

# KASNEB

## DICT LEVEL III

### PRINCIPLES OF WEB DEVELOPMENT

#### PILOT PAPER

September 2015.

Time Allowed: 3 hours.

Answer ALL questions. Marks allocated to each question are shown at the end of the question.

#### QUESTION ONE

(a) Describe the following tags and attributes as used in HTML:

(i) `<Script type = "text/javascript" language = "javascript" src = "/script.js"/>` (4 marks)

(ii) `<img src = "smiley.gif" alt = "smiley" width = "100" height = "100" border "5"/>` (6 marks)

(b) Explain the use of layers in graphics and animations. (2 marks)

(c) The target attribute of an anchor tag (`<a>` `</a>`) can take several values.

Explain the meaning of each of these values:

(i) Blank. (2 marks)

(ii) Self. (2 marks)

(iii) Parent. (2 marks)

(d) Write in full the acronym 'CSS' and explain its use in web development. (2 marks)

(Total: 20 marks)

#### QUESTION TWO

(a) Outline two advantages of external styling over inline styling. (4 marks)

(b) Distinguish the terms "contrast" and "brightness" as used in graphics design. (4 marks)

(c) Use figure 1 below as a guide to answer the following questions:

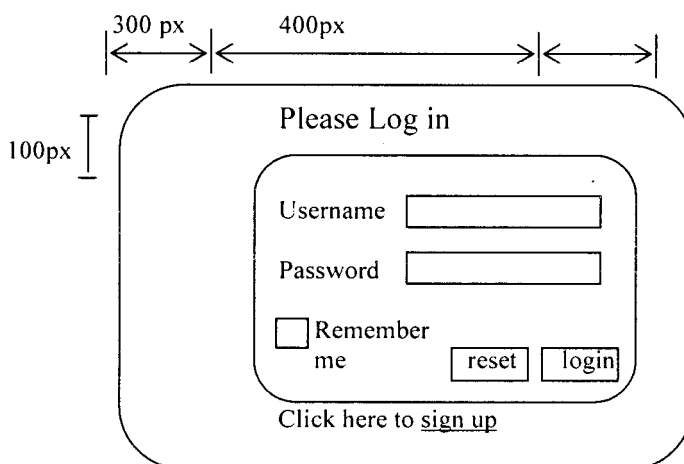


Figure 1

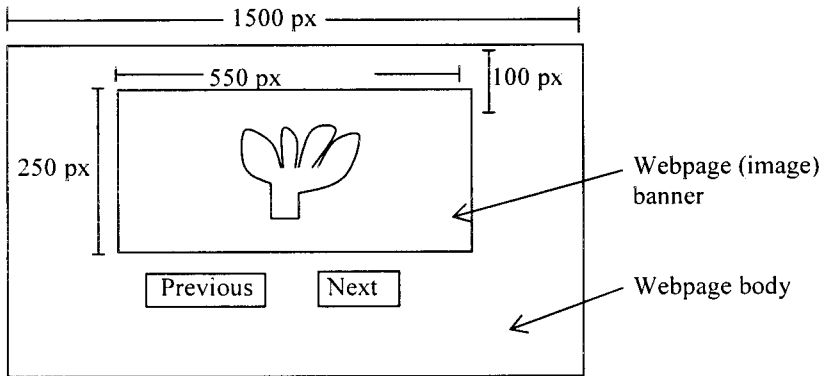
(i) Generate the relevant HTML code to create the illustration (styling should be ignored). (6 marks)

- (ii) Using a relevant server side language, demonstrate how a user would be authenticated and logged in. (database connection is not required, assume users table). (6 marks)

(Total: 20 marks)

**QUESTION THREE**

- (a) (i) Using a sample code snippet, explain how user input can be “escaped” during form submission to effect web security. (4 marks)
- (ii) Explain why it might be necessary to have a separate file handling database connections during web development. (2 marks)
- (b) Use the webpage browser in figure 2 below to answer the following questions:



**Figure 2**

- (i) Write out relevant HTML code to produce the banner (styling is not required). (7 marks)
- (ii) Using a suitable client side language, demonstrate how the ‘previous’ and ‘next’ buttons can be used to scroll through the banner images. (7 marks)

(Total: 20 marks)

**QUESTION FOUR**

- (a) (i) Distinguish between “local hosting” and “remote hosting” as used in web development. (4 marks)
- (ii) Describe, using an example, the term “iframe” a used in web design. (4 marks)
- (b) Explain the term “in-between-frames” as used in motion tweening during character animation. (2 marks)
- (c) Explain four ways of speeding up webpage loading. (8 marks)
- (d) In the context of e-commerce, explain the term “third parties”. (2 marks)

(Total: 20 marks)

**QUESTION FIVE**

- (a) Distinguish between “static” and “dynamic” websites. (2 marks)
- (b) Describe the following request verbs as used in form requests:
  - (i) Get. (2 marks)
  - (ii) POST. (2 marks)
  - (iii) Patch. (2 marks)
  - (iv) Put. (2 marks)
  - (v) Delete. (2 marks)
- (c) Explain any four design factors that can improve the visual user interface of a website. (8 marks)

(Total: 20 marks)