



## SEMESTER TEST / SEMESTERTOETS 2

MODULE CODE/KODE	ITRW 213	DURATION/DUUR	70 min
EXAMINER/EKSAMINATOR	Imelda Smit	MARKS/PUNTE	40
MODERATOR	Prof Roelien Goede	DATE/DATUM	17-04-2013
		TIME/TYD	15:30

### MEMORANDUM

Answer all the questions. ★ Beantwoord al die vrae.

#### Question | Vraag 1 [Chapter | Hoofstuk 4]

(15)

Study project X, with the following tasks (activities), its predecessors and lengths:

Bestudeer projek X, met die volgende take (aktiwiteite), hul voorgangers en lengtes:

Tasks Take	Duration (day) Duur (dag)	Predecessors Voorgangers
A	1	None / Geen
B	3	None / Geen
C	3	B
D	4	A
E	5	B
F	4	B
G	1	C
H	4	D, E
I	2	G
J	3	F, H, I

1.1 Draw an **activity-on-node** network diagram for project X.

5 1.1 Teken 'n **aktiwiteit-op-node** netwerk diagram vir projek X.

1.2 Indicate **all the paths** on the network diagram.

4 1.2 Dui **al die paaie** op die netwerkdiagram aan.

1.3 Which one is the **critical path**? Why?

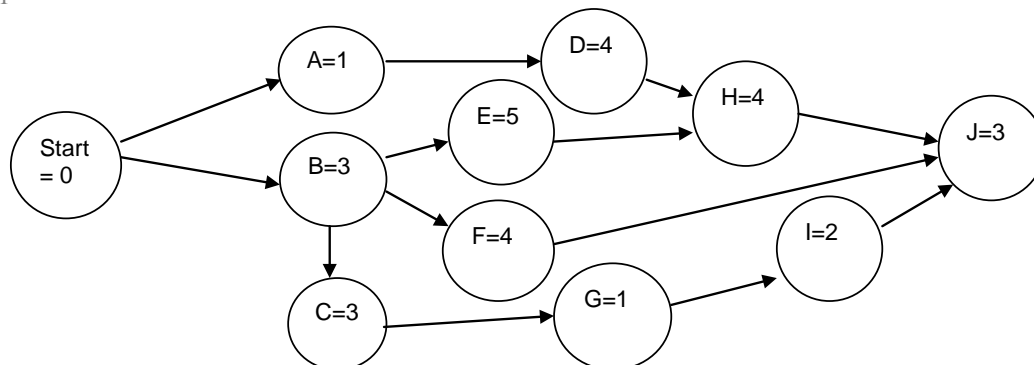
2 1.3 Watter een is die **kritiese pad**? Hoekom?

1.4 Which tasks have **slack time**? How much slack?

4 1.4 Watter take het **tydspeling**? Hoeveel speling?

Answer: Refer p125-128, 143-149

1.1



½√ per node, max 5

- 1.2 A-D-H-J --> 12 days ✓  
 B-E-H-J --> 15 days ✓  
 B-F-J --> 10 days ✓  
 B-C-G-I-J --> 12 days ✓

1.3 B-E-H-J --> 15 days ✓ the longest path ✓

1.4 Between ½√ A, D --> 3 days ✓ Between ½√ C, G, I --> 3 days ✓ F --> 5 days ✓

Mark allocation: See allocated marks.

List the five steps/phases of systems analysis.

Lys die vyf stappe/fases van stelselontleding.

Answer: Refer p161

Scope definition ✓ Problem analysis ✓ Requirements analysis ✓ Logical design ✓ Decision analysis ✓

Mark allocation: See allocated marks.

## Question | Vraag 3 | Chapter | Hoofstuk 6

(12)

Read the following before answering the questions:

Lees die volgende voordat jy die vrae beantwoord:

A fish bone diagram is a graphical tool used to identify, explore and depict problems and the causes and effects of such problems.

