ACCT 1211: Accounting I

Assignment 5 Answer Template

Question 1 (15 marks)

Amortization Expense Per Year

Year	Double Declining
Year 1	$ 33,600.00
Year 2	20,160.00
Year 3	12,096.00
Year 4	7,257.60
Year 5	2,886.40
Total Depreciation (of 5 yrs)	$75,999.99 ≈ 76,000

(Total depreciation was controlled to the extent that the final book value is not lower than the residual value of $24,000)

Double-Declining Balance:

Cost: $84,000

Residual: $24,000

Useful life: 5 years = SL rate = 1/5 = 20 % = DDB rate = 40 %

Year	Calculation	Depreciation ($)	Book Value End ($)
Year 1:	84,000 × 40 %	33,600.00	50,400.00
Year 2:	50,400 × 40 %	20,160.00	30,240.00
Year 3:	30,240 × 40 %	12,096.00	18,144.00
Year 4:	18,144 × 40 %	7,257.60	10,886.40
	Adjusted so BV = 24,000 (residual) → 10,886.40 − 24,000 = **2,886.40**	2,886.40	**24,000.00**

Journal Entries:

Date	particular	Debit	Credit
1, Yr 1	Depreciation Expense (Equipment)	33,600.00	
Dec 31, Yr 1	Accumulated Depreciation (Equipment)		33,600.00

Dec 31, Yr 2	Depreciation Expense (Equipment)	20,160.00	
Dec 31, Yr 2	Accumulated Depreciation (Equipment)		20,160.00
Dec 31, Yr 3	Depreciation Expense (Equipment)	12,096.00	
Dec 31, Yr 3	Accumulated Depreciation (Equipment)		12,096.00
Dec 31, Yr 4	Depreciation Expense (Equipment)	7,257.60	
Dec 31, Yr 4	Accumulated Depreciation (Equipment)		7,257.60
Dec 31, Yr 5	Depreciation Expense (Equipment)	2,886.40	
Dec 31, Yr 5	Accumulated Depreciation (Equipment)		2,886.40
1, Yr 1	Depreciation Expense (Equipment)	33,600.00	

Amortization Expense Per Year

Straight-Line:

Journal Entries:

Date:	**Particular**	**Debit**	**credit**
December 31, Year 1	Dr Depreciation Expense (Building)	15,000	
	Cr Accumulated Depreciation (Building)		15,000

Calculations:

Given:

- Cost = $460,000
- Residual value = $160,000
- Useful life = 20 years

Step 1: Calculate annual depreciation

$$\text{Depreciation Expense} = \frac{\text{Cost} - \text{Residual Value}}{\text{Useful Life}} = \frac{460{,}000 - 160{,}000}{20} = \frac{300{,}000}{20} = 15{,}000$$

Units-of-Production: Journal Entries:

Date:	Particular	Debit	credit
December 31, Year 1	Dr Depreciation Expense (Tugboat)	31,974	
	Cr Accumulated Depreciation (Tugboat)		31,974

3. Tugboat – Units-of-Production

Given:

- Cost = $850,000
- Residual value = $120,000
- Useful life = 100,000 hours
- Hours used in Year 1 = 4,380 hours

Step 1: Calculate depreciation per hour

$$\text{Depreciation per hour} = \frac{\text{Cost} - \text{Residual Value}}{\text{Total hours}} = \frac{850{,}000 - 120{,}000}{100{,}000} = \frac{730{,}000}{100{,}000}$$
$$= 7.30 \text{ per hour}$$

Step 2: Depreciation expense for Year 1

$$4{,}380 \times 7.30 = 31{,}974$$

Question 2 *(25 marks)*

Year-end = Dec 31 each year.

Year uses 365 days for partial-year depreciation/amortization.

