

# National University of Computer and Emerging Sciences, Lahore Campus



Course: Software Design & Analysis  
Program: BS (CS)  
Duration: 60 Minutes (1 Hour)  
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Section: All  
Exam: Sessional I

Course Code: CS3004  
Semester: Fall 2023  
Total Marks: 40  
Weight: 15%  
Page(s): 3

## Instructions:

Provide answers on the designated place in the question paper **only**. Rough sheets may be used but should **not** be submitted.

Name: \_\_\_\_\_

Roll Number: \_\_\_\_\_

Section \_\_\_\_\_

## Question 1 (Max. Marks = 20) [CLO 4]

A company uses a web-based system called Recruitment Management System (RMS) for automating its entire recruitment process. This recruitment process typically begins with job postings created by HR professionals within that company. These postings include job titles, descriptions, required qualifications, and other pertinent job-related information. Once the jobs have been posted on RMS, prospective candidates can view these job postings. To apply for a job, a prospective candidate must become a registered job seeker by creating an account on RMS. Once an account has been created, a registered job seeker can apply for a job on RMS either by uploading CV or by filling an online form. When a registered job seeker is applying for a job, RMS employs a third-party system called Job Matcher to automatically calculate and display the match score – a metric showing how well the job seeker's profile (extracted from the CV or online form) matches the job's requirements (extracted from the job posting).

RMS also allows HR professionals to schedule job interviews. When an interview is being scheduled, RMS checks the availability of both the job seeker as well as the interview panelists. During the interview, the interview panelists assess the job seeker and record their feedback on RMS. This feedback can be viewed by the hiring manager. While viewing this feedback on RMS, the hiring manager may access the job seeker's profile. The final decision on a job application (i.e. job seeker is recommended or not recommended) is also recorded on RMS by the hiring manager.

Once a decision has been recorded, HR professionals notify the job seeker via RMS. While viewing the notification on RMS, the job seeker may request detailed feedback provided by the interview panelists.

Without making any assumptions, model just the information provided above about RMS using a UML 2 **use case diagram**.

Use the **next page** for answering this question.

Name: \_\_\_\_\_

Roll Number: \_\_\_\_\_

Section \_\_\_\_\_

[Use this page for answering Question 1 only.]



**Question 2** (Max. Marks = 20) [CLO 3]

An amusement park contains multiple attractions each with its own name and location. These attractions are either games or rides. Every game is played according to one or more rules while every ride has a duration and seating capacity. To enjoy one or more of these attractions, every visitor to this park must purchase a ticket sold by this park. Each ticket (sold to a single visitor only) has a serial number, price, discount, issue date, expiry date, and a list of allowed attractions. The price of the ticket depends on the list of allowed attractions and the discount on the ticket depends on the age of the visitor. Children (i.e. visitors with age less than 10 years) are given 50% discount while seniors (i.e. visitors with age more than 65 years) are given 100% discount.

Without making any assumptions, model just the information provided above using a UML 2 **analysis class diagram**.

[Use the space below on this page for answering Question 2 only.]