Marking Scheme
Multimedia and Web Technology
Class: XII
Session 2016-17

Max. Marks : 70   **Duration : 3 hrs.**

1. a) Write the names of any two RDBMS.   1

Answer Ms Access, MySql, Oracle etc .
(1/2 marks each for any two correct names)

b) Name the type of relationship which is created between two tables, if one table has only one   1
matching record in other table.

Answer One to one
(1 mark for correct answer)

c) AVI file format is for _____ files.   1

Answer movie.
(1 mark for correct answer)

d) Study the following data and answer the questions given below:

Table: Doctors

DocID	DocName	Department	OPD_Days
101	M.Panday	ENT	TTS
102	G.P.Gupta	Paed.	MWF
201	C.K.Sharma	Ortho	MWF

Table: Patients

Pat_no	PatName	Department	DocID
1	Neeraj	ENT	101
2	Mohit	Ortho	201
3	Ragini	ENT	101
4	Mohit	Paed.	102
5	Nandini	Ortho	201

i) What type of relationship exists between table **Doctors** and the table **Patients**?   1

Answer   A one to many relationship exists between table Doctors and table Patients

(1 mark for naming the correct relationship type)

   ii)   Name the fields, which can act as the primary key and foreign key for the table Doctors and table Patients respectively.   2

Answer   The field DocID can be set as the primary key for the table Doctors.
The field DocID can be set as foreign key for the table Patients.
(1 mark each for correctly naming the primary key and foreign key)

   e)   Aman has created a symbol in Flash which can be clicked, write the type of symbol that he has created.   1

Answer   Button symbol.
(1 mark for correct answer)

   f)   Rahul has created a movie in Flash. When he is running his movie, it is going very fast. What should he do to slow down his movie.   1

Answer   He should decrease the frame rate of the movie.
(1 mark for the correct answer)

   g)   Mr. Raja Maheshwari is planning to gift a digital album to his daughter on her birthday. All the images have lots of colour shading and are all static images. Which of the following formats are best suited for this purpose: 2
     (i)   GIF
    (ii)   JPEG
   (iii)   AVI
   Justify your choice

Answer   Mr. Raja Maheshwari should save the images in JPEG format because it supports lots of colours (suitable for shading), and JPEG real life static photographs are more compressed than GIF.
(1 mark for naming the correct format)
(1 mark for the correct justification)

2.   **Answer the following questions based on Macromedia Flash:**

   a)   What is a keyframe?   1

Answer   A keyframe is a frame where we define changes in the animation from the previous frame.
(1 mark for the correct answer)

   b)   Write the difference between a guide layer and a mask layer.   2

Answer   A motion guide layer lets the designer draw paths along which tweened symbols can be

animated whereas a mask layer is used to create a hole through which the contents of one or more underlying layers are visible.
(2 marks for the correct differentiation)
(1 mark if only one is correctly explained)

c) Differentiate between a Symbol and an Instance. 2

Answer

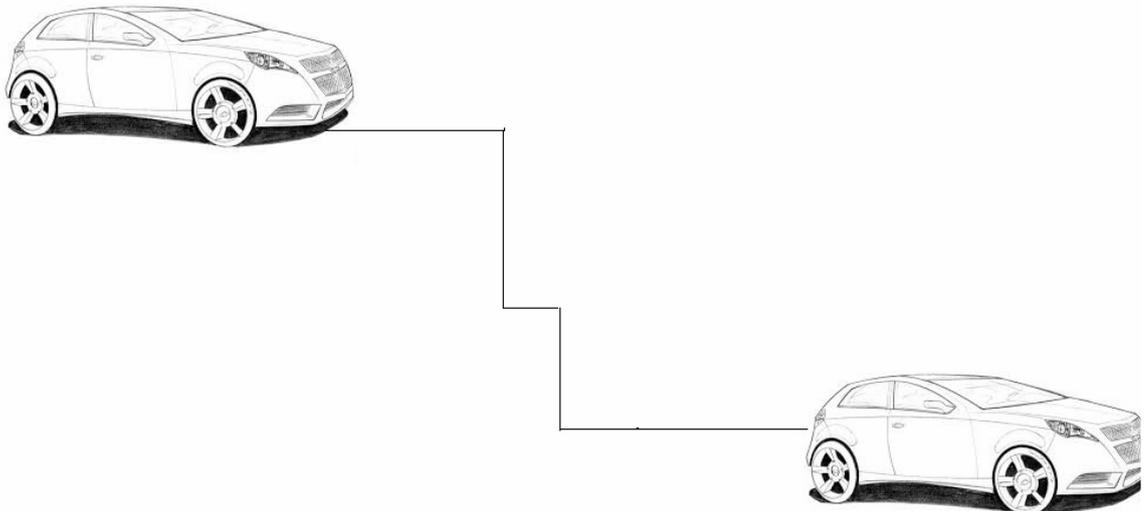| Symbol	Instance
1. Symbols are reusable media elements such as graphics, buttons, movie clips etc. that can be used in a movie.	1. Instance is an occurrence of a symbol
2. The symbol is stored in the file's library	2. An instance is placed on the Stage
3. A change in any of the symbols effect all its instances	3. A change in an individual instance need not effect the symbol.

