation for the Financial Year 2008-09 (SLM Method) | | | | | | |
| 3 | | Year-Beg-Dt | 01-Apr-08 | | Year-End Dt | 31-Mar-09 | |
| 4 | Asset Name | Purchase Date | Installation Date | Purchase Cost | Installation Expenses | Pre-Operation Expenses | Cost to Use |
| 5 | CNC Machine | 11-Jul-08 | 17-Jul-08 | 877000 | 11000 | 3000 | 891000 |
| 6 | Packing Machine | 03-May-06 | 07-May-06 | 123000 | 8000 | 2500 | 133500 |

*Figure 3.5(a) : Partial Spreadsheet Columns for Calculation of Depreiation by SL Method*

| | H | I | J | K |
|---|---|---|---|---|
| 7 | M/s GUNGUN Ltd. | | | |
| 8 | Calculation of Depreciation for the Financial Year 2008-09 (SLM Method) | | | |
| 9 | Total No of Days | 365 | | |
| 10 | Asset Name | Salvage Value | Life in Years | Allowed Depreciation | Depreciation |
| 11 | CNC Machine | 45000 | 7 | 100% | 120857.14 |
| 12 | Packing Machine | 17000 | 7 | 100% | 16642.86 |

*Figure 3.5(b) : Partial Spreadsheet Columns for Calculation of Depreciation by SL Method*

## Written Down Value (WDV) Method

Depreciation is charged on the reducing book value of the asset each year, also called Declining Balance Method.

- Excel's DB function is used with parameters: cost, salvage value, life, period, and months in first year.

| *Column* | *Parameter* | *Explanation* |
|---|---|---|
| G | Cost | Initial cost of the asset |
| H | Salvage | Salvage value |
| I | Life | Life (in years) of the asset |
| J | Period | Period (in years) for which the depreciation is calculated |
| K | Month | No. of months in the 1st year |

*Figure 3.6: Column Items and their contents referred to in the Spreadsheet*

| Column | Column Heading | Abbre. Ref | First line shows Required Formula<br>Second line refers the cell content |
|---|---|---|---|
| A | Asset Name | Asset Name | Value entered directly |
| B | Date of Purchase | Pur. Date | Value entered directly |
| C | Date of Instalation | Inst. Date | Value entered directly |
| D | Cost of Purchase | Pur. Cost | Value entered directly |
| E | Instalation Expenses | Inst. Exp. | Value entered directly |
| F | Pre-operating Expenses | Pre-op Exp | Value entered directly |
| G | Cost to Use | Cost to Use | = (Cost of Purchase) + (Instalation Expenses) + (Pre-operating Expenses)<br>= D5+E5+F5 |
| H | Salvage Value | Salvage Val | Value entered directly |
| I | Life of Asset in Years | Life in Yrs | Value entered directly |
| J | Period (in Years) for which Depr. is to be computed | Period | If (Instalation of asset was done after March) then take (Current Year) – (Year of Instalation) else take one addl. Year.<br>= IF (MONTH(C5) > 3,(YEAR($F$3)-YEAR(C5)),(YEAR($F$3)-YEAR(C5))+1) |
| K | Months in 1st Year (i.e. the year of installation) | Months in 1st Yr | No. of months between (Yr-End-Dt in 1st Yr) & (Inst.Date)<br>= ROUND((L5-C5)/30,0) |
| L | Year-end Date in 1st Year (Reqd. to compute column-K) | Yr-End-Dt in 1st Yr | If (Inst. Date) was Between Jan and Mar, Take it as 31st Mar of (Year of Inst. Date) Else Take it as Next Year.<br>= IF(AND(MONTH(C5)>0,MONTH(C5) <4), DATE(YEAR(C5),3,31), DATE(YEAR(C5)+1,3,31)) |
| M | Depreciation | Depr. | Parameters of DB function as explained above<br>= DB(G5,H5,I5,J5,K5) |