For part (a) *straight-line*, the annual amount = (cost − residual) / useful life;

a. Straight-line amortization: Journal Entries:

Date	Accounts	Debit	Credit
Dec 31, Yr 1	Depreciation Expense — Forklift	2,194.52	
Dec 31, Yr 1	Accumulated Depreciation — Forklift		2,194.52
Dec 31, Yr 1	Depreciation Expense — Office Equipment	1,709.59	
Dec 31, Yr 1	Accumulated Depreciation — Office Equipment		1,709.59
Dec 31, Yr 3	Amortization Expense — Customer List	635.62	
Dec 31, Yr 3	Accumulated Amortization — Customer List		635.62

Calculations:

1) Forklift — purchased July 7, Year 1

- Cost = $42,000
- Residual = $6,000
- Useful life = 8 years
- Depreciable base = $42,000 − $6,000 = $36,000
- Annual depreciation = $36,000 / 8 = **$4,500.00** per year
- Days owned in Year 1: July 7 → Dec 31 = **178 days** (Jul 25 + Aug 31 + Sep 30 + Oct 31 + Nov 30 + Dec 31 = 178)
- Depreciation (Year 1) = $4,500.00 × (178 / 365)
  = $4,500.00 × 0.4876712329... = **$2,194.52**

2) Office equipment — purchased Sept 19, Year 1

- Cost: $70,000.
- $10,000 is the residual
- Ten years of useful life
- Depreciable base = $70,000 − $10,000 = $60,000
- Depreciation annually = $60,000/10 = $6,000.00

- Days owned in Year 1: Sept 19 → Dec 31 = **104 days** (Sep 12 + Oct 31 + Nov 30 + Dec 31 = 104)
  (Sep 19–30 = 12 days; plus, Oct/Nov/Dec = 31+30+31 = 92; total 12+92=104)
- Depreciation (Year 1) = $6,000.00 × (104 / 365)
  = $6,000.00 × 0.2849315068... = **$1,709.59**

3) Customer list (intangible) — purchased Nov 4, Year 1

- Cost = $12,000
- Amortizable life = 3 years → Annual amortization = $12,000 / 3 = **$4,000.00** per year
- Days owned in Year 1: Nov 4 → Dec 31 = **58 days** (Nov 4–30 = 27 days; Dec = 31; total 27+31 = 58)
- Amortization (Year 1) = $4,000.00 × (58 / 365)
  = $4,000.00 × 0.1589041096... = **$635.62**

PART B — Double-Declining Balance (DDB) method

b. Double-declining balance amortization:

Amortization Expense Per Year - Forklift

Year	Double Declining
Year 1	$ 5,120.55
Year 2	9,219.86
Year 3	6,914.90
Year 4	5,186.17

Double-Declining Balance: (Working notes)	
Year	calculations
Year 1	Year 1 (partial, Jul 7 → Dec 31 = 178 days): 42,000 × 25% × (178/365) = **5,120.55**
Year 2	BV at Jan 1, Yr2 = 42,000 − 5,120.55 = 36,879.45 Year 2 (full): 36,879.45 × 25% = **9,219.86**

Year 3	BV at Jan 1, Yr3 = 36,879.45 − 9,219.86 = 27,659.59 Year 3 (full): 27,659.59 × 25% = **6,914.90**
Year 4	BV at Jan 1, Yr4 = 27,659.59 − 6,914.90 = 20,744.69 Year 4 (full): 20,744.69 × 25% = **5,186.17**

Amortization Expense Per Year – Office Equipment

Year	Double Declining
Year 1	$ 3,989.04
Year 2	$13,202.19
Year 3	$10,561.75
Year 4	$ 48,449.40

Double-Declining Balance: (Working notes)	
Year	**calculations**
Year 1	DDB rate = 2 × (1/10) = 20.0% Year 1 (partial, Sept 19 → Dec 31 = 104 days): 70,000 × 20% × (104/365) = **3,989.04**
Year 2	BV at Jan 1, Yr2 = 70,000 − 3,989.04 = 66,010.96 Year 2 (full): 66,010.96 × 20% = **13,202.19**
Year 3	BV at Jan 1, Yr3 = 66,010.96 − 13,202.19 = 52,808.77 Year 3 (full): 52,808.77 × 20% = **10,561.75**
Year 4	BV at Jan 1, Yr4 = 52,808.77 − 10,561.75 = 42,247.02 Year 4 (full): 42,247.02 × 20% = **8,449.40**

