

ALPHA COLLEGE OF ENGG & TECH
ODD SEM 2018
ASSIGNMENT 1
SUB : OPERATION RESEARCH (2171901) 7TH ME A,B
CH -1 Basics of OR

NO	QUESTION	YEAR	MARKS
1	Discuss various areas for the application of operations research techniques.	May-2018	3
2	Briefly explain the steps involved in the solution of an operations research problem.	May-2018	4
3	Mention different phases of operations research and explain their significance for decision making.	May-2017	7
4	State applications of Operations research.	Nov-2017	3
5	Explain Scope of OR	Dec-2016	7

SUBJECT IN CHARGE

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ALPHA COLLEGE OF ENGG & TECH

ODD SEM 2018

ASSIGNMENT 2

SUB : OPERATION RESEARCH (2171901) 7TH ME A,B

CH -2 Linear Programming

NO	QUESTION	YEAR	MARKS
1	What are the assumptions in LPP.	Dec-2018	3
2	Graphically represent following cases in linear programming. (1) Un-bounded solution (2) Multiple optimal solution	May-2018	3
3	Write dual of the following LPP. Min $Z = X_1 - 3X_2 - 2X_3$ Subject to, $3X_1 - X_2 + 2X_3 \leq 7$, $2X_1 - 4X_2 \geq 12$, $-4X_1 + 3X_2 + 8X_3 = 10$, $X_1, X_2 \geq 0$; X_3 unrestricted in sign.	May-2018	4
4	Solve following LPP. Is problem has multiple optimal solution? Verify. Max $Z = 6X_1 + 4X_2$ Subject to, $2X_1 + 3X_2 \leq 30$, $3X_1 + 2X_2 \leq 24$, $X_1 + X_2 \geq 3$, $X_1, X_2 \geq 0$	Nov-2018	7
5	Solve following LPP. Max $Z = 3X_1 + 5X_2 + 4X_3$ Subject to, $2X_1 + 3X_2 \leq 8$, $2X_2 + 5X_3 \leq 10$, $3X_1 + 2X_2 + 4X_3 \leq 15$ $X_1, X_2, X_3 \geq 0$	Nov-2018	7
6	Using graphical method find the Minimum value of $Z = -x_1 + 2x_2$ Subjects to - $x_1 + 3x_2 \leq 10$, $x_1 + x_2 \leq 6$, $x_1 - x_2 \leq 2$, $x_1, x_2 \geq 0$.	Dec-2017	7
7	Solve the following problem using Big M method Maximize $Z = 4x + 5y$ Subjects to $2x + 3y \leq 6$, $3x + y \geq 3$, $x, y \geq 0$.	Dec-2017	7
8	Write the dual of Maximize $Z = 3x_1 - x_2 + 5x_3$ Subject to $5x_1 - 2x_2 \leq 6$, $8x_1 + x_2 + 4x_3 \geq 10$, $5x_1 - 4x_3 \leq 12$ and $x_1, x_2, x_3 \geq 0$	Dec-2017	4

