BIG TEST ★ GROOT TOETS 2

		DURATION/DUUR	**1h 40min**
MODULE CODE/KODE	**ITRW 213**	MARKS/PUNTE	**50**
EXAMINER/EKSAMINATOR	**Imelda Smit**	DATE/DATUM	**19-05-2015**
MODERATOR	**Prof Roelien Goede**	TIME/TYD	**17:00**

MEMORANDUM

Answer all the questions. ★ Beantwoord al die vrae.

Question 1 | Vraag 1 [Chapter 6 | Hoofstuk 6]   **[10]**

Name and Discuss any 5 of the **Fact-Finding Techniques**.

Noem en bespreek enige van die 5 **Feitontdekking Tegnieke.**

Answer: (refer to p. 215 - 234)

1. Sampling of existing documentation, forms and files ½√ - Studying a existing system, then sampling where the process of collecting a representative sample of documants, forms and record ½√
2. Research and site visits ½√ - thoroughly researching the problem domain ½√
3. Observation of the work environment ½√ - Involves the system analyst becoming an observer of people and activities in order to learn about the system ½√
4. Questionnaires ½√ - Document that allows the analyst to collect information and opinions from respondents ½√
5. Interviews ½√ - the systems analyst collects information from individuals through face-to-face interaction ½√
6. Discovering Prototyping ½√ - act of building a small scale representative or working model of the users' requirements in order   to discoer or verify those requirements ½√
7. Joint Requirements Planning ½√ - Process whereby highly structured group meetings are consucted for the purpose of analysing problems and defining requirements ½√

Mark allocation: See marks allocated (max of 10 marks)

Study the given **Case Study**:   Bestudeer die gegewe **Gevallestudie**:

Kunsan Hanvit Inc. Is a small custom manufacturong firm located in Kunsan South Korea. When Chung-Hee Ko, the owner, first bought computers into the business office, the firm was very small and simple. He was able to use an inexpensive PC-based accounting system to handle the basic information-processing needs of the firm. As time went on, the firm grew and the work has become musch more complex. The firm's business contracts are as complex as the custom products it manufactures. The simple accounting software is no longer able to keep track of many of the company's sophisticated contracts with its customers. Mr Ko has a staff of four in the busimess office who are familiar with the intricacies of the campany's recordkeeping requirements. He recently discussed with his staff his plan to hire an information system (IS) consultancy to evaluate Kunsan Hanvit's IS needs and proposes an upgrading of its computer system. The staff is excited about the prospect of a new system, because the current system has caused much aggravation. However, they are wary of the consultants who will be conducting the project. Assume that you are a system analyst on the consulting team assigned to the Kunsan Hanvit Inc. Project. At your first meeting with the staff, you want to be sure that they undrstand the qork that your tea, will be performing and how they will participate in that work.

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(2.1) Explain to the client, in clear, nontechnical terms, how **use-cases and a use-case diagram** will be used by the project team. Also explain what these models are and what they represent in the system	**4**	(2.1) Verduidelik in duidelike, nie-tegniese terme aan die kliënt hoe **gebruiksgevalle en gebruiksgevallediagramme** deur die projekspan gebruik sal word. Verduidelik ook wat hierdie modelle is en wat hulle in die stelsel verteenwoordig.
(2.2) Draw a system **use-case diagram** with only the basic use-cases (3-4 functions/systems) and actors (3-4 roles).	**6**	(2.2) Teken 'n stelsel **gebruiksgevallediagram** met slegs die basiese gebruiksgevalle (3-4 funksies/stelsels en akteurs (3-4 rolle).

Answer 4.1 (refer to p. 246 - 250)

Use-cases represent business processes √ in the system, it is a pictorial representation of the system √ to enable the user to comment and give useful feedback, √ also to form a picture of the systems' functionality. Use-case diagrams also link the requirements to the models used by the designers/developers to build the final system. √

Answer 4.2 (refer to p. 251 - 260)
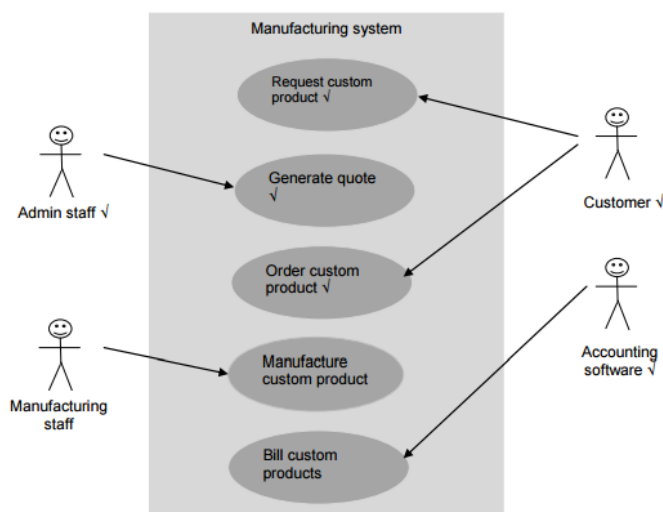
Mark Allocation: See marks allocated

Study the following Case Study and draw an **ERD** with all attributes of the **maintenance sub-system**.