*Figure 3.7: Column Items and their Contents used in Spreadsheet (in Figure 3.8 a and b)*

| | A | H | I |
|---|---|---|---|
| 1 | | | M/s |
| 2 | Calculation of Depreciation for t | | |
| 3 | | Year-Beg-Dt | 01-Apr- |
| 4 | Asset Name | Purchase Date | Installati Date |
| 5 | CNC Machine | 11-Jul-08 | 17-Jul-0 |
| 6 | Packing Machine | 03-May-06 | 07-May-0 |

*Figure 3.8 a : Partial Spreadsheet Columns*

| | A | B | C |
|---|---|---|---|
| 1 | | | M/s C |
| 2 | Calculation of Depreciation for th | | |
| 10 | Asset Name | Salvage Value | Life in Years |
| 11 | CNC Machine | 45000 | 7 |
| 12 | Packing Machine | 17000 | 7 |

*Figure 3.8 b : Partial Spreadsheet Columns*

**Schedule Forming Part of the Balance Sheet:**

Assets and depreciation details are organized in schedules showing gross block, additions, deductions, depreciation, and net block values f

| Column | Column Heading | Under | First line shows Required Formula<br>Second line refers the cell content |
|---|---|---|---|
| A | Description | | Value entered directly |
| B | As at Apr 1, 2008 | Gross Block | Value entered directly |
| C | Additions/Adjustments | Gross Block | Value entered directly |
| D | Deductions/Adjustments | Gross Block | Value entered directly |
| E | As at Mar 31, 2009 | Gross Block | = Op. Bal + Additions/Adjustments<br>= B8+C8-D8 |
| F | As at Apr 1, 2008 | Depreciation | Value entered directly |
| G | Additions | Depreciation | Value Transferred from Depreciation Computation Spreadsheet |
| H | Deductions | Depreciation | Value entered directly |
| I | As at Mar 31, 2009 | Depreciation | = Op. Bal + Additions – Deductions<br>= F8+G8-H8 |
| J | As at Apr 1, 2008 | Net Block | = Gross Block – Depreciation as on Apr 1, 2008<br>= B7–F7 |
| K | As at Mar 31, 2009 | Net Block | = Gross Block – Depreciation as on Mar 31, 2009<br>= E7-I7 |

*Figure 3.9: Column Items and their Contents used in Spreadsheet (in Figure 3.10 a and b)*

| | A | B |
|---|---|---|
| 1 | | M/s GU |
| 2 | Schedule Forming Part of the B | |
| 3 | Fixed Assets | |
| 4 | Description | |
| 5 | | As on Apr 1, 2008 |
| 6 | Building | 12081.00 |
| 7 | Plant & Machinery | 13942.00 |
| 8 | Office & Other Equipment | 2894.00 |
| 9 | Furniture & Fixtures | 1681.00 |
| 10 | Vehicles | 927.00 |

*Figure 3.10 a: Spreadsheet Containing F*



| | A | F | G |
|---|---|---|---|
| 12 | | | M/s |
| 13 | Schedule Forming Part of th | | |
| 14 | Fixed Assets | | |
| 15 | Description | | De |
| 16 | | As on Apr 1, 2008 | Additions |
| 17 | Building | 1812.15 | 604.0 |
| 18 | Plant & Machinery | 4182.60 | 166.9 |
| 19 | Office & Other Equipment | 868.20 | 350.7 |
| 20 | Furniture & Fixtures | 504.30 | 245.8 |
| 21 | Vehicles | 370.80 | 277.2 |

Figure 3.10 b: Spreadsheet Showing Dep

**Practice Set:**

- Level 1: Define fixed assets and explain the need for depreciation.
- Level 2: Calculate depreciation using SLM and WDV methods for given asset data.
- Level 3: Prepare a depreciation schedule for multiple assets using spreadsheet formulas.