9	Using Simplex method of Linear programming technique, solve the following problem. Also comment on the “type of solution”. Maximize $Z = 5x_1 + 4x_2$ Subject to $x_1 - 2x_2 \leq 1$ $x_1 + 2x_2 \geq 3$ $x_1, x_2 \geq 0$.	Nov-2017	7																												
10	Maximize $Z = 10x_1 + 15x_2$ Subject to constraints, $2x_1 + x_2 \leq 26$, $2x_1 + 4x_2 \leq 56$, $x_1 - x_2 \geq -5$, $x_1, x_2 \geq 0$	Dec-2016	7																												
11	Maximize $Z = 40x_1 + 35x_2$ Subject to constraints, $2x_1 + 3x_2 \leq 60$, $4x_1 + 3x_2 \leq 96$, $x_1, x_2 \geq 0$	Dec-2016	7																												
12	Obtain the dual of the LPP given here: Maximize $Z = 8x_1 + 10x_2 + 5x_3$ Subject to constraints, $x_1 - x_3 \leq 4$, $2x_1 + 4x_2 \leq 12$, $x_1 + x_2 + x_3 \geq 0$, $3x_1 + 2x_2 - x_3 = 8$, $x_1, x_2, x_3 \geq 0$	Dec-2016	7																												
13	An oil company produces two grade of gasoline P and Q which it sells at ₹ 30 and ₹ 40 per liter. The company can buy four different crude oils with the constituents and cost given as: <table border="1" data-bbox="199 1317 1099 1626"> <thead> <tr> <th rowspan="2">Crude oil</th> <th colspan="3">Constitute</th> <th rowspan="2">Price/Lit Rs.</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.75</td> <td>0.15</td> <td>0.10</td> <td>20.00</td> </tr> <tr> <td>2</td> <td>0.20</td> <td>0.30</td> <td>0.50</td> <td>22.50</td> </tr> <tr> <td>3</td> <td>0.70</td> <td>0.10</td> <td>0.20</td> <td>25.00</td> </tr> <tr> <td>4</td> <td>0.40</td> <td>0.10</td> <td>0.50</td> <td>27.50</td> </tr> </tbody> </table> Gasoline P must have at least 55% of A and not more than 40% of C, gasoline Q must not more than 25 % of C. formulate the problem to determine the use of crude oil to maximize the profit.	Crude oil	Constitute			Price/Lit Rs.	A	B	C	1	0.75	0.15	0.10	20.00	2	0.20	0.30	0.50	22.50	3	0.70	0.10	0.20	25.00	4	0.40	0.10	0.50	27.50	Dec-2017	4
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ALPHA COLLEGE OF ENGG & TECH

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ASSIGNMENT 3

SUB : OPERATION RESEARCH (2171901) 7TH ME A,B

CH -3 Transportation Model

NO	QUESTION	YEAR	MARKS																																											
1	What is transshipment problem? Explain how it can be formulated and solved as a transportation problem?.	May-2018	3																																											
2	What is degeneracy in transportation problem? How to resolve such problem?	Dec-2017	4																																											
3	Differentiate between Transportation and Transshipment problem. How one can use the transportation method for solving the transshipment problem?	May-2017	7																																											
4	What is degeneracy? How does the problem of degeneracy arise in a (a) transportation problem? How can we deal with this problem?	Dec-2016	7																																											
5	<p>A manufacturer wants to ship 22 loads of his product as shown below. The matrix gives the kilometers from sources to destinations. What shipping schedule should be used to minimize the total distance to be travelled?</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="5">Destination</th> <th rowspan="2">Supply</th> </tr> <tr> <th>D₁</th> <th>D₂</th> <th>D₃</th> <th>D₄</th> <th>D₅</th> </tr> </thead> <tbody> <tr> <th rowspan="3">Source</th> <th>S₁</th> <td style="text-align: center;">5</td> <td style="text-align: center;">8</td> <td style="text-align: center;">6</td> <td style="text-align: center;">6</td> <td style="text-align: center;">3</td> <td style="text-align: center;">8</td> </tr> <tr> <th>S₂</th> <td style="text-align: center;">4</td> <td style="text-align: center;">7</td> <td style="text-align: center;">7</td> <td style="text-align: center;">6</td> <td style="text-align: center;">5</td> <td style="text-align: center;">5</td> </tr> <tr> <th>S₃</th> <td style="text-align: center;">8</td> <td style="text-align: center;">4</td> <td style="text-align: center;">6</td> <td style="text-align: center;">6</td> <td style="text-align: center;">4</td> <td style="text-align: center;">9</td> </tr> <tr> <th colspan="2">Demand</th> <td style="text-align: center;">4</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">4</td> <td style="text-align: center;">8</td> <td></td> </tr> </tbody> </table>			Destination					Supply	D ₁	D ₂	D ₃	D ₄	D ₅	Source	S ₁	5	8	6	6	3	8	S ₂	4	7	7	6	5	5	S ₃	8	4	6	6	4	9	Demand		4	4	5	4	8		May-2018	7
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6	<p>Find the optimum solution for the following transportation problem</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="4">Warehouses</th> <th rowspan="2">Capacity</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <th rowspan="3">Factories</th> <th>P</th> <td style="text-align: center;">5</td> <td style="text-align: center;">2</td> <td style="text-align: center;">4</td> <td style="text-align: center;">3</td> <td style="text-align: center;">12</td> </tr> <tr> <th>Q</th> <td style="text-align: center;">4</td> <td style="text-align: center;">8</td> <td style="text-align: center;">1</td> <td style="text-align: center;">6</td> <td style="text-align: center;">15</td> </tr> <tr> <th>R</th> <td style="text-align: center;">4</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> <td style="text-align: center;">5</td> <td style="text-align: center;">18</td> </tr> <tr> <th colspan="2">Requirements</th> <td style="text-align: center;">7</td> <td style="text-align: center;">12</td> <td style="text-align: center;">17</td> <td style="text-align: center;">9</td> <td></td> </tr> </tbody> </table>			Warehouses				Capacity	A	B	C	D	Factories	P	5	2	4	3	12	Q	4	8	1	6	15	R	4	6	7	5	18	Requirements		7	12	17	9		Dec-2017	7						
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7	Company has factories A1, A2 & A3 which supply to warehouses at W1, W2 & W3. Weekly factory capacities are 240, 200 & 130 units respectively. Weekly warehouses requirements are 190, 150 & 110 units respectively. Unit transportation costs in Rs. is given in the table. Find initial basic feasible solution using VAM method & Optimum solution by MODI method.	Dec-2016	7																																											