Journal Entries:

Date	Accounts	Debit	Credit
Year 3			
Dec 31, Yr 3	Depreciation Expense — Forklift	6,914.90	
Dec 31, Yr 3	Accumulated Depreciation — Forklift		6,914.90
Dec 31, Yr 3	Depreciation Expense — Office Equipment	10,561.75	
Dec 31, Yr 3	Accumulated Depreciation — Office Equipment		10,561.75
Year 4			
Dec 31, Yr 4	Depreciation Expense — Forklift	5,186.17	
Dec 31, Yr 4	Accumulated Depreciation — Forklift		5,186.17
Dec 31, Yr 4	Depreciation Expense — Office Equipment	8,449.40	
Dec 31, Yr 4	Accumulated Depreciation — Office Equipment		8,449.40

Calculations:

Assumptions / method

- Double-declining balance (DDB) rate = 2 × (1 / useful life).
- Forklift: cost $42,000; residual $6,000; life 8 yrs → DDB rate = 25.0%.
- Office equipment: cost $70,000; residual $10,000; life 10 yrs → DDB rate = 20.0%.
- Year-1 partial depreciation was prorated by days (we use the previously determined Year-1 amounts).
- All amounts rounded to cents.

Step-by-step calculations (digit-by-digit)

1. Forklift (DDB rate 25%)

1. Year 1 (partial, July 7 to Dec 31 = 178 days):

   Year 1 dep = $42,000 × 25% × (178/365) = $5,120.55

2. Book value at Jan 1, Year 2 = $42,000 − $5,120.55 = $36,879.45

3. Year 2 (full year) dep = $36,879.45 × 25% = $9,219.86

4. Book value at Jan 1, Year 3 = $36,879.45 − $9,219.86 = $27,659.59

5. **Year 3 (full year) dep = $27,659.59 × 25% = $6,914.90**

6. Book value at Jan 1, Year 4 = $27,659.59 − $6,914.90 = $20,744.69

7. **Year 4 (full year) dep = $20,744.69 × 25% = $5,186.17**

(Checks: BV after Year4 = $20,744.69 − $5,186.17 = $15,558.52, still > residual $6,000.)

2. Office equipment (DDB rate 20%)

1. Year 1 (partial, Sept 19 → Dec 31 = 104 days):
   Year1 dep = $70,000 × 20% × (104/365) = $3,989.04
2. Book value at Jan 1, Year 2 = $70,000 − $3,989.04 = $66,010.96
3. Year 2 (full year) dep = $66,010.96 × 20% = $13,202.19
4. Book value at Jan 1, Year 3 = $66,010.96 − $13,202.19 = $52,808.77
5. **Year 3 (full year) dep = $52,808.77 × 20% = $10,561.75**
6. Book value at Jan 1, Year 4 = $52,808.77 − $10,561.75 = $42,247.02
7. **Year 4 (full year) dep = $42,247.02 × 20% = $8,449.40**
8. (Checks: BV after Year4 = $42,247.02 − $8,449.40 = $33,797.62, still > residual $10,000.)