(1 mark each for any two correct differences)

d) What is the difference between hiding a layer and locking a layer? 1

Answer Hiding a layer means that the contents of that layer are not visible and locking a layer means that the contents of that layer cannot be edited.
(1 mark for the correct difference)
(½ mark if only one is correctly explained)

e) Consider the figure given below and do as directed: 4

- The car on the left hand side shows the position for frame 1.
- The car on the right hand side shows the position for frame 20.
- The car in frame 1 moves to frame20 following path as shown in fig.
- The image of car is car.jpg saved in flash library.

Write the procedure and property settings for animating the above scenario.

Answer   The following steps have to be followed to animate the given scenario:

- Select frame 1 from the timeline and drag the image car.jpg from library on stage at the left hand side.
- Select frame 20 from the timeline and Select Insert → Keyframe
- Change the position of the car as shown on right side
- Select any frame between 1 and 20
- Select Create motion tween.
- Click on Insert and select guide layer
- Take pencil tool and draw the path of car as shown
- Click on previous layer and align the car with the path at both ends
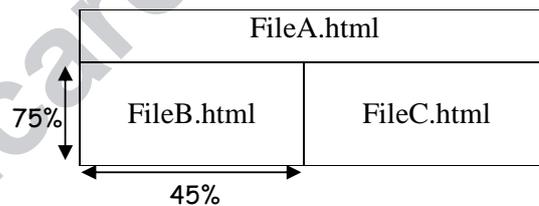- Run the movie

(½ mark for each correct step)
(full marks for any other correct equivalent way for the same animation)

3.   **Answer the following questions based on HTML:**

a)   2

Write the HTML code to create a framed web page in the following format

FileA.html	
75% FileB.html	FileC.html
45%	

Answer   The required coding is :
```
<HTML>
<FRAMESET ROWS = "25%,*">
 <FRAME SRC = "FileA.HTML">
  <FRAMESET COLS = "45%,*">
   <FRAME SRC = "FileB.html">
   <FRAME SRC = "FileC.HTML">
  </FRAMESET>
```

</FRAMESET>
</HTML>

b)   Write the HTML code to generate a Web Page in the format given below :   8

Consider the following while writing the HTML code
1. Background of page is yellow
2. Title of the page is "gaming"
3. Text of whole document is verdana
4. Heading of the page is maroon and arial bold
5. Image used is "image1.jpg"
6. border of table is green and of size 2
7. background colour of table is white
8. Image used in the table is "war.jpg" and "call.jpg"
9. Horizontal line colour is red
10. Bottom link is "game.html"

Answer   <HTML>

<html><HEAD><TITLE> Gaming</TITLE></HEAD>

<BODY   bgcolor = "yellow">

<basefont face = "verdana"

<H2 ALIGN=center>Computer Gaming</H2>

<IMG SRC="image1.jpg" HEIGHT=150 WIDTH=200 ALIGN="right">

<P><B>A personal computer game(also known as a computer game or PC game) is a game played on a personal computer, rather than on a video game console or arcade machine. Computer games have evolved from the simple graphics and gameplay of early titles like Spacewarl, to a wide range of more visually advanced titles.