	<table border="1"> <tr> <th>Company\Warehouse</th> <th>W1</th> <th>W2</th> <th>W3</th> <th>Supply</th> </tr> <tr> <td>A1</td> <td>16</td> <td>20</td> <td>12</td> <td>240</td> </tr> <tr> <td>A2</td> <td>14</td> <td>8</td> <td>18</td> <td>200</td> </tr> <tr> <td>A3</td> <td>26</td> <td>24</td> <td>16</td> <td>130</td> </tr> <tr> <td>Demand</td> <td>190</td> <td>150</td> <td>110</td> <td>450</td> </tr> </table>	Company\Warehouse	W1	W2	W3	Supply	A1	16	20	12	240	A2	14	8	18	200	A3	26	24	16	130	Demand	190	150	110	450								
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8	<p>A company has 3 plants P, Q and R as well as 3 warehouses A, B and C. The supplies are transported from the plants to the warehouses which are located at varying distances from the plants. On account of these varying distances, the transportation costs (per unit) from plants to warehouses as given below. Findout the minimum transportation costs.</p> <table border="1"> <tr> <td></td> <td colspan="3">Warehouse</td> <td rowspan="2">Supply</td> </tr> <tr> <td></td> <td>A</td> <td>B</td> <td>C</td> </tr> <tr> <td rowspan="3">Paints</td> <td>P</td> <td>12</td> <td>8</td> <td>18</td> <td>400</td> </tr> <tr> <td>Q</td> <td>20</td> <td>10</td> <td>16</td> <td>350</td> </tr> <tr> <td>R</td> <td>24</td> <td>14</td> <td>12</td> <td>150</td> </tr> <tr> <td colspan="2">Demand</td> <td>500</td> <td>200</td> <td>300</td> <td></td> </tr> </table>		Warehouse			Supply		A	B	C	Paints	P	12	8	18	400	Q	20	10	16	350	R	24	14	12	150	Demand		500	200	300		May-2017	7
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ODD SEM 2018