3.1 Name **two** synonyms for a fish bone diagram.2 3.1 Noem  **twee sinonieme** vir visgraatdiagram.3.2 Describe a **problem** that currently exists in your life.2 3.2 Beskryf 'n **probleem** wat tans in jou lewe figureer.3.3 Draw a **fish bone diagram** representing your problem.6 3.3 Teken 'n **visgraatdiagram** wat jou probleem verteenwoordig..

Answer: Refer p 211

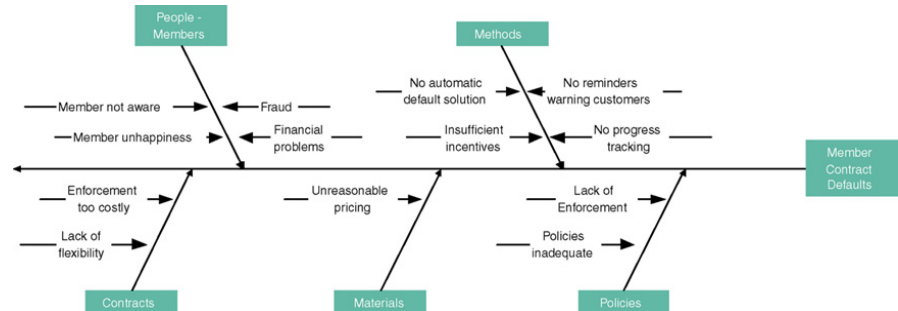
3.1 Ishikawa ✓

Cause-and-effect diagram ✓

3.2 Any problem can be described. ✓✓

3.3 See example:

- Bone labels ✓ each (max 4 marks)
- Causes and effects ½✓ each (max 4 marks)



Mark allocation: See allocated marks.

## Question | Vraag 4 | Chapter | Hoofstuk 7

(8)

Various relationships can be found in use case diagrams.

Veerskeie verwantskappe bestaan tussen gebruiksevalle. Lees die

Read the following before answering the questions:

volgende voordat jy die vrae antwoord.

In a doctor's consultation situation we have doctors, patients and administrative staff working together. The doctors are available for consultations according to their schedules, admin staff ensure that appointments are made and that everything runs smoothly – by capturing the necessary data. Patients need to pay for the service rendered.

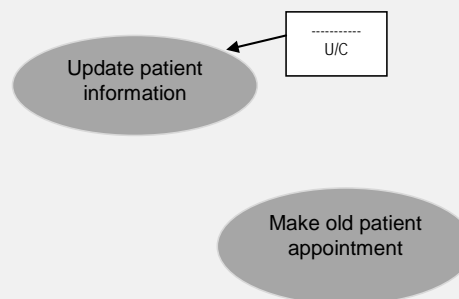
4.1 What is the **most important** rule when naming an actor?½ 4.1 Wat is die **belangrikste reël** wanneer ons 'n **akteur** 'n naam gee?4.2 What is the **most important** rule when naming a use case?½ 4.2 Wat is die **belangrikste reël** wanneer ons 'n **gebruiksgeval** 'n naam gee?

4.3 A relationship between an actor and a use case exists whenever a use case describes an interaction between them. We call this an **association**. Draw an example of such a relationship using the doctor's consultation room example.

2 4.3 'n Verwantskap tussen 'n akteur en 'n gebruikseval bestaan wanneer 'n gebruikseval interaksie tussen hulle beskryf. Ons noem dit 'n **assosiasie**. Teken 'n **voorbeeld** van so 'n verwantskap deur gebruik te maak van die dokters se spreekkamer- voorbeeld.