Question 3 – Red's Bike Shop Transactions

Detailed Calculations (digit-by-digit & rounding to two decimals)

1) Allocation of $190,000.00 purchase on Mar. 1 (by relative market values)

- Market values: Land = $88,000.00; Building = $132,000.00
- Total market value = $88,000.00 + $132,000.00
  = $220,000.00

Land allocation

- Fraction for land = $88,000.00 ÷ $220,000.00
  = 88,000 ÷ 220,000
  = 0.4
- Amount = $190,000.00 × 0.4
  = 190,000 × 0.4
  = $76,000.00

Building allocation

- Fraction for building = $132,000.00 ÷ $220,000.00
  = 132,000 ÷ 220,000
  = 0.6
- Amount = $190,000.00 × 0.6
  = 190,000 × 0.6
  = $114,000.00
- **Check:** $76,000.00 + $114,000.00 = $190,000.00

2) Building depreciation — straight-line (Mar. 1 → Dec. 31 = 10 months)

- Cost (allocated) = $114,000.00
- Residual (salvage) = $14,000.00
- Useful life = 25 years

Annual depreciation (full year)

- Depreciable base = $114,000.00 − $14,000.00
  = $100,000.00
- Annual depreciation = $100,000.00 ÷ 25
  = 100,000 ÷ 25
  = $4,000.00 per year

Prorated for 10 months (Mar.1 – Dec.31)

- Fraction of year = 10 / 12 = 0.8333333...
- Depreciation = $4,000.00 × (10 / 12)
  = $4,000.00 × 0.8333333...
  = 4,000 × 0.8333333...
  = 3,333.333333... → round to two decimals = **$3,333.33**

3) Truck cost and depreciation — units-of-production method

Cost of truck (capitalized)

- Purchase price (Apr.15) = $10,500.00
- Racks installed (Apr.16 capital improvement) = $1,400.00
- Total truck cost = $10,500.00 + $1,400.00 = **$11,900.00**

Depreciable base

- Residual (salvage) = $3,900.00
- Depreciable base = $11,900.00 − $3,900.00
  = $8,000.00

Rate per kilometre (units-of-production)

- Estimated total kilometres = 120,000 km
- Rate = $8,000.00 ÷ 120,000 km
  = 8,000 ÷ 120,000
  = 0.0666666666666667 $/km (repeating 6)
- (Expressed to 10 decimal places for clarity: $0.0666666667 / km)

Kilometres driven in 2025

- Km driven = 9,000 km

Depreciation for 2025

- Depreciation = 9,000 km × $0.0666666667 / km
  = 9,000 × 0.0666666667
  = 600.0000003 → round to two decimals = **$600.00**
- **Check using exact fraction form:**
  Rate per km = $8,000 ÷ 120,000 = $8/120 = $1/15 = 0.066666...
  Depreciation = 9,000 × (1/15) = 9,000 ÷ 15 = 600.

4) June 30 garage costs (expense treatment)

- Oil change = **$35.00** → expensed to Vehicle Maintenance Expense
- Muffler replacement = **$425.00** → expensed to Vehicle Repairs Expense
- Cash paid = $35.00 + $425.00 = **$460.00**

Journal Entries:

Date	Particulars	Debit ($)	Credit
Mar. 1	Land — purchase allocation	76,000.00	
Mar. 1	Building — purchase allocation	114,000.00	

Mar. 1	Cash — paid for land & building		190,000.00
(Bought land and building for cash; cost distributed based on relative market values)			
Apr. 15	Truck (Vehicle) — purchase (used)	10,500.00	
Apr. 15	Cash — paid for truck		10,500.00
(Cash purchase of a used pickup truck)			
Apr. 16	Truck (Vehicle) — heavy-duty racks (capital improvement)	1,400.00	
Apr. 16	Cash — paid for racks		1,400.00
(Installed in heavy-duty racks on the truck (capital improvement)			
Jun. 30	Vehicle Maintenance Expense — Oil change	35.00	
Jun. 30	Vehicle Repairs Expense — Muffler	425.00	
Jun. 30	Cash — paid John's Garage		460.00
(John's garage was paid for an oil change and a new muffler)			
Dec. 31	Depreciation Expense — Building (10/12 of year)	3,333.33	
Dec. 31	Accumulated Depreciation (Building)		3,333.33
(Recorded building depreciation for 10 months straight line basis)			
Dec. 31	Depreciation Expense — Truck (9,000 km @ $0.0666667/km)	600.00	
Dec. 31	Accumulated Depreciation — Truck		600.00
(Depreciation charged to the account for a 9,000 km drive (units-of-production method)			