**Answer Key:**

Answers should include stepwise depreciation calculations, formula usage, and preparation of asset schedules with clear presentation.

**Quick Reference:**

- SLM Depreciation = $\frac{\text{Acquisition Cost} - \text{Salvage Value}}{\text{Useful Life}}$
- WDV Depreciation calculated on reducing balance using DB function.
- Net Block = Gross Block - Accumulated Depreciation

**Glossary:**

- **Asset Register:** Record of all fixed assets owned by the organization.
- **Gross Block:** Total cost of assets before depreciation.
- **Net Block:** Asset value after deducting accumulated depreciation.
- **Salvage Value:** Residual value at asset life end.

## Loan Repayment Schedule

Loan repayment involves calculating periodic instalments to repay borrowed money (principal) with interest over a specified period. Spread

**Key Definitions / Features:**

- **Principal:** The original amount borrowed.
- **Interest Rate:** The cost of borrowing expressed as a percentage.
- **Loan Period:** Duration over which the loan is repaid.
- **Instalments:** Periodic payments made to repay the loan.
- **PMT Function:** Excel function to calculate payment amount for a loan based on rate, number of periods, present value, future value,

**PMT Function Parameters:**

- Rate: Interest rate per period.

- Nper: Total number of payment periods.
- Pv: Present value or loan amount.
- Fv: Future value, usually zero (loan fully repaid).
- Type: Payment timing (0 = end of period, 1 = beginning).

**Illustrative Examples:**

1. Loan of Rs. 1,00,000 at 10% interest for 2 years, repaid in 24 monthly instalments.

2. Loan of Rs. 2,50,000 at 11% interest for 3 years, repaid in 36 monthly instalments.

| *Parameter* | *Explanation* |
|---|---|
| Rate | Interest rate per period for the loan |
| Nper | Total number of payments for the loan. Its unit (e.g. year) should match with the unit of the interest rate. |
| Pv | Present value, i.e. the loan amount |
| Fv | Future value, which is taken as 0, is the balance at the end of the loan period |
| Type | Whether payment is made at the beginning (value=1) or at the end (value=0) of the period |

*Figure 3.11 Explanation of Parameters of Excel's PMT Function*

| *Column* | *Column Heading* | *First line shows Required Formula Second line refers the cell content* |
|---|---|---|
| A | Loan Amt. | Value entered directly |
| B | Loan Disbursement Date. | Value entered directly |
| C | Period of Loan (in Yrs). | Value entered directly |
| D | Rate of Interest. | Value entered directly |
| E | Future Value. | Value entered directly |
| F | Yearly Installment Amt. | = PMT(D6,C6,-A6,0,1) |
| G | Monthly Installment Amt. | =F6/12 |

*Figure 3.12: Column Items and their Contents in Spreadsheet*

| | A | B | C |
|---|---|---|---|
| 1 | | | Happy E |
| 2 | | | Loan Repay |
| 3 | | | |
| 4 | Loan Amt | Loan Disbursement Date | Period of Loan (in Yrs) |
| 5 | 100000 | 01-Apr-07 | 2 |
| 6 | 250000 | 15-May-08 | 3 |

*Figure 3.13: Spreadsheet Conte*

**Practice Set:**

- Level 1: Define loan-related terms such as principal, interest rate, and instalment.
- Level 2: Calculate monthly instalment for a given loan using PMT function.
- Level 3: Prepare a loan repayment schedule for a multi-year loan with varying interest rates.

**Answer Key:**

Answers should include detailed calculations using PMT function parameters, stepwise instalment computations, and clear presentation of

**Quick Reference:**

- Loan Instalment = PMT(rate, nper, -pv, fv, type)
- Future Value (FV) = 0 for fully repaid loans

**Glossary:**

- **Principal:** Original loan amount.
- **Interest Rate:** Percentage cost of borrowing.
- **Instalment:** Periodic loan repayment amount.
- **PMT Function:** Excel function to calculate loan payments.