Programme Name: **BCS HONS**

Course Code: **CSC 2330**

Course Name: **Software Project Management**

Internal Examination

Date of Submission: **1/18/2020**

Submitted By:

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Semester**: Third Semester**

Intake**: September 2019**

Submitted To:

Faculty Name**: Satyam Paudel**

Department**: LMS**

1. Perform a financial analysis of a project assuming that the projected costs and benefits for this project are spread over four years as follows:

   Estimated costs and benefits are given below.

   Use an 8 percentage discount rate, round the discount factors to two decimal places.

Discount rate	8%			
	Year 0	Year 1	Year 2	Year 3
Costs	1,40,000	40,000	40,000	40,000
Benefits	0	2,00,000	2,00,000	2,00,000

   a. Create a financial template on the paper to calculate Discount Factor, Discounted Cost and Discounted Benefits for each year.
   b. Calculate Net present Value .
   c. Calculate Return on Investment (ROI).

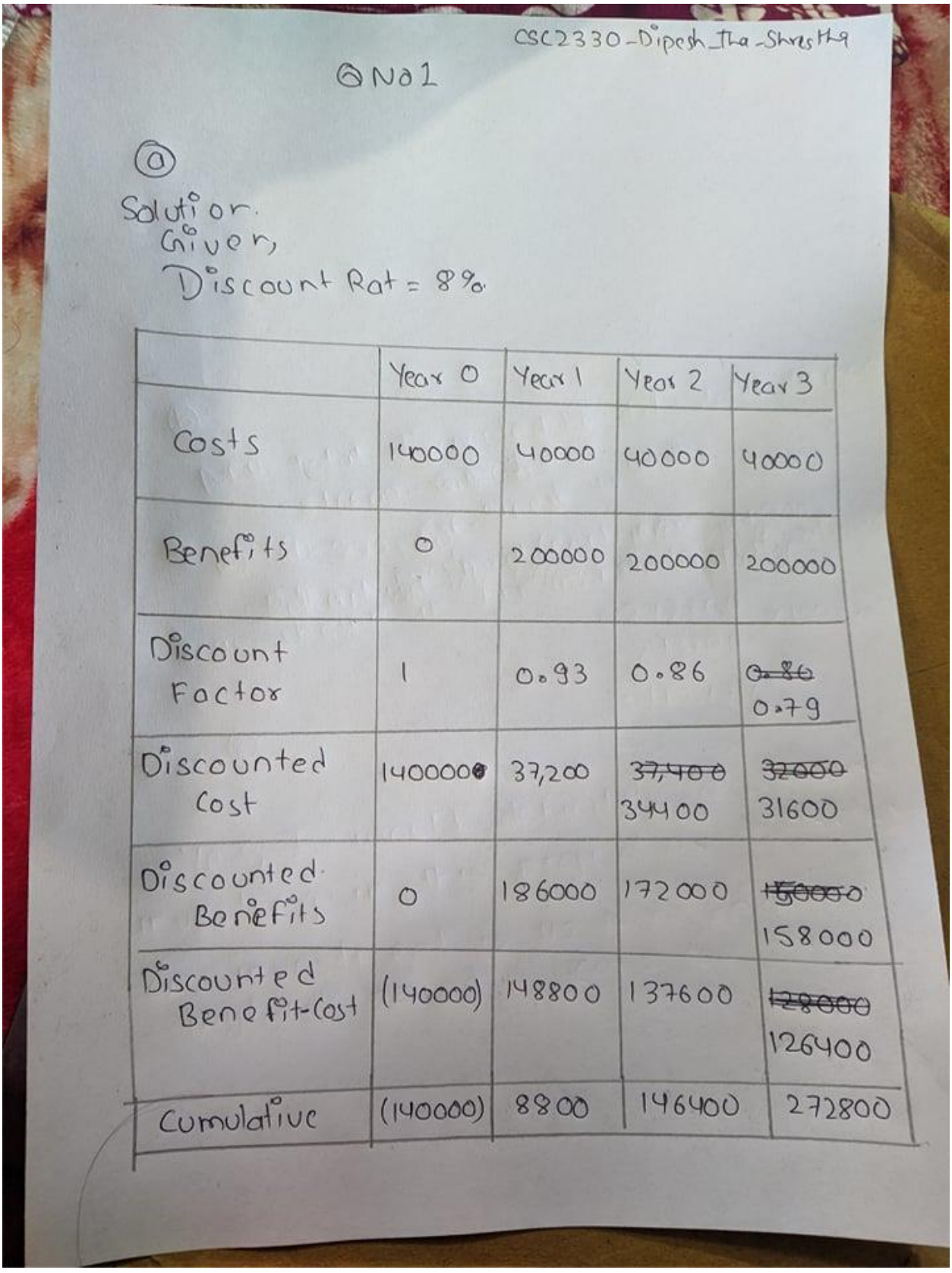
(2 marks)

