I. DEPRECIATION METHODS

Shortly after starting the Video Showcase, Linda invested in television repair diagnostic equipment valued at $16,000 with $1,000 residual value and useful life of 5 years. Linda expected to make 5,000 repair transactions over 5 years with 1,000 transactions the first year. Calculate 5 years of depreciation using the following methods:

**STRAIGHT LINE METHOD**

\[
\begin{align*}
\text{Cost} & - \text{Residual Value} \\
\text{Useful Life} & \\
= & $16,000 - $1,000 \\
5 \text{ years} & \\
= & $15,000 \\
5 \text{ years} & \\
= & $3,000/\text{year}
\end{align*}
\]

**SUM-OF-THE-YEARS-DIGITS METHOD**

\[
\begin{align*}
D & = \frac{n \text{ th} / \Sigma n}{\Sigma n} (\text{Cost} - \text{Residual Value}) \\
\Sigma n & = 1 + 2 + 3 + 4 + 5 = 15 \\
5/15 & (16,000 - 1,000) = 5,000 \\
4/15 & (16,000 - 1,000) = 4,000 \\
3/15 & (16,000 - 1,000) = 3,000 \\
2/15 & (16,000 - 1,000) = 2,000 \\
1/15 & (16,000 - 1,000) = 1,000
\end{align*}
\]

**DOUBLE DECLINING BALANCE METHOD**

\[
\begin{align*}
D(2/n) & (\text{Cost} - \text{Accumulated Depreciation}) \\
\text{First Year} & = \frac{2}{5} (16,000 - 0) \\
& = 0.4 (16,000) = 6,400 \\
\text{Second Year} & = 0.4 (16,000 - 6,400) = 3,840 \\
\text{Third Year} & = 0.4 (16,000 - 10,240) = 2,304 \\
\text{Fourth Year} & = 0.4 (16,000 - 12,544) = 1,382 \\
\text{Fifth Year} & = 16,000 - (12,544 + 1,382) = 2,074 \\
$2,074 - $1,000 residual value equals & \\
\text{Final Year Equals} & $1,074
\end{align*}
\]

**UNITS OF PRODUCTION METHOD**

\[
\begin{align*}
\text{Dep./Unit} & = \frac{\text{Cost-Residual Value}}{5,000} = $3/\text{Unit} \\
\text{First Year Depreciation} & = (\text{Units Produced}) \times \text{Dep./Unit} = 1,000 \times (3) = $3,000
\end{align*}
\]

**PARTIAL DEPRECIATION USING STRAIGHT LINE METHOD**

\[
\begin{align*}
\text{First Year Dep.} & = \frac{4}{12} (16,000 - 1,000) = 3,000 \\
\text{Years 2, 3, 4 and 5} & = 3,000/\text{year} \\
\text{Year 6} & = 3,000 - 1,000 - 2,000
\end{align*}
\]

II. REVISING DEPRECIATION

Suppose after 3 years, the estimated useful life of the television diagnostic equipment described in Part I was increased from 5 to 6 years. Calculate the remaining depreciation per year using the Straight Line Method and a Jan. 1st purchase date.

\[
\begin{align*}
\text{Cost} & = $16,000 \\
\text{Less 3 years Depreciation} & = 9,000 \\
\text{Book Value} & = 7,000 \\
\text{Depreciation} & = \frac{\text{Book Value} - \text{Residual Value}}{\text{Remaining Life}} \\
& = \frac{7,000 - 1,000}{3} = 2,000 \\
\text{Answer:} & $2,000/\text{year}
\end{align*}
\]

III. EXTRAORDINARY REPAIRS AND BETTERMENTS

Assume the revision in Part II had not taken place. Suppose that in the process of making Ordinary Repairs after three years of use, Linda decided to upgrade her television diagnostic equipment. The total cost was $2,000 and remaining Useful Life increased from 2 to 4 years. Assume Straight Line Method, calculate depreciation per year.

\[
\begin{align*}
\text{Cost} & = $16,000 \\
\text{Less 3 years Depreciation} & = 9,000 \\
\text{Book Value} & = 7,000 \\
\text{Extraordinary Repairs} & = 2,000 \\
\text{Adjusted Book Value} & = 9,000 \\
\text{Depreciation} & = \frac{\text{Book Value} - \text{Residual Value}}{\text{Remaining Life}} \\
& = \frac{9,000 - 1,000}{4} = 2,000 \\
\text{Answer:} & $2,000/\text{year}
\end{align*}
\]

A58