



Course & Semester :		Roll No.:	Date : / /201
Name of Subject :		Marks obtained :	
Sign. of Supervisor :		Sign. of Sub. Examiner :	
Q. No. 1	Q. No. 2	Q. No. 3	Total Marks

1. Basics of JavaScript Programming

JavaScript was developed by Netscape in 1995 at that time its name was LiveScript.

- follo are some features of JavaScript
- 1) Browser support :- for running JavaScript in browser there is no need to use some plug-in.
 - 2) Structure programming syntax :-
 - commonly structured language type syntax
 - similar C-style programming block can be written.
 - 3) It automatically insert the semicolon at the end of statement, hence there is no need to write semicolon at the end of statement.
 - 4) Dynamic typing :- data type is bound to the value & not to the variable.
 - 5) Run time evaluation :-
 - using eval fn the expression can be evaluated at run time.
 - 6) Support for object :-
 - javascript is oo-scripting language.
 - it has small number of inbuilt types
 - 7) Regular Expression :-
 - JavaScript supports use of regular expressions using which the text pattern matching can be done. This feature can be used to validate data on web pages before submitting it to the server.
 - 8) function programming :- one fn can accept another fn as parameter. one fn can be assigned to the variable just like some datatype. The fn can be run without giving the name.

How to write Java script:-

It can be directly embedded within HTML document or it can be stored as external file.

Syntax:-

```
<script type="text/javascript">
```

```
</script>
```

attributes of script tag - type & language

```
<script type="text/javascript">
```

```
// script here
```

```
</script>
```

&
<script language="javascript">

```
// script here
```

```
</script>
```

Eg:- Display Welcome in Javascript

```
<html>
```

```
<head>
```

```
<title> My first page </title>
```

```
</head>
```

```
<body>
```

```
<center>
```

```
<script type="text/javascript">
```

```
document.write("Welcome");
```

```
</script>
```

```
</center>
```

```
</body>
```

```
</html>
```

we can display desired msg on web browser

How to run Javascript Document:-

open web browser like Internet Explorer, Mozilla Firefox, Chrome & type the name of file on the address bar along with its complete path name

Comments in Javascript-

① // - single line

② /* & */ - multiline

③ HTML <!--> & <!-->

* Basic concept :-

1) Object Name:- Javascript is OOP languages. i.e. programs are written using objects.

Object is nothing but entity. In javascript document, window, forms, button, fields are some popular used object

Sometimes, an array or collection of objects can also be created & particular object can be accessed from that array.

2) Property:- it is actually value associated with each object.

for eg. window object - height, width, properties

3) Methods:- fn or process associated with each object.

every object is associated with some property & method. for accessing the properties & method of an object we use dot operator

4) Main Event :-

event is something that causes Javawer
to execute the code.

Values & Variables

* Values

6 types :-

1) Numbers :-

- numeric value can be integer or float
It can be used calculation

2) String :-

- collection of characters. It is enclosed
within single or double quote.

3) Boolean :-

- true or false

4) Null :-

assigned by using reserved word
null.

null mean no value

If we try to access the null value then
runtime error will occur.

5) Object :-

It is entity that represent some value
It is intended for execution of

some task.

There are predefined & user defined
fn

alert() - predefined fn using which
popup windows having some message can
be display.

Variables

we can declare variable using reserved

word var

The value of this variable can be anything

Rules for using variables :-

- identifiers must begin with either letter or underscore or dollar sign then followed by any number of letters, underscore, dollars or digit
- There is no limit on length of identifiers
- The letter in identifiers are case-sensitive
- Programmer defined variable names must not have upper case letters.

eg:- `<html> <head> <title> FP </title>`

`</head> <body>`

`<script type="text/javascript">`

`var a, b, c;`

`var string`

`a = 2;`

`b = 3;`

`c = a + b;`

`string = "The result=";`

`document.write (" +
 ");`

`document.write (string);`

`document.write (c);`

`</script>`

`</body>`

`</html>`

* Keywords

reserved word
break, continue, delete, for, in, return, throw, var
with, case, default, else, function, instanceof
switch, try, void, catch, do, finally, if, new,
- this type of, while

* Operators & Expression

① Arithmetic + Addition

- Subtraction

* Multiplication

/ Division

% mod

② Relational

<

>

<=

>=

==

!=

③ Logical

&& - And

|| - or

! - Not

=

+=

-=

/=

++

--

Conditional operator

condⁿ? exp1 : exp2

where, exp1 denote the true condⁿ

exp2 - " " - false condⁿ

Expressions

Java script makes used mathematical statements using operators & operands

These statements are called expression

IF Statement

① if (condⁿ)

Statement

② if (condⁿ)

Statement

else

Statement

③ if (condⁿ)

Statement

else if (condⁿ)

Statement

else if (condⁿ)

Statement

else

Statement

Eg:- <doctype html>

<html>

<body> <script type="text/javascript">

var a,b,c;

a=10; b=20; c=30;

if (a>b)

if (a>c)

document.write("a larger");

else

document.write("c larger");