   d. Calculate the year in which the payback occurs.

(2 marks)

   e. Suggest whether you would recommend investing in this project with the justification

Answer:


CSC2330-Dipesh_Tha-Shrestha
No 1
(a)
Solution
Given,
Discount Rat = 8%.
Year 0
Year 1
Year 2
Year 3
Costs
140000
40000
40000
40000
Benefits
0
200000
200000
200000
Discount Factor
1
0.93
0.86
~~0.86~~ 0.79
Discounted Cost
1400000
37,200
~~37,400~~ 34400
~~32000~~ 31600
Discounted Benefits
0
186000
172000
~~150000~~ 158000
Discounted Benefit-Cost
(140000)
148800
137600
~~128000~~ 126400
Cumulative
(140000)
8800
146400
272800

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(b)

NPV = Total discounted benefit - total discountcost

= 516000 - 243200

= 272800.

(c)

Return on Investment (ROI) = $\frac{NPV}{Dis\ cost} \times 100\%$.

= $\frac{272800}{243200} \times 100\%$.

= 112.17%.

(d)

The Payback occurs in year 1 (140000+8800) as shown in financial template above.

(e)

Yes, I would definitely recommend investing in this project as the return or investment is 112.17% and the payback period is year 1 too.

2. Assume that you have completed three months of the project. The BAC was $200,000 for the six-month project. You can also make the following assumptions:

   PV= $120,000

   EV= $100,000

   AC= $90,000

a. Calculate Cost variance.

(2 marks)

b. Calculate Schedule variance for the project.

(2 marks)

c. Calculate the Cost Performance Index.

(2 marks)

d. Calculate the Schedule Performance Index.

(2 marks)

e. Calculate the Estimate at Completion.

(2 marks)

