1. Elmer Co. issued $800,000 of 3 year, 8% bonds dated January 1st, 2021, at 100. Interest is payable semiannually on January 1st and July 1st. Elmer Co. has a December 31 year end.

When bonds are issued at “100”, that means the bond is being issued at par value. Par value means the bond is being issued at its face value. Par value means that the bond rate and the market rate are exactly the same.

Required:
Give the general journal entry for:
A) Date of issuance of the bond,
B) The first interest payment date and \( I = PRT = \$800,000 \times 0.08 \times 6/12 = \$32,000 \)
C) The adjusting entry on December 31 for the accrued interest.

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2. Helm Co. issues $500,000 of 3 year, 6% bonds at 97. Prepare the journal entry to record the sale of these bonds on March 1, 2021.
Because the bond is being issued at 97, this percent is less than 100, so, the bond is being issued at a discount. The bond is being issued for less value than the face value. So, a discounts means that we are issuing our bond at a rate that is less than the market rate. So, we must give a discount to entice the bond market buyers to buy the bonds because our rate is lower than the market rate.
Issue Price = Face Value x % = $500000 x 0.97 = $485000

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3. ArbCo issues $600,000 of 5 year, 5% bonds at 102. Prepare the journal entry to record the sale of these bonds on May 1, 2021.
So, 102 means that we are issuing the bond for a premium because our bond rate is better than the market rate. So, the bond market buyers must pay a premium to buy our bonds because our bonds have a better interest rate than the market rate.
Issue Price = Face Value x % = $600000 x 1.02 = $612000

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4. Gleason Co. issued $1,800,000 of 8%, 30 year bonds on January 1\textsuperscript{st} of 2021. The bonds were dated January 1 and pay interest annually on January 1. The bonds are secured with real estate holdings. The market interest rate was 6\% for these bonds. Gleason Co.’s year end is December 31\textsuperscript{st}

**Required:**

A) Calculate the issue price of the bond. (Round to the nearest dollar)

\begin{align*}
N &= \text{Number of Interest Payments} = \text{Years} \times \text{P/Y} = 30 \times 1 = 30 \\
I/Y &= \text{Market Rate} = 6\% \\
PV &= \text{Issue Price} = \text{What we are computing} \\
PMT &= \text{Interest Payments ($)} = I = PRT = 1,800,000 \times 0.08 \times 1 = 144,000 \\
P &= \text{Face Value of the Bond} = 1,800,000 \\
R &= \text{Bond Rate} = 8\% \\
T &= \text{Term (Time)} = 12/12 = 1 \\
FV &= \text{Face Value} = 1,800,000 \\
2^{\text{nd}} I/Y \\
P/Y 1 \text{ Enter} \\
C/Y 1 2^{\text{nd}} \text{ CPT} \\
2^{\text{nd}} PV &= 2,295,533.92 \text{ round to the nearest dollar} = 2,295,534
\end{align*}

B) Record the bond issuance.

\begin{tabular}{|c|c|c|c|}
\hline
Date & Account Titles and Explanations & REF & Debit & Credit \\
\hline
Jan 1 & Cash & 2295534 & & \\
& Bonds Payable & & 2295534 & \\
\hline
\end{tabular}
C) Calculate the interest expense for the first two interest payments using the effective interest method. (Round to the nearest dollar)

\[ I = PRT \]

\[ I = \text{Interest Expense} \]

\[ P = \text{Issue Price (First interest payment only). After the first interest payment the } P \text{ will become the Carrying Amount.} \]

\[ \text{Carrying Amount} = \text{Previous Carrying Amount} - \text{Premium Amortization} \]

\[ R = \text{Market Rate} \]

\[ T = \text{Term (Time)} \]

**First Interest Payment:**

\[ P = \text{Issue Price} = 2295534 \]

\[ R = 6\% \]

\[ T = 1 \]

\[ I = 2295534 \times 0.06 \times 1 = 137732.04 \text{ round to the nearest dollar} = \$137732 \]

Interest Expense (Debit) = \$137732

Interest Paid (Credit) = PMT = \$144000

Premium Amortization = Interest Paid – Interest Expense

\[ \$144000 - \$137732 = \$6268 \]

Premium Amortization = Bonds Payable (Debit) in the journal entry = \$6268

**Second Interest Payment:**

The first step is to update the carrying amount of the bonds payable after the last interest payment.

\[ \text{Carrying Amount} = \text{Previous Carrying Amount} - \text{Premium Amortization} \]

Previous Carrying Amount = \$2295534

Premium Amortization = \$6268

Carrying Amount = \$2295534 - \$6268 = \$2289266

\[ P = \text{New Carrying Amount} = 2289266 \]

\[ R = 6\% \]

\[ T = 1 \]

\[ I = 2289266 \times 0.06 \times 1 = 137355.96 \text{ round to the nearest dollar} = \$137356 \]

Interest Expense = \$137356

Interest Paid = \$144000

Premium Amortization = \$144000 - \$137356 = \$6644

Premium Amortization = Bonds Payable = \$6644

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D) Record the accrual of interest on December 31st, 2021.

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E) Record the interest payment on January 1st, 2022.

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5. Mixer Co. issued $500,000 of 6%, 3 year bonds on January 1st, 2021. The bonds were dated January 1 and pay interest annually on January 1. The bonds are secured with real estate holdings. The market interest rate was 10% for these bonds. Mixer Co.'s year end is December 31st.

Required:
A) Calculate the issue price of the bonds. (Round to the nearest dollar)

\[
\begin{align*}
N & = 3 \\
\frac{I}{A} & = 10 \\
PV & = 450262.96 \text{ round to the nearest dollar} = 450263 \\
PMT & = I = PRT = 500000 \times 0.06 \times 1 = 30000 \\
FV & = 500000 \\
P/Y & = 1 \\
C/Y & = 1 \\
\end{align*}
\]

B) Record the bond issuance.

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C) Calculate the interest expense for the first two interest payments using the effective interest method. (Round to the nearest dollar)

**First Interest Payment:**

\[ P = 450263 \]
\[ R = 10\% \]
\[ T = 1 \]
\[ I = PRT = 450263 \times 0.10 \times 1 = 45026.30 \text{ round to the nearest dollar} = 45026 \]
\[ I = \text{Interest Expense (Debit)} = 45026 \]
\[ \text{Interest Paid (Credit)} = \text{PMT from the PV} = 30000 \]
\[ \text{Discount Amortization} = \text{Interest Expense} - \text{Interest Paid} = 45026 - 30000 = 15026 \]
\[ \text{Discount Amortization} = \text{Bonds Payable (Credit)} = 15026 \]

**Second Interest Payment:**

The first thing we have to do, is update the carrying amount of the bond.

\[ \text{Carrying Amount} = \text{Previous Carrying Amount} + \text{Discount Amortization} \]
\[ \text{Carrying Amount} = 450263 + 15026 = 465289 \text{ (now becomes the P)} \]
\[ I = PRT = 465289 \times 0.10 \times 1 = 56529.90 \text{ round to the nearest dollar} = 56530 \]
\[ I = \text{Interest Expense} = 56530 \]
\[ \text{Interest Paid} = 30000 \]
\[ \text{Discount Amortization} = 56530 - 30000 = 26530 \]
\[ \text{Discount Amortization} = \text{Bonds Payable} = 26530 \]

**D) Record the accrual of interest on December 31st, 2021.**

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**E) Record the interest payment on January 1st, 2022.**

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