Philadelphia University
Faculty of Engineering

Student Name:
Student Number:

Dept. of Computer Engineering
Final Exam, Second Semester: 2009/2010

Course Title: Software Engineering	**Date: 09/06/2010**
Course No: (630351)	**Time Allowed: 2 Hours**
Lecturer: Dr. M. Bani Younis	**No. of Pages: 5**

Question 1: Multiple choice question, answer on question sheet _(18 points)_

Choose the best correct answer in the following questions: **(Choose one answer only)**

1) The format of representation of a functional structure used to describe a system :
a) Tree Structure
b) Flow chart
c) Hierarchical Structure
d) Matrix
e) a+c
f) none of the above

2) In Software development:
a) problems are not available
b) methods and tools are same
c) HW is well defined
d) Software Engineering is not important
e) a+c
f) none of the above

3) Different groups are involved in Software development such as:
a) clients
b) Vendors
c) a+b
d) users and developers
e) a+b+d
f) none of the above

4) The time span by which an activity can delay without delaying any other activity is a:
a) free slack
b) indication of critical activity
c) Overall slack
d) a+b
e) all of the above
f) none of the above

5) Natural language can be avoided when writing specifications using:
a) mathematical specification
b) graphical models
c) formal specification
d) structured language
e) all of the above
f) none of the above

6) Engineering and computer science studies concentrate on products:
a) Programs and models
b) only programs
c) models only
d) Concepts and characteristics of these products
e) a+d
f) none of the above

7) The most successful approach to software development is to follow the:
a) component-based model
b) waterfall model
c) spiral development
d) formal methods
e) evolutionary development
f) none of the above

8) Goal orientation Software development means:
a) quality oriented
b) regardless of cost
c) time is not important
d) Quality, cost, and time
e) a+c
f) none of the above

9) In a forecasting technique, the questioners are answered by the following persons:
a) technicians
b) mangers
c) professors
d) experts in the field
e) a+c
f) none of the above

10) Budgeted means of a project are:
a) personnel
b) deadlines
c) resources and costs
d) a+c
e) costs only
f) none of the above

11) The following is applicable for Software user requirements:

a) answers the question why   b) design is known   c) units can be tested

d) a+c   e) owner is the user only   f) none of the above

12) Requirements that specify the functionality of the system are:

a) functional requirements   b) non-functional requirements   c) user requirements

d) system requirements   e) a+b   f) none of the above

Read this paragraph carefully and answer the following questions:

A Software Project has to go through different activities toward its finish.
The project has to start on 26.06.20
09. These activities are as shown in the figure 1:

	Task Name	Duration	Start	Finish	Late Finish	Predecessors
1	contact with the contracting firm	0 days	Fri 26.06.09			
2	generation of the requirments	2 days				1
3	development of the design	5 days				2SS+3 days
4	implementing of the design	4 days				2FS+2 days
5	validation against the design	3 days				4FS-2 days
6	realization of the product by the user	0 days				5;3

Figure 1: Software Project

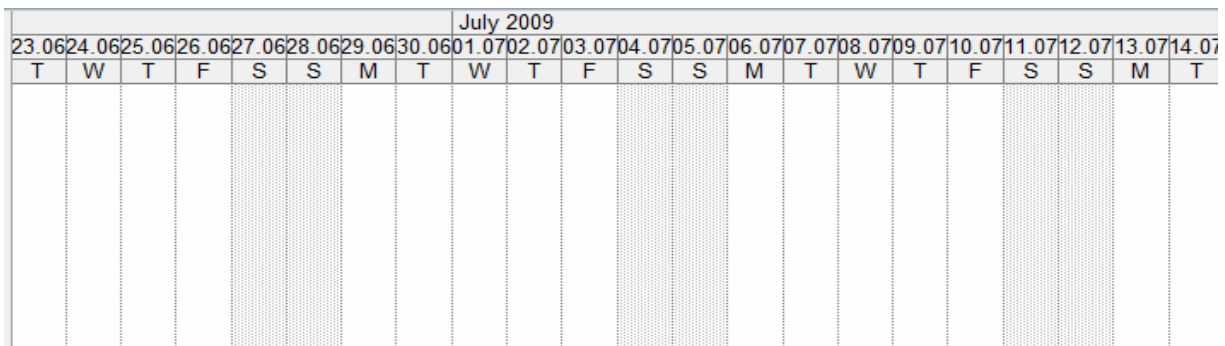|								July 2009														
23.06	24.06	25.06	26.06	27.06	28.06	29.06	30.06	01.07	02.07	03.07	04.07	05.07	06.07	07.07	08.07	09.07	10.07	11.07	12.07	13.07	14.07
T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T

Figure 2: Gannt Diagram

a) Please fill the missed term in the Figure one by applying the Forward and Backward

b) Draw the Gannt diagram of the Project (Figure 2).

c) Calculate the slack for all activities. Show the critical activities and the critical path.
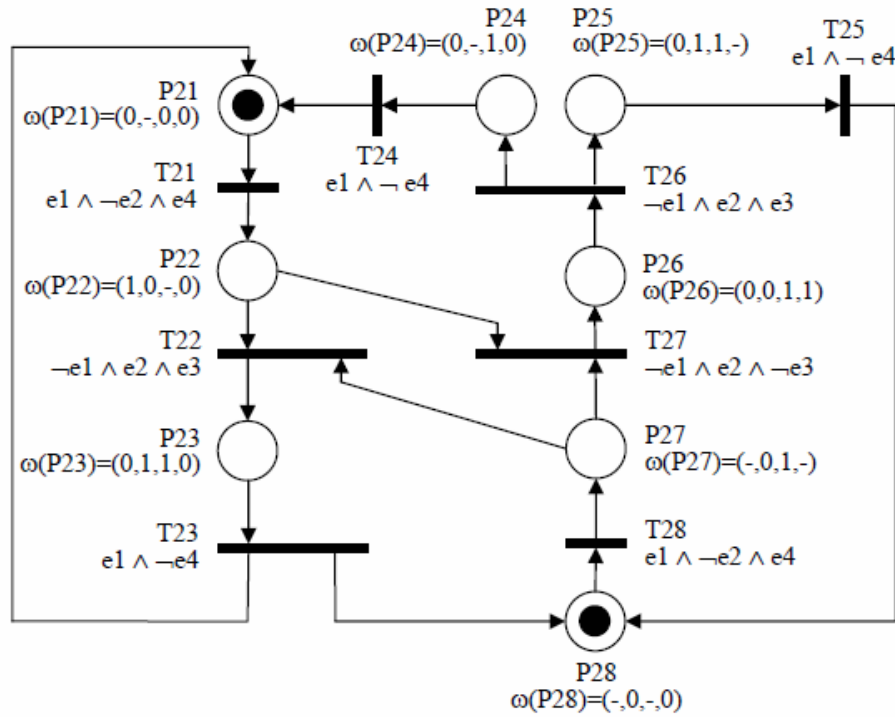
Question 3: _(8 points)_

please read the text below and generate **the UML class diagram for the change machine:**
(please show the important attributes and operations).

a change machine has to be able test the money before changing it. This machine can change both coins (1JD, 0.5 JD, 0.25 JD) and bank note (10 JD, 20 JD). A block is responsible for the recognition of the change unit. This change unit contains racks of the changeable money.

Question 4: _(8 points)_

Draw the RG for the following PN.

1) Draw the graph which represents the V-Model. (2 marks)

2) Explain the need for Newer process models and describe briefly two of them.(6 marks)

Best of LUCK