ASSIGNMENT 4

SUB : OPERATION RESEARCH (2171901) 7TH ME A,B

CH -4 Assignment Model

NO	QUESTION	YEAR	MARKS																																													
1	How would you deal with assignment problems, where (a) the objective function is to be maximized? (b) some assignments are prohibited?	May-2018	4																																													
2	Is it possible to solve assignment problem using transportation technique? Explain with reason.	Dec-2017	4																																													
3	How to tackle the non-square matrix in the assignment problem?. Explain with suitable example.	Dec-2017	3																																													
4	What is an assignment problem? Why it is called as a special case of the transportation problem?	Dec-2017	7																																													
5	<p>Five jobs are to be assigned to five machines with an objective to minimize total man-hours. The time (in hours) that each man takes to perform each job is given below. Find the optimum assignment.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th colspan="5" style="text-align: center;">Employees</th> </tr> <tr> <th colspan="2"></th> <th style="text-align: center;">I</th> <th style="text-align: center;">II</th> <th style="text-align: center;">III</th> <th style="text-align: center;">IV</th> <th style="text-align: center;">V</th> </tr> </thead> <tbody> <tr> <th rowspan="5" style="text-align: center; vertical-align: middle;">Jobs</th> <th style="text-align: center;">A</th> <td style="text-align: center;">10</td> <td style="text-align: center;">5</td> <td style="text-align: center;">13</td> <td style="text-align: center;">15</td> <td style="text-align: center;">16</td> </tr> <tr> <th style="text-align: center;">B</th> <td style="text-align: center;">3</td> <td style="text-align: center;">9</td> <td style="text-align: center;">18</td> <td style="text-align: center;">13</td> <td style="text-align: center;">6</td> </tr> <tr> <th style="text-align: center;">C</th> <td style="text-align: center;">10</td> <td style="text-align: center;">7</td> <td style="text-align: center;">2</td> <td style="text-align: center;">2</td> <td style="text-align: center;">2</td> </tr> <tr> <th style="text-align: center;">D</th> <td style="text-align: center;">7</td> <td style="text-align: center;">11</td> <td style="text-align: center;">9</td> <td style="text-align: center;">7</td> <td style="text-align: center;">12</td> </tr> <tr> <th style="text-align: center;">E</th> <td style="text-align: center;">7</td> <td style="text-align: center;">9</td> <td style="text-align: center;">10</td> <td style="text-align: center;">4</td> <td style="text-align: center;">12</td> </tr> </tbody> </table>			Employees							I	II	III	IV	V	Jobs	A	10	5	13	15	16	B	3	9	18	13	6	C	10	7	2	2	2	D	7	11	9	7	12	E	7	9	10	4	12	May-2018	7
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6	<p>Ravi Shastri as a team coach has decided to allot five batting positions to five batsmen using assignment technique. The average runs scored by each batsman at these positions are as follows.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">I</th> <th style="text-align: center;">II</th> <th style="text-align: center;">III</th> <th style="text-align: center;">IV</th> <th style="text-align: center;">V</th> </tr> </thead> <tbody> <tr> <th style="text-align: left;">Rahne</th> <td style="text-align: center;">40</td> <td style="text-align: center;">40</td> <td style="text-align: center;">35</td> <td style="text-align: center;">25</td> <td style="text-align: center;">50</td> </tr> <tr> <th style="text-align: left;">KL Rahul</th> <td style="text-align: center;">42</td> <td style="text-align: center;">30</td> <td style="text-align: center;">16</td> <td style="text-align: center;">25</td> <td style="text-align: center;">27</td> </tr> <tr> <th style="text-align: left;">Kohli</th> <td style="text-align: center;">50</td> <td style="text-align: center;">48</td> <td style="text-align: center;">40</td> <td style="text-align: center;">50</td> <td style="text-align: center;">60</td> </tr> <tr> <th style="text-align: left;">Pujara</th> <td style="text-align: center;">58</td> <td style="text-align: center;">60</td> <td style="text-align: center;">59</td> <td style="text-align: center;">55</td> <td style="text-align: center;">53</td> </tr> <tr> <th style="text-align: left;">Dhavan</th> <td style="text-align: center;">45</td> <td style="text-align: center;">60</td> <td style="text-align: center;">59</td> <td style="text-align: center;">55</td> <td style="text-align: center;">49</td> </tr> <tr> <th style="text-align: left;">Ashwin</th> <td style="text-align: center;">12</td> <td style="text-align: center;">19</td> <td style="text-align: center;">17</td> <td style="text-align: center;">41</td> <td style="text-align: center;">46</td> </tr> </tbody> </table>		I	II	III	IV	V	Rahne	40	40	35	25	50	KL Rahul	42	30	16	25	27	Kohli	50	48	40	50	60	Pujara	58	60	59	55	53	Dhavan	45	60	59	55	49	Ashwin	12	19	17	41	46	Dec-2017, Dec-2016	7			
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7	A college department chairman has the problem of providing teachers for all courses offered by his department at the highest possible level of educational quality. He has got 3 professors and 1 teaching assistant (TA). Four courses must be offered and after appropriate	Dec-2017	7																																													