<P>Basically there are four types of computer games:

<OL><LI>Strategy

<LI> First person shooters

<LI> 3rd person views

<LI> Racing

</OL>

<TABLE ALIGN=center BORDER=2 bordercolor="green">

<Caption> Top Games</Caption>

<TR><td>Warcraft</td>

<TD>Strategic game</TD>

<TD><img src = war.jpg></TD>

```
<td>Call of Duty</td>
<TD>First Person shooter</TD>
<TD><img src = call.jpg></TD>
</tr>
</table>
<HR SIZE=2 COLOR=red>
<FONT SIZE=2><P ALIGN=center>FOR FURTHER ENQUIRES :<A
HREF="game.html"></A>
</BODY></HTML>
```
(1 mark for correct use of <HTML> and <BODY> tags)
(1 mark for displaying heading correctly)
(1 mark for correct use of <IMG> tag)
(1 mark for correct use of <OL> tag)
(1 mark for correct use of <A> tag for creating link)
(2 mark making table correctly)
(1 mark for correct display of bottom message)

4.   **Answer the following questions based on PHP:**

     a)   Name any two technologies which are equivalent to PHP.   1

Answer   Two technologies which are equivalent to PHP are JSP and ASP.
               (½ mark for naming each correct equivalent technology)

     b)   Write the output of the given code: 2

```
<? php
$sum=0;
for($x=1; $x<=5; $x +=1)
$sum = $sum + $x;
echo($sum);
echo("<br>");
echo($x);
?>
```

Answer   15
          5
          (1 mark for each line of output)
          (Deduct ½ mark if line break is not considered)

     c)   Explain with an example the difference between ++x and x++.   2

Answer   When you use ++, what you're really saying is x = x + 1.
          x++ means increment x after this line, and ++x mean increment x before this line.

If you write it in its own line, then there's no real difference. However, if you use this in a line with something else then it will matter.

Code:
x = 1;
y = x++;
Means:
x = 1;
y = x;
x = x + 1;
Results:
x = 2, y = 1

Code:
x = 1;
y = ++x;
Means:
x = 1;
x = x + 1;
y = x;
Results:
x = 2, y = 2

(1mark for correct differentiation and 1 mark for example)
(Full 2 marks if the difference is explained only with the help of an example)

d)   Use the following script to answer the questions that follow: 2

```php
<? php
 $A = 10;
  function Exam()
{
 $B = 20 ;
 Work();
}
 function Work()
  $A=$A+5 ;
   Exam();
?>
```

i)   How many functions are used in the above code snippet? Name them.

Answer   Two functions have been used namely Exam() and Work()
         (½ mark for each correct function name)

ii) What is the scope of variables $A and $B?

Answer Variable $A has global scope and variable $B has local scope

(½ mark for each correct answer)

e) Give output of the following statements: 3
  i)   echo 10+3*2%3-6
  ii)   echo ltrim("Examination", "Ex")
  iii) echo date("M-d-Y", mktime(0,0,0,14,1,2001))

Answer i)   4
        ii)   amination
        iii) Feb-01-2002
(1 mark for each correct output)

5.   Answer the following questions based on PHP:

a) What is a cookie?   1

Answer Cookies are usually small text files to store information about a user on the user's own computer
(1 mark for correct answer)

b) Following is the code to count no. of vowels from a text file. Fill in the blanks so that this   2
   code can work:

```php
<? php
$f = _____("exam.txt", "r");
$vowel = 0;
while(_____($f))
{
$ch = _____($f);
$ch = strtolower($ch);
if($ch == 'a' ||$ch == 'e'||$ch == 'i' ||$ch == 'o' ||$ch == 'u' )
$vowel = $vowel +1;
}
echo "Number of vowels:" . $vowel . "<br>";
_____($f);
?>
```

Answer
```php
<? php
$f = fopen("exam.txt", "r");
$vowel = 0;
while(!feof($f))
{
```

```
$ch = fgetc($f);
$ch = strtolower($ch);
if($ch == 'a' ||$ch = ='e'||$ch = ='i' ||$ch = ='o' ||$ch = ='u' )
$vowel = $vowel +1;
}
echo "Number of vowels:" . $vowel . "<br>";
fclose($f);
?>
```
(1/2 mark each for the correct answer)

c) Rewrite the following code after removing errors with each correction underlined.   2
```
<?
sum=30;
do while (sum>=20)
sum=sum-5;
echo sum;
?>
```

Answer
```
<? php
$sum=30;
do
{
$sum=$sum-5;
} while ($sum>=20)
echo $sum;
?>
```