Question 4 – Building and Equipment Transactions (Years 6–7)

Journal Entries:

Date	Accounts	Debit	Credit
Jan 1, Yr 6	Building	84,000.00	
Jan 1, Yr 6	Cash		84,000.00
(Buy a building with cash)			
May 1, Yr 6	Equipment	25,000.00	
May 1, Yr 6	Cash		25,000.00
(Buy equipment with cash)			
Dec 31, Yr 6	Depreciation Expense — Building	8,400.00	
Dec 31, Yr 6	Accumulated Depreciation — Building		8,400.00
(Make a record of depreciation for the building)			
Dec 31, Yr 6	Depreciation Expense — Equipment	1,476.71	
Dec 31, Yr 6	Accumulated Depreciation — Equipment		1,476.71
(Make a depreciation entry for the equipment)			
Jun 30, Yr 7	Depreciation Expense — Equipment	1,090.96	
Jun 30, Yr 7	Accumulated Depreciation — Equipment		1,090.96
(showing the equipment depreciation for Year 7 up to date)			
Jun 30, Yr 7	Cash	21,000.00	
Jun 30, Yr 7	Accumulated Depreciation — Equipment	2,567.67	

Jun 30, Yr 7	Loss on Sale of Equipment	1,432.33	
Jun 30, Yr 7	Equipment		25,000.00
(Equipment was sold for $21,000 in cash)			
Dec 31, Yr 7	Depreciation Expense — Building	7,560.00	
Dec 31, Yr 7	Accumulated Depreciation — Building		7,560.00
(Register the building depreciation (Year 7 full year)			

Calculations:

1. Building (purchased Jan 1, Year 6)

Cost = $84,000; residual (salvage) = $4,000; life = 20 years; **double-declining balance**.

1. Straight-line rate = 1 / 20 = 0.05 (5.0%).
2. Double-declining rate = 2 × 0.05 = 0.10 (10.0%).

2. Year 6 (full year) depreciation (Jan 1 → Dec 31, Year 6):

Depreciation = $84,000 × 0.10 = $8,400.00

Book value at 31 Dec Year 6 = $84,000 − $8,400.00 = $75,600.00

3. Year 7 depreciation (full year) on building (for 12 months Year 7):

Beginning book value for Year 7 = $75,600.00

Depreciation = $75,600.00 × 0.10 = $7,560.00

(After Year 7 accumulated depreciation on building = 8,400.00 + 7,560.00 = 15,960.00; carrying value = 84,000 − 15,960.00 = 68,040.00, which is higher than salvage 4,000.)

4. Equipment (purchased May 1, Year 6)

Cost = $25,000; residual = $3,000; life = 10 years; **straight-line**, using days as basis.

1. Depreciable base = $25,000 − $3,000 = $22,000.00
2. Annual depreciation = $22,000 / 10 = $2,200.00 per year.
3. Per-day depreciation = $2,200.00 / 365 = $6.027397260273973... (do not report per-day in journal, but used to compute partial periods)

5. Year 6 partial (May 1 → Dec 31 Year 6):

Days owned in Year 6 = May 1 through Dec 31 = 245 days (May 31 + Jun 30 + Jul 31 + Aug 31 + Sep 30 + Oct 31 + Nov 30 + Dec 31 = 245).

Depreciation = $2,200.00 × (245 / 365)

= $2,200.00 × 0.6712328767123288...

= $1,476.7123287671234... → **round to $1,476.71**

Accumulated depreciation at 31 Dec Year 6 (equipment) = $1476.71.

Carrying value at 31 Dec Year 6 = $25,000.00 − $1,476.71 = **$23,523.29**

6. Year 7 to date (Jan 1 → Jun 30 Year 7) — depreciation to record before sale

Days Jan 1 → Jun 30 = 181 days (Jan 31 + Feb 28 + Mar 31 + Apr 30 + May 31 + Jun 30 = 181).