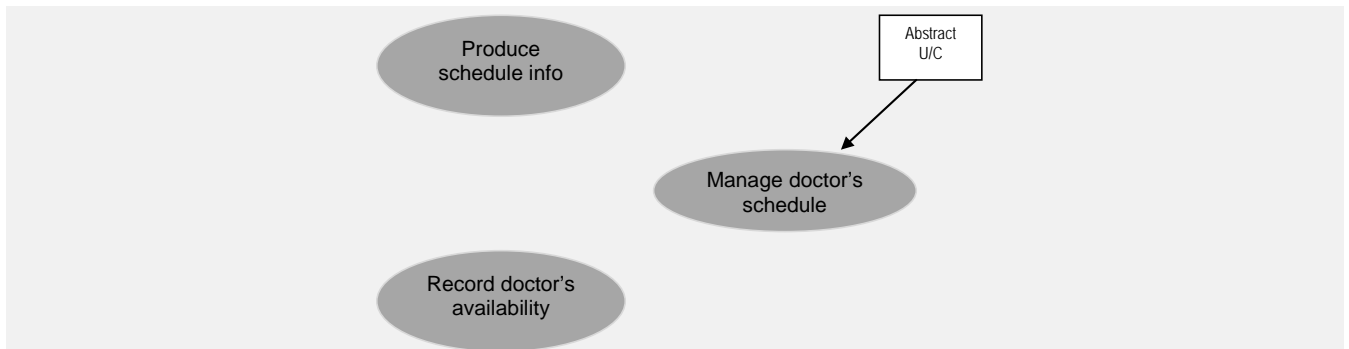
4.4 To simplify a use case, we can extract more complex steps. Complete the supplied drawing representing such an example.

1 4.4 Om 'n gebruikseval te vereenvoudig, kan ons meer komplekse stappe onttrek. **Voltooi die gegewe tekening** wat so 'n voorbeeld verteenwoordig.



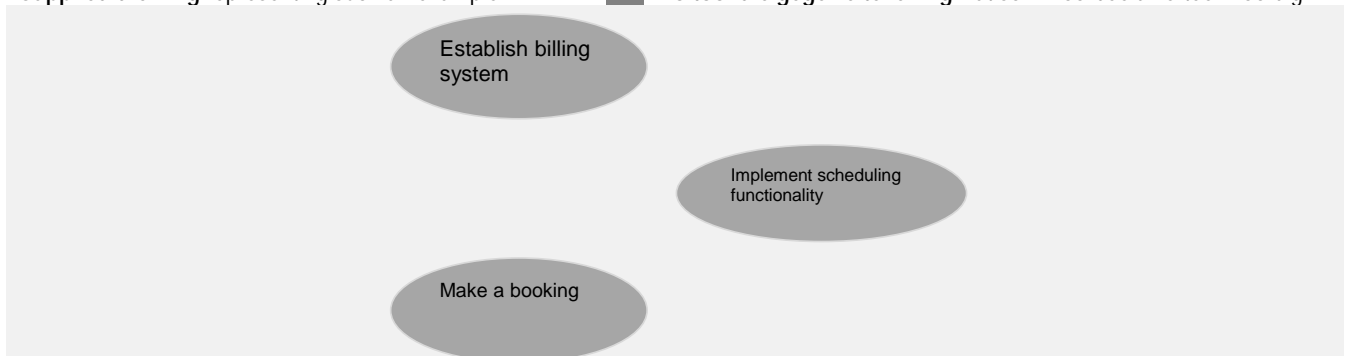
4.5 When more than one use case performs steps of identical functionality, the common steps can be extracted into their own abstract use case – which can be re-used. It reduces redundancy. Complete the supplied drawing representing such an example.

2 4.5 Wanneer meer as een gebruikseval stappe met identiese funksionaliteit uitvoer, kan die gemeenskaplike stappe onttrek word in hulle eie abstrakte gebruikseval – wat hergebruik kan word. Dit verminder oortolligheid **Voltooi die gegewe tekening** wat so 'n voorbeeld verteenwoordig.



4.6 As a project manager, it is helpful to know which use cases are dependent on other use cases in order to determine the order of development. **Complete the supplied drawing** representing such an example.

2 4.6 As 'n projekbestuurder help dit baie om te weet watter gebruiksgesvalle is afhanklik van ander gebruiksgesvalle sodat die volgorde waarin ontwikkeling gedoen moet word, bepaal kan word. **Voltooi die gegewe tekening** wat so 'n voorbeeld verteenwoordig.



4.7 When two or more actors show common behaviour (use the same use case), it is best to extrapolate this common behaviour and assign it to a new abstract use case. Use the **doctor's consultation room** case study to provide an example.