Bestudeer die Gevallestudie en teken 'n **ERD** met alle attribute van die **Onderhoud Substelsel**.

A new client in the Vaal Triangle obtained land on the river and wants to start a boat club. The land will be developed to include a club house with offices, a kitchen and an entertainment area. A tuck shop will sell sweets, cool drinks and reads during busy times. Braai areas close to the river and fishing spots are some of the features planned. Swimming pools, a play area and trampolines will be built to entertain children. Launching pads and jetties will be made available for boating. Tent stands, caravan stands, dwellings (three bedrooms, two bedrooms and single bedroom), boat lockers (small and big) and caravan shades will be made available for rental. The stands will be available per night at a rate and will be booked on a calendar. Electricity (from solar panels) and water (from a bore hole) will be made available per stand and ablution facilities with a laundry and washing-up facilities will be accessible to the stands. Rates will be dependent on the season. All other rentals will be over a minimum period of a year and each category are rented on a per m^2 rental amount. It will be necessary to appoint a team of people to run this boat club – including a financial specialist, an admin person, handymen, gardeners, cleaners, a mechanic and a person who can maintain the power and water systems. Club members are screened by die developer (initially) and a committee of members. After completing an application form, approved members pay a once-off fee and then a yearly fee. Daytime visits are free and members get access through access control. Members may invite friends, who may visit the boat club with them. Friends need to pay a day fee or an overnight fee (whichever is applicable) and also needs to complete a basic information sheet. The staff's time will be spend on marketing the boat club, making sure moneys to be paid, are. A budget needs to be compiled and the necessary stock needs to be ordered and paid. The maintenance of the premises and the cleaning of buildings are also important. A maintenance schedule will be applicable to ensure everything is maintained during off-time and in tip-top condition during peak time.
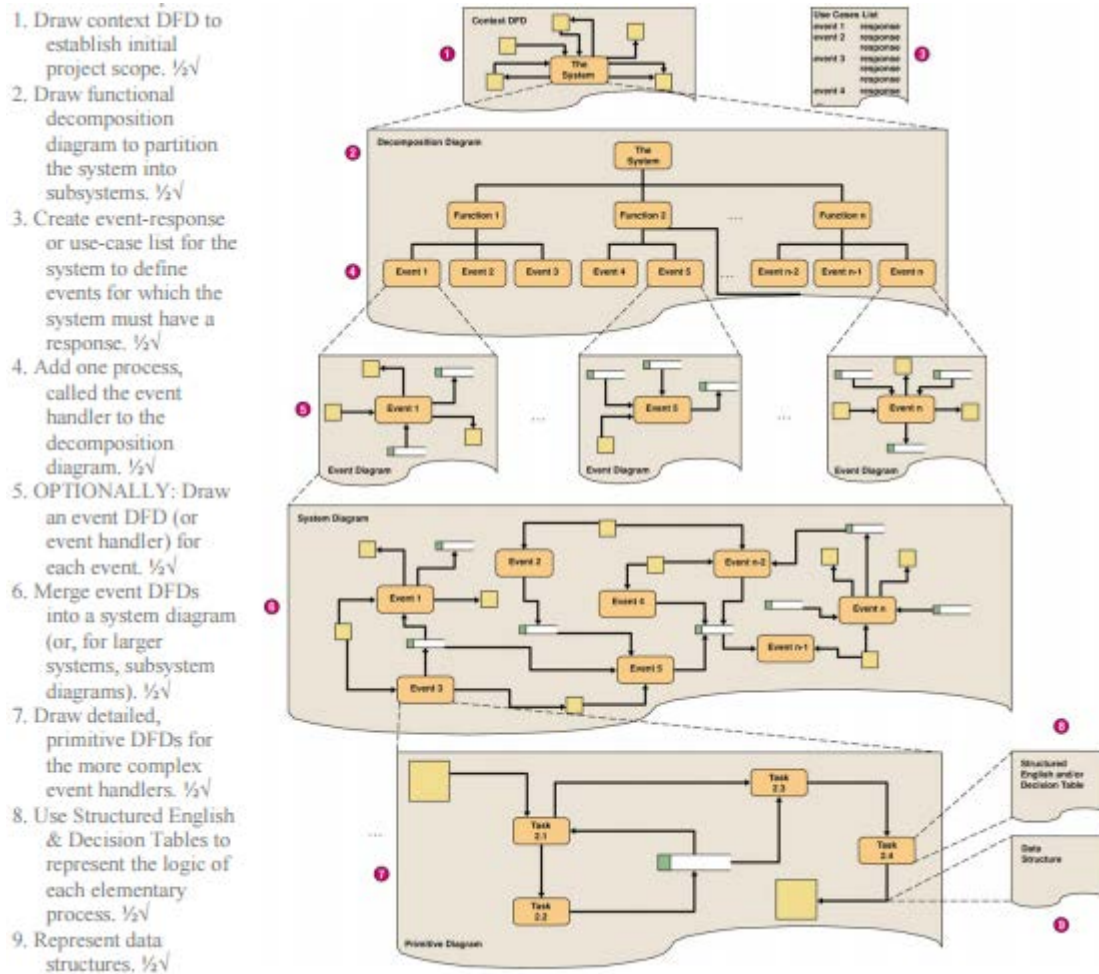
Answer (refer to Chapter 8)
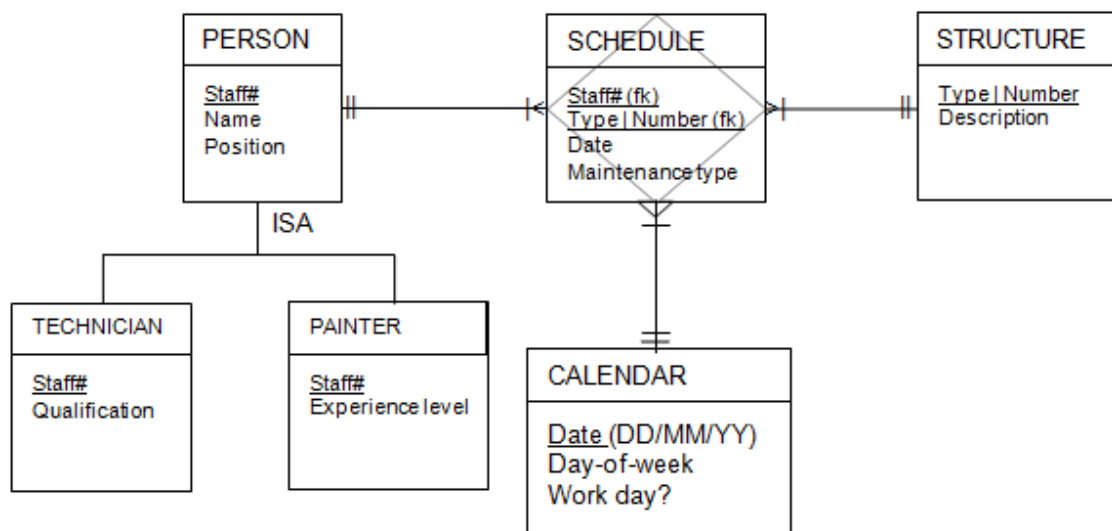
Mark allocation: ½✔ for each entity; ½✔ for each key; ½✔ for each relationship; ½✔ per group of non-key attributes; ½✔ per cardinality. Maximum: 10 marks.