(½ mark for correcting each error)

d) Name the built-in functions to be used in the following situations: 2
    (i) To compare two strings.
    (ii) To parse any English textual datetime description into Unix timestamp

Answer
    i) strcmp( )
    ii) strtotime( )
(1 mark for each correct function name)

e) Create a form to accept the name of the user as input as shown.   3

Name: [   ]
[submit]

If the user leaves the inputbox blank then it should display error as shown

Name: [_____] * Name is required

submit

and if user enters name then it should display as shown below

Name: [Riya_____] *

submit

HelloRiya

Answer

```
<html>
<head>
<style>
.error{color:#FF0000}
</style>
</head>
<body>
<?php
$name  = "";
$nameErr = "";
$flag=0;
if ($_SERVER["REQUEST_METHOD"] == "POST")
 {
if (empty($_POST["name"]))
 {
   $nameErr = "Name is required";
 }
else
 {
  $flag=1;
}
}
function test_input($data)
{
  $data = trim($data);
  $data = stripslashes($data);
  $data = htmlspecialchars($data);
  return $data;
}
?>
<form action="<? php echo $_SERVER['PHP_SELF'];?>" method="post">
Name: <input type="text" name="name"><span class="error">* </span>
<?php echo $nameErr;?><br>
```

```
<input type="submit" value="submit"><br>
<?php
if($flag==1)
{
echo "Hello".test_input($_POST["name"]);
}
?>
</form>
</body>
</html>
```
(1 mark for form)
(1 mark for displaying error message)
(1 mark for displaying name with "Hello")

6.   **Answer the following questions based on JavaScript:**

a)   Observe the code segment given below and answer the questions that follow: 2

```
<SCRIPT LANGUAGE= "javascript">
var A,B,C;
A = (10*3)%(4/2);
B = 40%3;
if(!(B >= A))
  C = 5;
else
  C = 10;
</SCRIPT>
```

a) Name any one relational operator and one logical operator used in the above code segment
b) Rewrite the statement : if(!(B >= A))without using the ! operator

Answer   a)   The relational operator is >= and the logical operator is !

b)   if(B<=A)

(½ mark each for naming one relational and one logical operator)
(1 mark for the correct if statement)

b)   A code to display the no. of characters of a string is written below. Fill in the blank to   1
complete it:

```
<script language="javascript">
var sometext = "Bye!"
document.write(_____(sometext))
</script>
```

Answer   strlen()
           (1 mark for correct answer)

c)   Write the equivalent script for the following code using **for loop** without effecting the output: 2

```
<SCRIPT LANGUAGE="Javascript">
var count=new Array();
i=0;
do
{
if(i%2 == 0)
count[i]=1;
else
count[i]= i *10;
i=i+1;
}while(i<=5)
</SCRIPT>
```

Answer
```
<SCRIPT LANGUAGE="Javascript">
var count=new Array()
for(i=0;i<=5;i++)
{
if(i%2 == 0)
count[i]=1;
else
count[i]= i *10;
}
</SCRIPT>
```

    (½ mark each for loop statement)
    (½ mark for correct {})

d)   Give the output of the following code segment: 1

```
<SCRIPT LANGUAGE="JavaScript">
var sum, a;
sum = 0;
a = 1;
do
{
sum = sum + a;
a = a+2;
}while(a<=8)
document.write(sum);
</SCRIPT>
```

Answer   The output is :
16
(1 mark for correct line of output)

e)   Write the code to display a form along with the javascript as shown below. User should be   4
able to select a picture after clicking on browse button and when he presses "click" button, the
picture should be displayed.

Next the user should be able to enter value of image height and width and when he presses
"apply" button, the size of picture should change as shown:

Select the image that you want to display
C:\Documents and Setti [Browse...]

specify the new height 200
specify the new width 150
[apply]

Answer   <html>

```
<head><script language="javascript">
function first()
{
document.f1.img1.src=document.f1.f2.value
}

function second()
{
document.f1.img1.width=document.f1.t2.value
document.f1.img1.height=document.f1.t1.value
}
</script></head>
<body>
<form name =f1>
Select the image that you want to display<br>
<input type=file name=f2><br>
<img width=300 height=300 name=img1>
<br><input type=button name=b1 value=apply onclick=first()><br>
specify the new height<input type=text name=t1><br>
specify the new width<input type=text name=t2><br>
```

```
<input type=button name=b2 value=apply onclick=second()><br>
</form>
</body>
</html>
```

(1 mark for form)
(1 mark each for functions)
(1 mark for handling the events)

7.   **Answer the following questions based on Communication and network concepts:**

a)   Girish Ramanuj is an entrepreneur who has recently set up a new business. Girish needs to   1
create a lot of documents, presentations, databases and spreadsheets to maintain data and
spread his business. However, he does not have the money to purchase any of the proprietary
software which offers all these packages. Can you suggest what software can Girish use for
which he has to pay no licensing fee?