investigation, he has arrived at the following relative regarding the ability of each instructor to teach each of the four courses, respectively.

	Course-1	Course-2	Course-3	Course-4
Prof-1	70	50	70	80
Prof-2	30	70	60	80
Prof-3	30	40	50	70
TA	40	20	40	50

How should he assign his staff to the courses to maximize educational quality in his department?

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ASSIGNMENT 10

SUB : OPERATION RESEARCH (2171901) 7TH ME A,B

CH -10 Network Analysis

NO	QUESTION	YEAR	MARKS																																			
1	With suitable example, explain various possible errors in the construction of a network diagram.	May-2018	3																																			
2	<p>A small project involves 7 activities, and their time estimates are listed in the following table.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th rowspan="2">Activity</th> <th colspan="3">Estimated Duration (weeks)</th> </tr> <tr> <th>Optimistic</th> <th>Most likely</th> <th>Pessimistic</th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td style="text-align: center;">7</td> </tr> <tr> <td>1-3</td> <td style="text-align: center;">1</td> <td style="text-align: center;">4</td> <td style="text-align: center;">7</td> </tr> <tr> <td>1-4</td> <td style="text-align: center;">2</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>2-5</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> </tr> <tr> <td>3-5</td> <td style="text-align: center;">2</td> <td style="text-align: center;">5</td> <td style="text-align: center;">14</td> </tr> <tr> <td>4-6</td> <td style="text-align: center;">2</td> <td style="text-align: center;">5</td> <td style="text-align: center;">8</td> </tr> <tr> <td>5-6</td> <td style="text-align: center;">3</td> <td style="text-align: center;">6</td> <td style="text-align: center;">15</td> </tr> </tbody> </table> <p>(a) Draw the network diagram of the activities in the project. (b) Find the expected duration and variance for each activity. What is the expected project length? (c) What is the probability that the project will be completed at least 4 weeks earlier than expected time?</p>	Activity	Estimated Duration (weeks)			Optimistic	Most likely	Pessimistic	1-2	1	1	7	1-3	1	4	7	1-4	2	2	8	2-5	1	1	1	3-5	2	5	14	4-6	2	5	8	5-6	3	6	15	May-2018	7
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1-4	2	2	8																																			
2-5	1	1	1																																			
3-5	2	5	14																																			
4-6	2	5	8																																			
5-6	3	6	15																																			
3	<p>Tasks A to I constitutes a project in which the precedence relationships are $A < D$; $A < E$; $B < F$; $D < F$; $C < G$; $C < H$, $F < I$; $G < I$. Time in day for each task is as follows:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th>Task</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> <th>G</th> <th>H</th> <th>I</th> </tr> </thead> <tbody> <tr> <td>Time</td> <td style="text-align: center;">8</td> <td style="text-align: center;">10</td> <td style="text-align: center;">8</td> <td style="text-align: center;">10</td> <td style="text-align: center;">16</td> <td style="text-align: center;">17</td> <td style="text-align: center;">18</td> <td style="text-align: center;">14</td> <td style="text-align: center;">9</td> </tr> </tbody> </table> <p>Draw the network to represent the project and find out total float of each activity and identify critical path.</p>	Task	A	B	C	D	E	F	G	H	I	Time	8	10	8	10	16	17	18	14	9	Dec-2017	7															