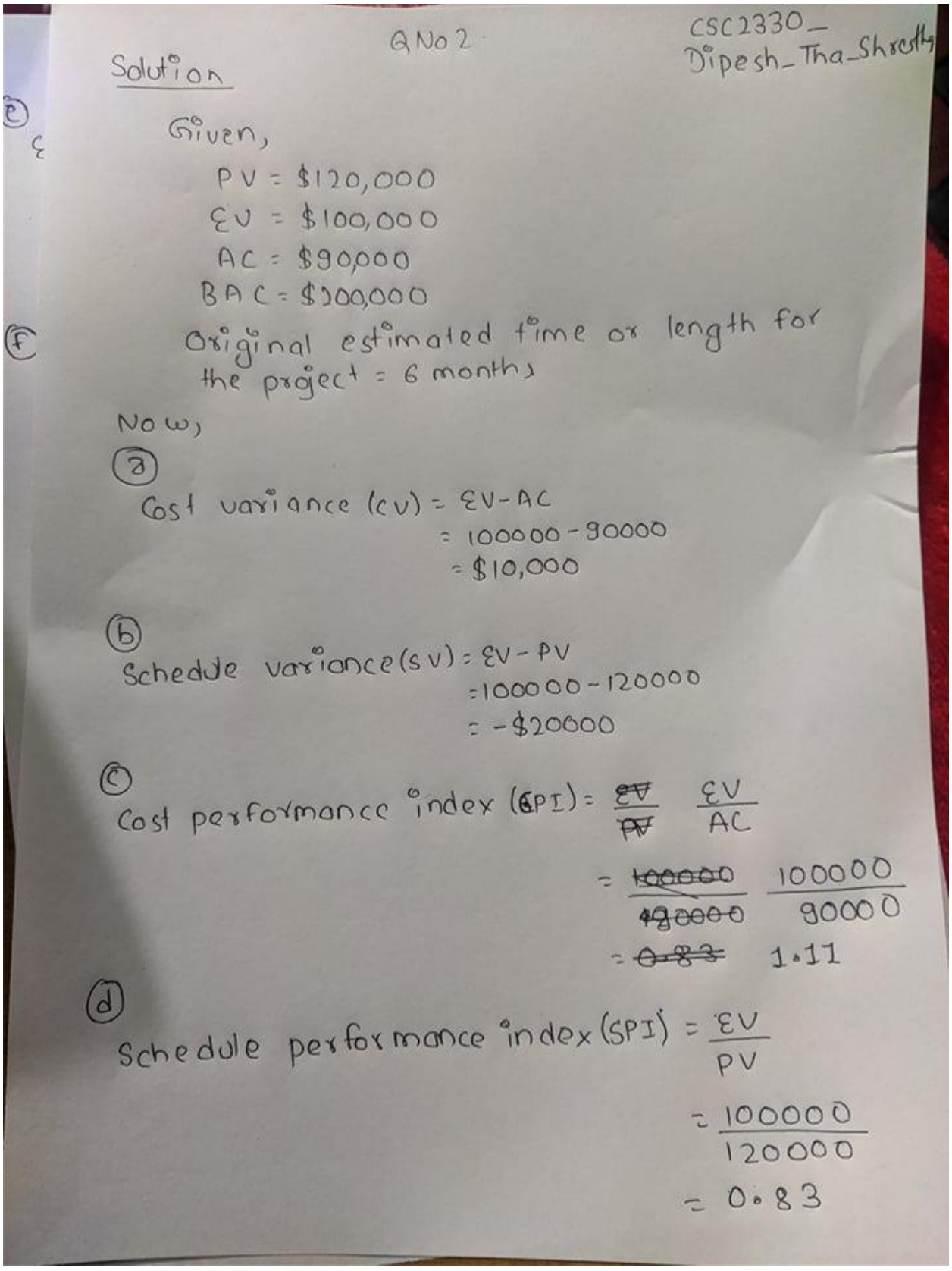
f. Estimate how long it will take to complete the project.

(2 marks)

g. Is the project performing better or worse than planned? Is it behind or ahead of schedule? Is it under budget or over budget?

(3 marks)

Answer:



