
 "Education for Knowledge, Science, and Culture"
- Shikshanmaharshi Dr. Bapuji Salunkhe
Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur
(Autonomous)


KOLHAPUR (AUTONOMOUS)

Department of BCA

Continuous Internal Evaluation 2022-23

Sr. No.	Evaluation Activity
1	Home assignment
2	Seminar
3	Unit test

HOME
ASSIGNMENTS

Assignment - I

Good Luck Page No.
Date

Q1) what is algorithm explain it's feature with one example algorithm.

1] algorithm is the precise specification of sequence of instruction to be carried out to solve given problem.

2] it can be define as step by step processor to solve a particular problem.

features of algorithm

1] number of conditions of provided two & algorithm which is known as inputs. this inputs are process by the algorithm.

2] the specification of algorithm must be precise, unambiguous & lead to a specific action.

3] each instruction, must be basic.

4] an algorithm may have one, or more outputs.

Example

write an algorithm to calculate addition of two numbers.

Step 1: Start

Step 2: read two numbers as a & b

Step 3: Calculate addition

Step 4: $ans = a + b$

Step 5: display additions

Step 6: Stop



Q2] what is flowchart? what are symbol used to represent flowchart

- 1] Flowchart is step by step diagrammatic representation of logical part containing a solution to a given problem.
- 2] Flowchart is nothing but blue print of an algorithm.
- 3] It is defined as graphical representation of an algorithm.
- 4] It is used for understanding of any problem.

Types of flowchart -


1] System flowchart -

They express characteristics of systems, its structure & relationship in terms of flowchart symbol.




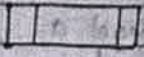




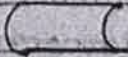
2] Program flowchart -

They are used to express algorithm for developing & writing a specific computer programme.

Symbol used to flowchart -

Name	Symbol	Meaning
1] Terminal		used to indicate start & stop.



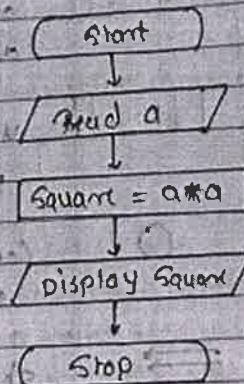
1] Input & output box		used to represent input output operations.
2] Process box		used to represent calculations or process data.
4] Decision box		it is used to represent a test which may lead more than one output & form which one of the alternative path is executed.
5] Pre-defined box		used to represent multi-step process.
6] Connector		connects the path between two or more paths.
7] flow lines		show the sequence of logical flow.
8] arrow head		show the direction of flow.
9] preparation symbol		It indicates preparation of some process or used for look setting statements.
10] online storage		used to represent any online storage device.

Date _____

Q3] Design an algorithm to display Square of number & draw a flowchart for the same.

- Step 1: Start
Step 2: Read a no as a
Step 3: Calculate Square
Step 4: $Square = a * a$
Step 5: Display Square
Step 6: Stop

Flowchart

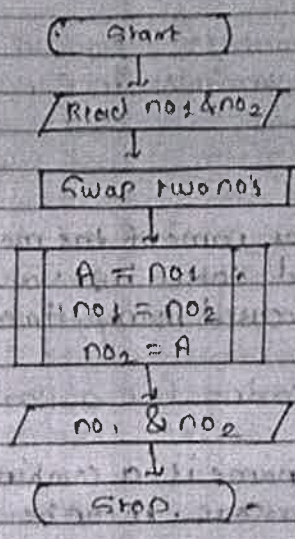


Q4] Design an algorithm for swapping of two numbers.

a] using third variable

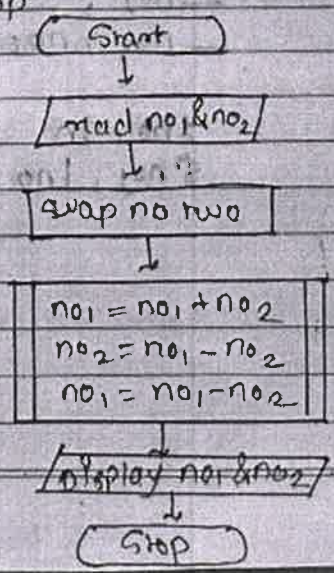
- Step 1: Start
Step 2: Read two numbers as no_1 & no_2
Step 3: Read the temporary variable as A
Step 4: $A = no_1$
 $no_1 = no_2$
 $no_2 = A$
Step 5: display no_1 & no_2
Step 6: Stop





b] without using variable

- Step 1: Start
- Step 2: read all two no's as no₁ & no₂
- Step 3: Swap two no's
- Step 4: $no_1 = no_1 + no_2$
 $no_2 = no_1 - no_2$
 $no_1 = no_1 - no_2$
- Step 5: Display no₁ & no₂
- Step 6: Stop



Q5] What are variables? explain the rules for declaring a variable in C.