}

else

if (b>c)

document.write("b larger");



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eg:- <script type="text/javascript">

```
d = new Date(); // return the value of current date
ch = d.getMonth(); // the month value starts from 0 to 11. Its obtain from system date fn
switch (ch) {
  case 0: document.write("Jan"); break;
  case 1: document.write("Dec"); break;
}
```

```
</script>
```

* Loop statement

1) while loop :- In implementing the iterative logic of the program.

```
eg-
syntax
some initial cond;
while (terminating cond)
{
  some statement;
  stepping cond;
}
```

```
<table border=1 align="center">
<tr> Number </tr> <tr> square </tr>
<script type="text/javascript">
```

```
while (i <= 10) {
  document.write("<tr><td>" + i + "</td><td>" + (i*i) + "</td></tr>");
  i++;
}
```

```
else
document.write ("C is larger");
</script> </body> </html>
```

use of operators

<script type="text/javascript">

```
var marks;
marks = 80;
if (marks < 90)
  document.write ("You are failed");
else if (marks > 40 & & marks < 50)
  document.write ("You are passed");
else if (marks > 50 & & marks < 60)
  document.write ("You have got second class");
else if (marks > 60 & & marks < 80)
  document.write ("You have got first class");
else
  document.write ("You are distinction holder");
</script>
```

Switch case statement :-

to execute the desired choice

Syntax

```
switch (choice)
{
  case identifier : statement;
  break
```

default : statement


```

3
</script>
</table>
</body>
</html>

```

do while loop :-
executes at least one

```

do
{
} while (condn);

```

eg:-

```

<script type="text/javascript">
c=1;
do
{
document.write ("The nois" + c);
c++;
}while (c<=5);
</script>

```

for loop :- used programming construct

```

Syntax
for (initial cond; termin condn; stepping condn)
<body> <table border=1 align="center">
<tr> Number </tr></table> </body>

```

eg:-

```

<script type="text/javascript">
for (i=1; i<=10; i++)
document.write ("<tr><td>" + i + "</td></tr>");
</script>

```

* Break Statement

eg:- <script type="text/javascript">

```

for (i=0; i<=10; i++)
{
if (i==5)
break;
}
document.write ("my lucky nois" + i);
</script>

```

* Continue Statement

eg:- <script type="text/javascript">

```

for (i=10; i>=0; i--)
{
if (i==5)
continue;
}
document.write (i);
</script>

```

Querying & Handling Popups

Feature is interactivity with user
Can interact with browser.

- 1) Alert box: some message will display
- 2) Confirm box :- the message about confirmation will be displayed. Hence it should have two buttons ok & cancel.
- 3) Prompt box :- which display text window in which user can enter something. Hence it has two buttons OK & cancel

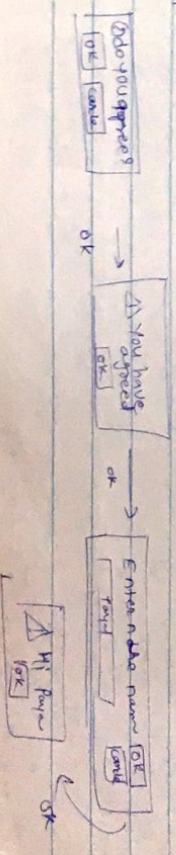
eg:-

```

<script type="text/javascript">
if (confirm ("do you agree?"))
alert ("You have agreed");
else
input_text = prompt ("Enter the name");
alert ("Hi" + input_text);
</script>

```

Qp



Eg:- prime no

```
<script type="text/javascript">
var num = prompt("Enter no");
var b, var flag = 1;
for (i = 2; i <= num; i++)
{
    b = num / i;
    if (b == 0)
    {
        flag = 0;
        break;
    }
}
if (flag == 0)
    alert(num + "is not prime");
else
    alert(num + "is prime");
</script>
```

② Armstrong numbers bet n1 to 100

$$1^3 + 5^3 + 3^3 = 153$$

```
<table border="1" align="center">
<tr>
<th> Armstrong No </th>
<script type="text/javascript">
var num, i, temp, sum;
var n = 0;
i = 1;
do
{
    num = i;
    sum = 0;
    while (num > 0)
    {
        n = num % 10;
        n = parseInt(n);
        num = num / 10;
        num = parseInt(num);
        sum = sum + (n * n * n);
    }
    if (sum == i)
    {
        document.write("<tr><td>
        " + i + "</td></tr>");
    }
    i++;
} while (i <= 100);
</script>
```

o/p

Armstrong no
1
153
370
371
407
etc

③ print first N odd numbers

```
<head>
<script type="text/javascript">
function fun(str)
{
    var num = Number(str);
    var i, j, k, count;
    document.write("The odd
    number are");
    for (i = 0; i <= num; i++)
    {
        if (i % 2 != 0)
            document.write(i);
    }
}
</script>
<body>
<script type="text/javascript">
var inputStr = prompt("
Enter no");
fun(inputStr);
</script>
</body>
```