Q No 2

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Solution

Given,

PV = $120,000
EV = $100,000
AC = $90,000
BAC = $300,000

Original estimated time or length for the project = 6 months

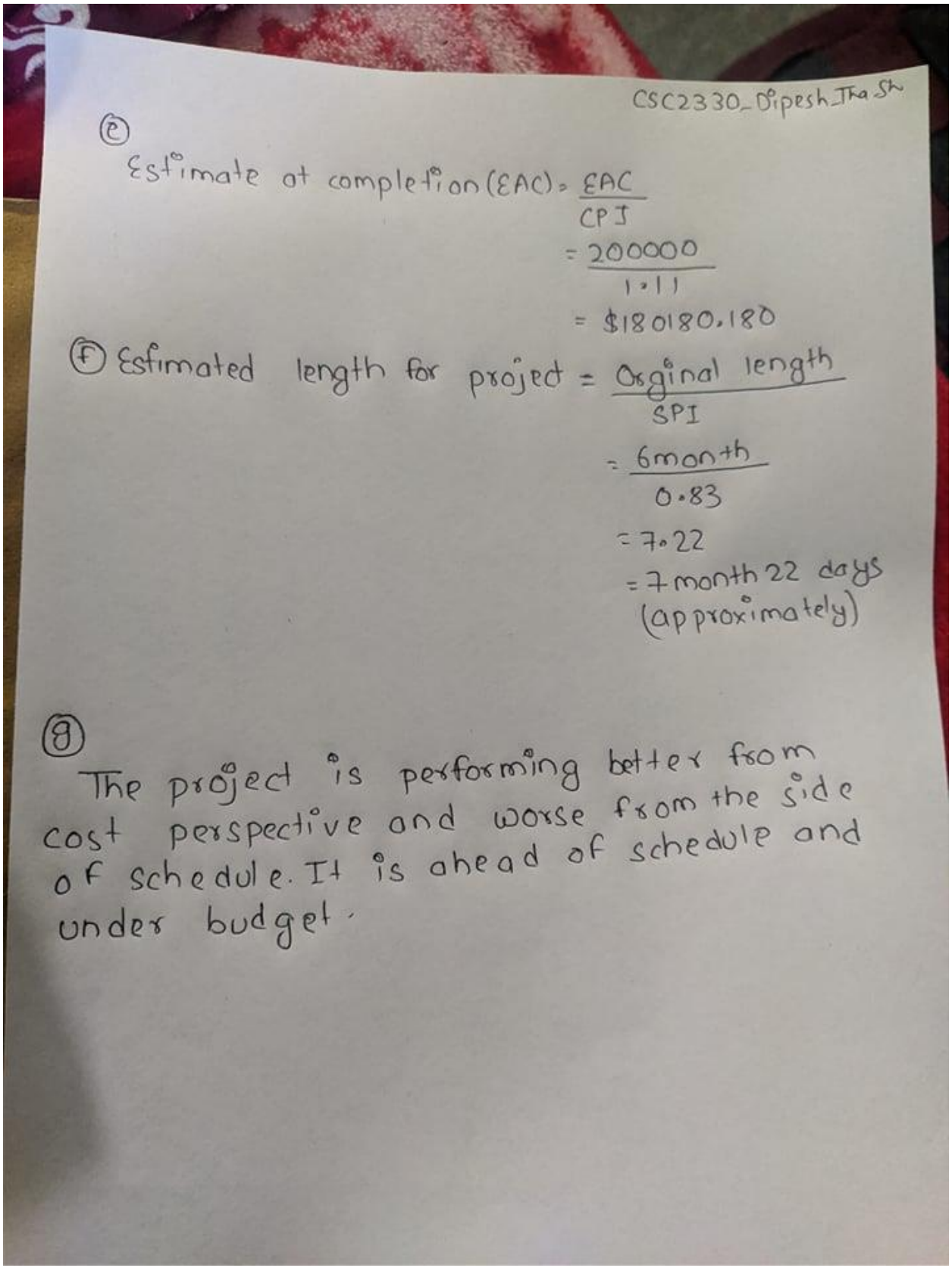
Now,

(a) Cost variance (CV) = EV - AC
= 100000 - 90000
= $10,000

(b) Schedule variance (SV) = EV - PV
= 100000 - 120000
= -$20000

(c) Cost performance index (CPI) = EV / AC
= 100000 / 90000
= 1.11

(d) Schedule performance index (SPI) = EV / PV
= 100000 / 120000
= 0.83



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(E)

Estimate at completion (EAC) = $\frac{EAC}{CPI}$

$= \frac{200000}{1.11}$

$= \$180180.180$

(F) Estimated length for project = $\frac{\text{Orginal length}}{SPI}$

$= \frac{6\text{month}}{0.83}$

$= 7.22$

= 7 month 22 days (approximately)

(G)

The project is performing better from cost perspective and worse from the side of schedule. It is ahead of schedule and under budget.