Variable -

A variable is a name of the memory location. it is used to stored data. its value can be changed & it can be reused many times.

rules for declaring for a variables in C. -

- 1] A variable name is a combination of alphabets, digits & underscore. it can be alphanumerical also.
- 2] the first characters in a variable name must be alphabets or underscore.
- 3] most special no symbol (other than [underscores]) are avoid in a variable name.
- 4] a variable length must be not exceed 40 characters or it depends on the compiler.
- 5] key words are not allow in a variable name.

Eg - no1, area } valid variables
no1, no1

1no, 1n } Invalid variables.
\$no1, 1no



Q1) What are C keywords?

Keywords are the special word whose meaning is already being explained to a C compiler. Keywords is also known as reserved words. Keywords can not be used as variable name because, if we do so, we are trying to assign a new meaning to the keywords, which compiler does not allow. There are 32 keywords defined to C.

auto	default	extern	long	struct
break	case	float	near	switch
char	double	for	register	short
const	else	int	return	type
continue	enum	if	signed	union
unsigned	do	static	while	volatile
void	goto			

Q2) Explain different data in C?

① Integer data types -

1) int -

- purpose - stores whole no's
- Size - 2 bytes
- Range - -32768 to +32767
- format - %d

2) unsigned int -

- purpose - stores positive whole no's
- Size - 2 bytes
- Range - 0 to 65535
- format - %u



③ long int -
 purpose : stores bigger no than unsigned int
 size - 4 bytes
 Range : -2^{31} to $+2^{31}$
 format - %ld

④ unsigned long int -
 purpose : to store only positive whole's no's
 size : 4 bytes
 Range : 0 to 4294967295
 format : %lu

⑤ Fractional Data types -

1] float -
 purpose : stores decimal no's & used for day to day calculation.
 size - 4 bytes
 precision - single
 Range - -3.4×10^{38} to $+3.4 \times 10^{38}$
 format - %f

2] double -
 purpose - used for scientific calculation
 size - 8 bytes
 precision - double
 range - -1.7×10^{308} to $+1.7 \times 10^{308}$
 format - %lf

3] long double -
 purpose - used for scientific calculation
 size - 10 bytes



precision - double
range - $-1.7e^{1999}$ to $+1.7e^{1999}$
format - %lf

① character data type -

char -
purpose - to store characters
size - 1 bytes
code used - ASCII
range - -128 to +127
format - %c

② unsign char -

purpose - to store characters
size - 1 bytes
code used - ASCII
range - 0 to 255
format - %c

~~Pruthi~~
21/09/23



Assignment - II

Q #1 Explain the structure of C programming with one example.

Structure -

```
< header files >  
main function ()  
{  
  variable declaration  
  -----  
  processing  
}
```

Example - write a C-code to calculate area of circle.

```
#include <stdio.h>  
#include <conio.h>  
void main ()  
{  
  float radius, area;  
  clrscr ();  
  printf ("program of calculate area of circle");  
  printf ("\n enter radius :");  
  scanf ("%f", & rad);  
  area = 3.14 * rad * rad;  
  printf ("\n area of circle = %f", area);  
  getch ();  
}
```

output -

program to calculate area of circle
enter radius : 2
area of circle = 12.56



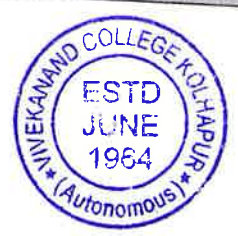
< Header files ←

The header section gives instruction to compiler to link library files & user defined files. C supports different types of header files. This are also known as preprocessor. Directory / directions. they supports different library functions.

Header files	Functions
<stdio.h>	Standard input output function.
<conio.h>	console input output function.
<stdlib.h>	Standard library function.
<graph.h>	graphical function.
<math.h>	mathematical function.
<time.h>	time function.
#include	it is preprocessor functions & must be used at the begining of the program.

main functions ←

Every C program must have the main function which consists of local declaration & C statement.



rules for writing a C program —

- 1] Blank spaces may be inserted in between two words to input read ability of a statement but no blank spaces of allow within a variable name constants & key words.
- 2] C is a case sensitive language. or the C statements are entered in small case let us only.
- 3] every C statement must always end with semicolon (;) it indicates line termination.
- 4] Set of statement belonging to a functions are enclosed within pair of curly braces { }
- 5] Data type & variable declaration must be a being a every C program.



Q.1] Short note

1] write short note on Escape characters?

