

This question paper consists
of 3 printed pages each
of which is identified by the Code
Number (COMP202101)

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School of Computing

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COMP202101

Mobile and Social Web Application Development

Answer all 3 questions

Time allowed: 2 hours

Question 1

- (a) Describe using example applications **four** advantages of using the AngularJS framework for developing mobile websites. **[8 marks]**
- (b) Explain the type of data binding used in AngularJS. How does it relate to the Model View Controller architecture? **[4 marks]**
- (c) Explain, using an example, the role of a service in AngularJS and how *services* can be used to share data between controllers.
Program code is not required. **[5 marks]**
- (d) Explain what `$scope` is in AngularJS. **[3 marks]**

[Question 1 total: 20 marks]**Question 2**

- (a) Explain what directives are used for in AngularJS and provide an example of a directive and what it would be used. **[3 marks]**
- (b) Below is an example of a form for user creation. It does the following:
- provides inline messages while the user is typing in a field
 - checks all fields are valid types and completed
 - checks password is at least 6 characters long
 - disables the submit button until all the needed data is available and the terms and conditions checkbox is checked

Username	Username	Username is required
Password	...	Password must have minimum 6 characters
Email Address	test@	Must be a valid email

☐ I've read the terms and conditions

Submit

Explain using snippets of code how you would use built-in AngularJS directives to implement the required form validation functionality. **[14 marks]**

- (c) One of the features of AngularJS is supporting the development of custom directives. Explain, using an example, why this feature is useful. **[3 marks]**

[Question 2 total: 20 marks]**Question 3**

OAuth is an open-standard authorization protocol.

- (a) Explain, using an example, the purpose of OAuth. **[4 marks]**
- (b) Explain, using relevant snippets of code, how you would implement the typical workflow for OAuth 2.0 requests using AngularJS. **[10 marks]**
- (c) Given the following factory that can access images from an Instagram endpoint, explain using relevant snippets of code, how you would create a controller that uses the factory to display the images retrieved. **[6 marks]**

```
myApp.factory('api', function($resource) {  
    accessToken =  
    JSON.parse(window.localStorage.getItem("instagram")).oauth.access_token;  
    var photos =  
    $resource('https://api.instagram.com/v1/users/self/media/recent/?access_t  
oken='+accessToken);  
    return {  
        get_photos: function(success, error){  
            return photos.get();  
        },  
    };  
});
```

[Question 3 total: 20 marks]