Answer   Girish Ramanuj can use Free open source software to save on licensing fee.
(1 mark for correct software)

b)   Write any two advantages of using optical fiber cable over coaxial cable and twisted pair   2
cable.

Answer   Highest bandwidth
Complete immunity to noise
Negligible attenuation upto 50km
No electromagnetic interference
Most secure

(2 marks for any two correct reasons)
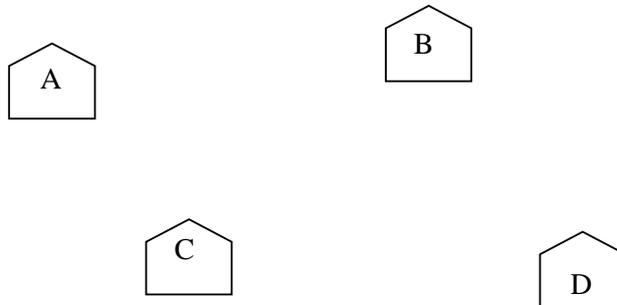*(full marks for any other correct points)*

c)   Explain the following terms: 3
    i.   W3C
    ii.   GSM
    iii.   Protocol

Answer   i.   **W3C:** The World Wide Web Consortium (W3C) is an international community that
            develops open standards to ensure the long-term growth of the Web.
    ii.   **GSM:** Global System for Mobiles, it is the international standard for wireless
            technology. GSM allows users to utilize one phone and one number in many countries
            throughout the world.
    iii.   **Protocol:** a communications protocol is a system of digital rules for message exchange
            within or between computers.

d)   An Organization has its offices in building A, B, C and D. Answer questions (a) to (d) in context of the following layout of the three offices:

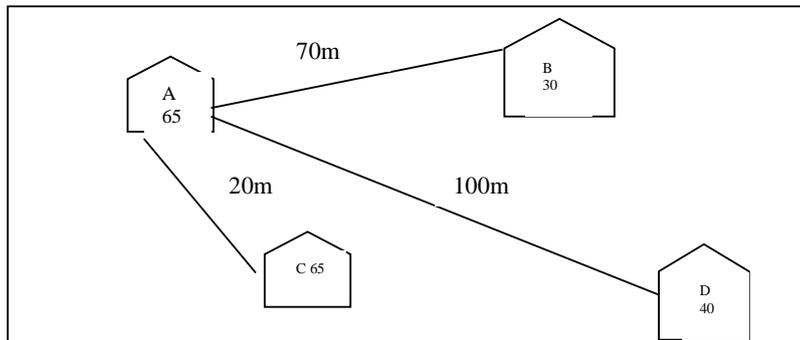Centre to Centre distances between different buildings are as follows:

Block A to Block B	100 m
Block A to Block C	70 m
Block A to Block D	20 m
Block B to Block C	150 m
Block B to Block D	120 m
Block C to Block D	140 m

Each of the above buildings has following number of computers

A	65
B	30
C	25
D	40

1

(i)   Suggest and draw the layout for a network to connect all the offices.

Answer

(1 mark for correct layout)

(ii) Where would the following preferably be placed   1
- Hub/Switch
- Repeater

Answer
- A Hub/Switch needs to be placed at each building
- A repeater needs to be placed along the wire between buildings A and B & also between A and C.

(½ mark for suggesting the correct placement of each)

(iii) Suggest the most suitable place to house the server for the organization with proper 1 justification.

Answer Building A can house the server, since it contains the maximum number of computers.
(½ mark for naming the correct block)
(½ mark for correct justification)

(iv) If the organization needs to link up to a branch office which is in a neighbouring city, (around 1 100 km distant) suggest the best type of cabling connection, from the building hosting the server, provided price is not a factor.

Answer Since price is not a factor, Optical Fibre is best suited and shall give best speed.
(1 mark for naming the correct cable type)