- 1] \n (New line) -
It places the cursor to the beginning of a new line.
- 2] \t (Horizontal Spacing / tab) -
places the cursor to the next tab stop.
- 3] \b (back space) -
places the cursor one position left to the current position.
- 4] \r (Carriage return) -
places the cursor to the beginning of a line in which it is currently present.
- 5] \a (Alert sound) -
it alerts the user by making a sound by the speaker inside.

2] what is a C character set?

every language has its own character set. C is composed of alphabets, digits, special characters & white spaces. the alphabets & digits can be used in combination & so referred as alphanumeric.

Characters Set -

1] alphabets - a to z & A to Z



2) digits - 0 to 9

3) Special Symbols - @, #, \$, %, &, ', " , ' , ` , ~ , * , - , / , etc.

4) white spaces - \n , \t , \r etc.

3) what are Comments on C & what are its types?

Comments are the statement ignored by the compiler they are added in the program for better understanding.

Types -

1) Single line comments (//)

2) multiline comments (/*
..... */)

Q3] Explain in detail operators & its types?

Binary operators -

An operators is a symbol that tells the compiler to perform specific mathematical & logical functions. C language is which in binary - its operators as follows.



- 1) Arithmetic operators
- 2) relational operators
- 3) logical operators
- 4) Assignment operators
- 5) Bitwise operators

1) Arithmetic operators —

these operators are used to perform arithmetic calculations

operator	Description	Example $A=10$ $B=20$
1) +	Add to operators	$A+B=30$
2) -	Subtract second operator from first	$A-B=-10$
3) *	multiply both operands	$A*B=200$
4) /	Divide numerator by denominator	$B/A=2$
5) %	returns remainder	$B\%A=0$

2) Relational operators —

these operators are used to show relation between two operators or compare operators.



operator	Description	Example
>	Greater than	$A > B$
<	less than	$A < B$
>=	greater than equal to	$A >= B$
<=	less than equal to	$A <= B$
==	equal to	$A == B$
!=	not equal to	$(A != B)$ true

3) logical operators —

operator	Description	Example $A=10, B=20$
1) &&	logical AND	$A == B \ \&\& \ A != B$
2)	logical OR	$A == B \ \ A != B$
3) !	logical NOT	$!(A == B)$

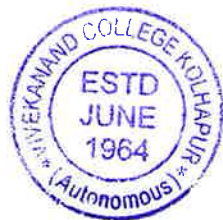


4) Assignment operators —

operator	Description	Example
=	Simple assignment operator it assigns a value from the right side operands to the left side operand.	$C = A + B$ Assigns the value of $A + B$ to operand C
$+=$	Compound addition operator it adds an assigns at the same time	$C += A$ i.e. $C = (C + A)$
$-=$	Compound subtraction operator it subtracts & assigns at the same time.	$C -= A$ i.e. $C = (C - A)$
$*=$	it multiplies an assigns at the same time	$C *= A$ i.e. $C = (C * A)$
$/=$	the compound divide an assign at the operator the divides & assigns of the same time.	$C /= A$ i.e. $C = (C / A)$

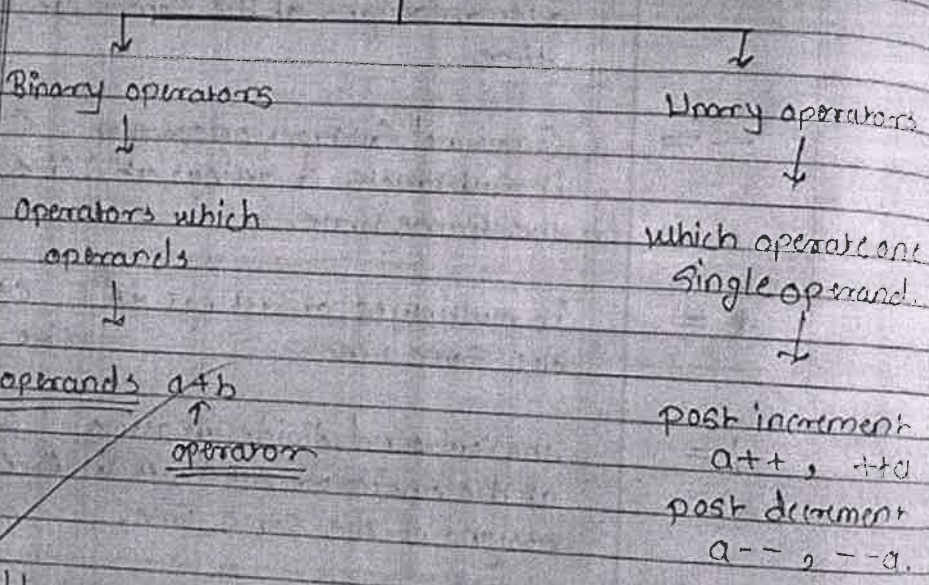
5) Bitwise operators —

operator	Description	Example
$\&=$	Bitwise AND assignment operator	$C \&= 2$ is same as $C = (C \& 2)$



\wedge	bitwise exclusive OR	$C \wedge = 2$ is Same as $C = C \wedge 2$
$ $	bitwise inclusive OR	$C = 2$ is Same as $C = C A$

Operators in C



~~Unary operators~~

Operators that operate on single operand [variable] are known as unary operators.



