

<p>VNU University of Engineering and Technology *** Final Examination Subject: Object-oriented Analysis and Design</p>	<p>Semester: 01 Academic year: 2019-2020 Time: 75 minutes Important instructions 1. Any document and communication devices are not allowed in the examination venue.</p>
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Exam Number: 004

(Note: Please WRITE this exam number into your answer sheet.)

Question 1 (6 pts).

As the head of Information Technology department at a company, you are tasked with building a software system in order to partly automate the recruitment process of the organization. The new system shall allow the staff of the Human Resource department to post a new job and announce the vacancy. The information of a job could be the title, required number, the job description, responsibilities for the job, salary, and other information. The system shall allow the applicant to search for jobs and apply. The applicant has to upload her/his CV in order to apply for a job. The system shall allow the staff to check the applicant CVs, shortlist applicants and require the system to send the shortlist to the test system for candidate testing. The applicant can view the testing result (a grade/mark) obtained from the test system.

As a software designer, could you analyse and design the system with the following artifacts:

- d. The use case diagram of the system and the brief description of the use cases (2 points)
- e. The specification of the use case by which *the system allows the applicant to view the testing result (a grade/mark) obtained from the test system (UC1)* (1 point).
- f. The sequence diagram in the analysis phase of the use case *UC1* (1 point).
- j. The class diagram in the analysis phase of the use case *UC1* (1 point).
- k. The class diagram in the design phase of the use case *UC1* (1 point).

Question 2 (4 pts). Please choose the correct answer(s) to the following questions:

<p>1. Which two statements are true about use-case driven processes?</p> <p>A. Use-cases are concise, simple, and able to be understood by a wide range of stakeholders.</p> <p>B. Use-cases are a complete list of functional requirements.</p> <p>C. Use-cases help synchronize the content of different models.</p> <p>D. Use-cases specify how the system behavior is to be implemented.</p>	<p>2. Which statement is true about patterns?</p> <p>A. Patterns only exist at the Design level.</p> <p>B. Patterns only exist at the Architectural level.</p> <p><input checked="" type="radio"/> C. Patterns provide a common solution to a common problem.</p> <p>D. Patterns are only used during the Elaboration Phase.</p>
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<p>3. What defines a subsystems responsibilities?</p> <p>A. its internal class behavior</p> <p>B. the operations on a class contained within the subsystem</p> <p>C. the use-case realizations in which the subsystem appears</p> <p>D. the operations of the interfaces it implements</p> <p>4. During Use Case Analysis, how many interaction diagrams (sequence or communication) should be drawn for each use-case?</p> <p><input checked="" type="radio"/> A. enough of each type to ensure that all responsibilities of participating classes are identified and that most of the flows of events are examined</p> <p>B. one for the main flow and one for each alternate flow of events in the use-case</p> <p>C. one of each type for the main flow and one of each type for each alternate flow of events in the use-case</p> <p>D. one of each type per use-case, with each alternate flow of events shown as an interaction occurrence</p> <p>5. In which OOAD activity is the distribution mechanism identified?</p> <p>A. Identify Design Elements</p> <p>B. Class Design</p> <p><input checked="" type="radio"/> C. Identify Design Mechanisms</p> <p>D. Architectural Analysis</p> <p>6. Which artifact is used to describe use-case realizations?</p> <p>A. state charts</p> <p>B. textual use-case descriptions</p> <p><input checked="" type="radio"/> C. activity diagrams</p> <p>D. communication diagrams</p> <p>7. What is the focus of analysis?</p> <p>A. translating functional requirements into code</p> <p>B. translating real-world concepts into solution-oriented objects</p> <p>C. translating requirements into a system design</p> <p><input checked="" type="radio"/> D. translating functional requirements into software concepts</p>	<p>8. During Use Case Analysis, why are analysis mechanisms used?</p> <p>A. to simplify the task of creating use-case realizations by providing convenient shorthand for repetitive tasks</p> <p>B. to gather common tasks into one place, in order to more easily assign them to developers for implementation</p> <p>C. to reduce complexity and improve consistency by providing a shorthand representation for complex behavior</p> <p>D. to verify that designers have performed the analysis task correctly, according to the architects recommendations</p> <p>9. A _____ models the interaction of the information system with its end-users and other external systems.</p> <p><input checked="" type="radio"/> A. Implementation plan.</p> <p>B. Class diagram.</p> <p>C. Use case diagram.</p> <p>D. Package diagram.</p> <p>E. Database diagram.</p> <p>10. In Use Case Analysis, what is the purpose of the Unify Analysis Classes step?</p> <p><input checked="" type="radio"/> A. to ensure that each analysis class represents a single well-defined concept, with no overlapping responsibilities</p> <p>B. to gather the analysis classes from each use-case realization and bring them into the Design Model</p> <p>C. to make sure the responsibilities of each class are consistent and that the class has a well-defined single purpose</p> <p>D. to create initial class families by using inheritance to group related classes into tree structures</p>
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