Name and Explain the 9 steps in **Process Modelling**. Illustrate these 9 steps with diagrams.

Benoem en verduidelik die 9 stappe van **Prosesmodellering.** Illustreer met behulp van diagramme.

Answer (refer to p. 335 - 336)

1. Draw context DFD to establish initial project scope. ½√
2. Draw functional decomposition diagram to partition the system into subsystems. ½√
3. Create event-response or use-case list for the system to define events for which the system must have a response. ½√
4. Add one process, called the event handler to the decomposition diagram. ½√
5. OPTIONALLY: Draw an event DFD (or event handler) for each event. ½√
6. Merge event DFDs into a system diagram (or, for larger systems, subsystem diagrams). ½√
7. Draw detailed, primitive DFDs for the more complex event handlers. ½√
8. Use Structured English & Decision Tables to represent the logic of each elementary process. ½√
9. Represent data structures. ½√

Mark allocation: See allocated marks - Each step ½√, illustrated ½√ per number (max of 10 marks)

(5.1) Name and Explain the **Six Tests for Feasibility.**	**6**	(5.1) Benoem en verduidelik die **6 Toetse vir Haalbaarheid.**
(5.2) Name and discuss the **techniques** for assessing **economic feasibility**.	**3**	(5.2) Benoem en bespreek die **tegnieke** vir die assessering van **ekonomiesie haalbaarheid**.
(5.3) Define a **Candidate Matrix**.	**1**	(5.3) Definieer 'n **Kandidaat Matriks**.

Answer 5.1 (refer to p. 417)

1. Operational Feasibility ½√ - measure of how well a solutioon meets the identified system requirements to solve the problems and take advantage of the opportunities envisioned for the system ½√
2. Cultural Feasibility ½√ - measure of how people feel about a solution and how well it will be accepted in a given organizational climate ½√
3. Technical feasibility ½√ - measure of practicality of a specific technical solution and the availability of technical resources and expertise to implement and maintain it. ½√
4. Schedule feasibility ½√ - measure of how reasonable the project timetable is. ½√
5. Economic Feasibility ½√ - measure of cost-effectiveness of a project ½√
6. Legal feasibility ½√ - measure of how well a solution can be implemented within existing legal and contractual obligations ½√

Mark allocation: See allocated marks

Answer 5.2 (refer to p. 423 - 425)

1. Payback Analysis – technique to determine if when an investment will pay for itself √
2. Return-on-investment – technique that compares the lifetime profitability of alternative solutions √
3. Net Present Value – technique that compares the annual discounted costs and benefits of alternative solutions. √

Mark allocation: See marks allocated

Answer 5.3 (refer to p. 426)

Tool used to document similarities and difference between candidate systems √

Mark allocation: See allocated marks