Depreciation = $2,200.00 × (181 / 365)

= $2,200.00 × 0.4958904109589041...

= $1,090.9589041... = round **to $1,090.96**

Total accumulated depreciation on equipment at sale (Jun 30 Year 7) = depreciation before the sale of $1,476.71 + Depreciation during the year $1,090.96 = **$2,567.67**

7. Carrying value at sale (Jun 30 Year 7) = $25,000.00 − $2,567.67 = **$22,432.33**

Sale proceeds = $21,000.00 cash → **Loss on sale** = carrying value − proceeds = $22,432.33 − $21,000.00 = **$1,432.33 (loss)**

Question 5 – Shula Company Transactions (Asset Disposals)

Journals Entries:

Date	Accounts	Debit	Credit
Jul 31, Yr 3	Depreciation Expense — Truck	6,650.00	
Jul 31, Yr 3	Accumulated Depreciation — Truck		6,650.00
(To record the delivery truck's depreciation for 7 months)			
Jul 31, Yr 3	Cash	25,000.00	
Jul 31, Yr 3	Accumulated Depreciation — Truck	25,650.00	
Jul 31, Yr 3	Loss on Sale of Truck	6,350.00	
Jul 31, Yr 3	Truck (cost)		57,000.00
(Sale of a delivery truck)			
Aug 31, Yr 3	Depreciation Expense — Equipment	2,000.00	
Aug 31, Yr 3	Accumulated Depreciation — Equipment		2,000.00
(Keep track of equipment depreciation until the sale date)			
Aug 31, Yr 3	Cash	9,000.00	
Aug 31, Yr 3	Accumulated Depreciation — Equipment	8,000.00	
Aug 31, Yr 3	Equipment (cost)		15,000.00
Aug 31, Yr 3	Gain on Sale of Equipment		2,000.00
(Sale of equipment)			

Calculations

1) Delivery truck (sold July 31, Year 3)

- Cost = $57,000.
- Accumulated depreciation at Dec 31, Year 2 = $19,000.
- Book value at Jan 1, Year 3 = 57,000 − 19,000 = **$38,000**.
- Declining-balance rate = 30% (used for the book value at the beginning of the year).
- Annual depreciation (Year 3 full year) = 38,000 × 30% = 38,000 × 0.30 = **$11,400.00**.
- Months owned in Year 3 before sale (Jan 1 → July 31) = **7 months**.
- Depreciation to July 31 = 11,400 × (7/12) = 11,400 × 0.5833333333... = **$6,650.00**.
- Accumulated depreciation at sale = 19,000 + 6,650.00 = **$25,650.00**.
- Carrying value at sale = 57,000 − 25,650.00 = **$31,350.00**.

- Sale proceeds = $25,000.00 = **Loss** = Carrying value − Proceeds = 31,350.00 − 25,000.00 = **$6,350.00 (loss)**.

2) Equipment (purchased Jan 1, Year 1; sold Aug 31, Year 3)

- Cost = $15,000. Estimated residual value = $3,000. Useful life = 4 years.
- Depreciable base = 15,000 − 3,000 = **$12,000**.
- Annual straight-line depreciation = 12,000 / 4 = **$3,000.00 per year**.
- Depreciation expense last recorded Dec 31, Year 2 → accumulated to those date = 3,000 × 2 years = **$6,000.00**.
- Months in Year 3 before sale (Jan 1 → Aug 31) = **8 months**.
- Depreciation to Aug 31 = 3,000 × (8/12) = 3,000 × 0.6666666667 = **$2,000.00**.
- Accumulated depreciation at sale = 6,000 + 2,000 = **$8,000.00**.
- Carrying value at sale = 15,000 − 8,000 = **$7,000.00**.
- Proceeds Sale = $9,000.00 → **Gain** = Proceeds − Carrying value = 9,000.00 − 7,000.00 = **$2,000.00 (gain)**.