

University of St Andrews



DECEMBER 2020 48 HOUR ASSESSMENT SCHOOL OF COMPUTER SCIENCE

MODULE CODE: IS5103

MODULE TITLE: Web Technologies

TIME TO HAND IN: 48 hours

EXAM INSTRUCTIONS

- a. Answer all 3 questions
- b. Each question indicates the number of marks it carries. The paper carries a total of 60 marks.

This assessment consists of exam-style questions and you should answer as you would in an exam. As such, citations of sources are not expected, but your answers should be from your own memory and understanding and significant stretches of text should not be taken verbatim from sources. Any illustrations or diagrams you include should be original (hand or computer drawn). You may word-process your answers, or hand-write and scan them. In either case, please return your answers as a single PDF. If you handwrite, please make sure the pages are legible, the right way up and in the right order. Your submission should be your own unaided work. While you are encouraged to work with your peers to understand the content of the course while revising, once you have seen the questions you should avoid any further discussion until you have submitted your results. You must submit your completed assessment on MMS within 48 hours of it being sent to you. Assuming you have revised the module contents beforehand, answering the questions should take no more than three hours.

1. *Web Standards and Frameworks*

- (a) Describe the process involved and the motivation for a technology becoming a W3C recommended standard?

[10 marks]

- (b) HRC a recruitment company are commissioning a new website and have been advised to make it mobile friendly.

Advise them on what this means and the main criteria and design considerations they should think about when selecting technology to implement and support their project .

[10 marks]

[Total marks 20]

2. *Presentation Logic*

- (a) Describe 5 methods for integrating CSS in web pages, use relevant code to illustrate your answer and discuss the merits or demerits of each method.
[10 marks]

- (b) Explain the effect and use of the following CSS3 style rule.

```
Section {  
    -moz-transform: scale(2) rotate(20deg) translateX(12px)  
    skewX(20deg);  
    -webkit-transform: scale(2) rotate(20deg) translateX(12px)  
    skewX(20deg);  
    -o-transform: scale(2) rotate(20deg) translateX(12px)  
    skewX(20deg);  
    -ms-transform: scale(2) rotate(20deg) translateX(12px)  
    skewX(20deg);  
    transform: scale(2) rotate(20deg) translateX(12px)  
    skewX(20deg);  
}
```

[5 marks]

- (c) Your latest web design project for CHS a children's charity will make use of non-standard web fonts, how would you proceed?

[5 marks]

[Total marks 20]

3. *Optimisation and sustainability*

- (a) EDSOC sells educational software and wants to improve the speed of their website and its environmental profile. Describe the techniques that you would implement or explore and any guidance that you would provide.

[5 marks]

Interactivity, usability and accessibility

- (b) EDSOC's order page will allow users to purchase software. Draw an interactive form to allow users to enter their name, email address, reference number, quantity and type of software, the date and their institutional homepage address. You should expand on your design by describing input elements, attributes, what will be seen in a browser and what will happen when the user completes the form.

[10 marks]

- (c) Explain the accessibility and usability features you would add to the order page to comply with the POUR principles of WCAG2.1.

[5 marks]

[Total marks 20]

***** END OF PAPER *****