

300 Level 2nd Semester Examination – December 2017/January 2018
SCT 319-2 Maintenance, Production and Project Management

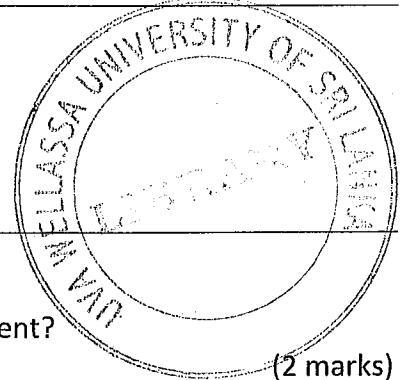
Instructions to candidates

Duration: Two (02) hours

Number of questions: Four (04) Essays

Mark allocation: 100 Marks

Answer all questions



1.
 - a. What are the objectives of maintenance in an industrial environment? (2 marks)
 - b. What are the basic types of maintenance methods? Explain with simple examples. (3 marks)
 - c. Name four (4) types of maintenance scheduling methods and discuss their application in an industry you are familiar with. (10 marks)
 - d. Discuss the present day state-of-the-art maintenance methods applicable to Sri Lankan industries? (10 marks)

2.
 - a. Discuss an application of Dijkstra's algorithm in a production facility. (5 marks)
 - b. Use Dijkstra's algorithm to find the shortest path from node 1 to all other nodes for the network shown in Figure 1.

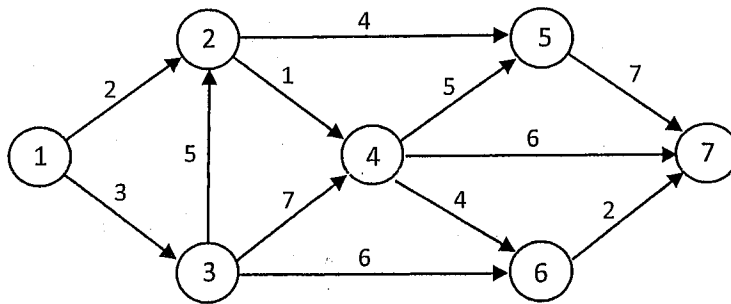


Figure 1

3.
 - a. Giving examples, discuss the importance of finding the minimum spanning tree of a network? (10 marks)
 - b. Find the minimum spanning tree of the network shown in Figure 1. (15 marks)

4. Construct the network shown in Table 01 and find the critical path of this network.

Table 01: Events of the network.

Activity	Predecessor(s)	Duration /(days)
A	-	1
B	-	2
C	A	1
D	C	2
E	B, C	6
F	D	10
G	F	3
H	G	1
I	F	1
J	E, H	5
K	I	2
L	F, J	1
M	F	2
N	L, M	4
O	G, J	2
P	O	2
Q	I, P	1
R	P	7
S	I, N	7
T	S	3

(25 marks)