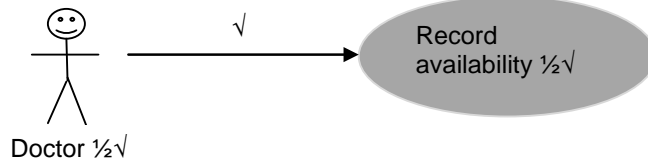
2 4.7 Wanneer twee of meer akteurs ooreenkomstige gedrag toon (gebruik dieselfde gebruiksgesval), is dit goed om die gemeenskaplike gedrag te ekstrapoleer en dit aan 'n nuwe abstrakte gebruiksgesval toe te wys. Gebruik die **dokter se spreekkamer** gevallestudie om 'n voorbeeld te verskaf.

Answer: Refer p 248-250

4.1 Use a noun  $\frac{1}{2}\checkmark$

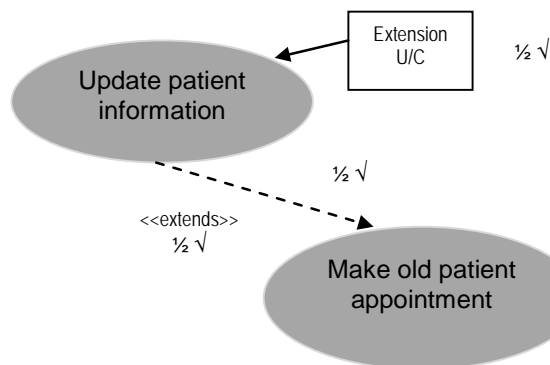
4.2 Use a verb  $\frac{1}{2}\checkmark$

4.3

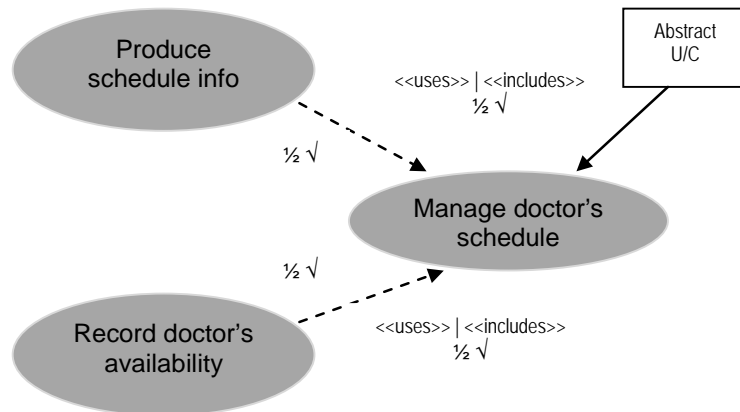


4.4

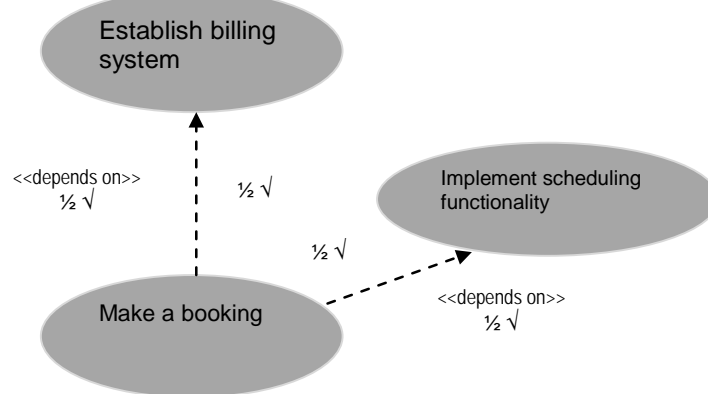
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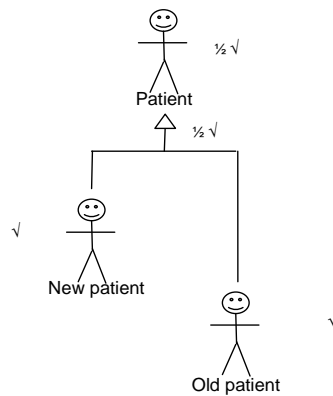
4.5



4.6



4.7  
max 2



**Mark allocation:** See allocated marks.