Task	A	B	C	D	E	F	G	H	I																													
Time	8	10	8	10	16	17	18	14	9																													
4	Define event, activity, preceder activity, successor activity, dummy activity with respect to CPM/PERT	Dec-2017	4																																			
5	What are the 3 time estimates used with reference of PERT? How are the expected duration of a project, and its standard deviation calculated?	May-2017	7																																			
6	<p>The details of activity and duration are shown below:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th>Activity</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> <th>G</th> </tr> </thead> <tbody> <tr> <td>Depends on</td> <td style="text-align: center;">-</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">A</td> <td style="text-align: center;">B,C</td> <td style="text-align: center;">C,D</td> <td style="text-align: center;">E,F</td> </tr> <tr> <td>Time, days</td> <td style="text-align: center;">10</td> <td style="text-align: center;">5</td> <td style="text-align: center;">4</td> <td style="text-align: center;">7</td> <td style="text-align: center;">6</td> <td style="text-align: center;">4</td> <td style="text-align: center;">7</td> </tr> </tbody> </table> <p>Find:</p> <ol style="list-style-type: none"> 1. Draw a network diagram 2. Find the critical path 3. Project duration 	Activity	A	B	C	D	E	F	G	Depends on	-	A	A	A	B,C	C,D	E,F	Time, days	10	5	4	7	6	4	7	Dec-2016	7											
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7	<p>A project consists of 10 activities for which the relevant data are given below:</p> <table border="1" data-bbox="199 315 1099 689"> <thead> <tr> <th data-bbox="199 315 400 349">Activity</th> <th data-bbox="400 315 769 349">Preceding activity</th> <th data-bbox="769 315 1099 349">Activity Duration (Hours)</th> </tr> </thead> <tbody> <tr> <td data-bbox="199 349 400 383">A</td> <td data-bbox="400 349 769 383">-</td> <td data-bbox="769 349 1099 383">0.5</td> </tr> <tr> <td data-bbox="199 383 400 416">B</td> <td data-bbox="400 383 769 416">A</td> <td data-bbox="769 383 1099 416">1.0</td> </tr> <tr> <td data-bbox="199 416 400 450">C</td> <td data-bbox="400 416 769 450">B</td> <td data-bbox="769 416 1099 450">1.5</td> </tr> <tr> <td data-bbox="199 450 400 483">D</td> <td data-bbox="400 450 769 483">B</td> <td data-bbox="769 450 1099 483">1.4</td> </tr> <tr> <td data-bbox="199 483 400 517">E</td> <td data-bbox="400 483 769 517">D</td> <td data-bbox="769 483 1099 517">1.2</td> </tr> <tr> <td data-bbox="199 517 400 551">F</td> <td data-bbox="400 517 769 551">B</td> <td data-bbox="769 517 1099 551">0.8</td> </tr> <tr> <td data-bbox="199 551 400 584">G</td> <td data-bbox="400 551 769 584">F</td> <td data-bbox="769 551 1099 584">1.0</td> </tr> <tr> <td data-bbox="199 584 400 618">H</td> <td data-bbox="400 584 769 618">C,E,G</td> <td data-bbox="769 584 1099 618">0.4</td> </tr> <tr> <td data-bbox="199 618 400 651">I</td> <td data-bbox="400 618 769 651">H</td> <td data-bbox="769 618 1099 651">1.4</td> </tr> <tr> <td data-bbox="199 651 400 689">J</td> <td data-bbox="400 651 769 689">I</td> <td data-bbox="769 651 1099 689">0.5</td> </tr> </tbody> </table> <p data-bbox="199 696 1099 768"> a. Draw the network and find the project completion time. b. Calculate Total float for each of the activities. </p>	Activity	Preceding activity	Activity Duration (Hours)	A	-	0.5	B	A	1.0	C	B	1.5	D	B	1.4	E	D	1.2	F	B	0.8	G	F	1.0	H	C,E,G	0.4	I	H	1.4	J	I	0.5	May-2017	7
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SUBJECT IN CHARGE

HOD