- 1] Pre-increment ($++i$) -
Variable value is increased before it is used.
- 2] Post-increment ($i++$) -
Variable value is used first than the increase by one.
- 3] Pre-decrement ($--i$) -
value of the variable are decrease by one & then used
- 4] Post-decrement ($i--$) -
value of the variable used first & then decrease by one.

Ternary operators -

Operators operating on three operands.

Syntax -

$\langle \text{expression} \rangle ? \langle \text{true value} \rangle : \langle \text{false value} \rangle$

Q4] write a C program to check greater number between two given numbers?

```
#include <stdio.h>
#include <conio.h>
void main ()
{
    int no1, no2;
    clrscr ();
```



```

printf("program to calculate greater no. between two
given no's ")
printf("Enter two no's ")
scanf("%d %d", &no1, &no2);
if (no1 > no2)
{
printf("no %d is greater", no1);
}
else
{
printf("no %d is greater", no2);
}
}
getch();
}

```

Q5] write a program to check greater numbers between four given numbers?

```

#include <stdio.h>
#include <conio.h>
void main ()
{
int a, b, c, d;
clrscr ();
printf("program to display greater no between four given no's")
printf("%d %d %d %d", &a, &b, &c, &d);
if (a > b && a > c && a > d)
{
printf("no %d is greater", a);
}
else
if (b > c && b > d)
{
}
}

```



```
printf ("In 'd' is greater", b);  
else  
if (c > d);  
}  
printf ("In 'd' is greater", c);  
else  
printf ("In 'd' is greater", d);  
else  
getch ();  
}
```

Q6] write a program to check given number is even or odd.

```
#include <stdio.h>  
#include <conio.h>  
void main ()  
{  
int no;  
clrscr ();  
printf ("program to check even or odd numbers");  
printf ("In enter a no 1t");  
scanf ("%d", &no);  
if (no % 2 == 0)  
printf ("In no is even");  
else  
{  
printf ("In no is odd");  
}  
getch ();  
}
```



Q7] write a C program to check entered year is leap year or not?

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int year;
    printf("enter a year");
    scanf("%d", &year);
    if (year % 4 == 0) && (year % 100 != 0)
        || (year % 400 == 0)
    {
        printf("%d is a leap year", &year);
    }
    else
    {
        printf("%d is not a leap year", &year);
    }
    getch();
}
```

Bullish
21/08/23



SEMINAR

**VIVEKANAND COLLEGE, KOLHAPUR,
(Empowered Autonomous)**

NOTICE

Date: 25/01/2023

DEPARTMENT OF B.C.A

All the students of B.C.A are hereby informed that, Seminar is arranged on 28th January, 2023 at 9.00AM in Room No.22 of Bio-Tech building.

All the students of BCA must compulsory attend the seminar.



**Mr. V.B. Pujari
(HOD)**

**HEAD
DEPARTMENT OF B. C. A.
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)**



**Mr. S. S. Kale
(Co-Ordinator)**

**Co-ordinator
Department of B.C.A.
Vivekanand College, Kolhapur**

SEMINAR REPORT ON
STEPS IN CONTROLLING
PERFORMED BY
RUSHIKESH SANGAR
SUBODH SALUNKHE
PERFFORMED AT
VIVEKANAND COLLEGE
(AUTONOMOUS)
KOLHAPUR



Quantification of the objective standard is sometimes difficult. For example, consider the goal of product leadership. An organization compares its product with those of competitors and determines the extent to which it pioneers in the introduction of basic product and product improvements. Such standards may exist even though they are not formally and explicitly stated.

Setting the timing associated with the standards is also a problem for many organizations. It is not unusual for short-term objectives to be met at the expense of long-term objectives.

Management must develop standards in all performance areas touched on by established organizational goals. The various forms standards are depend on what is being measured and on the managerial level responsible for taking corrective action.

ESTABLISHMENT OF STANDERDERS

- ❖ *First step*
- ❖ *Guiding points*
- ❖ *What is standards*
- ❖ *Quality, quantity, time*
- ❖ *Accurate, precise, workable, acceptable*
- ❖ *Absence of standards*
- ❖ *Types of standards*



PERFORMANCE

Performance measurement is a process by which an organization monitors important aspects of its programs, systems, and care processes. Data is collected to reflect how its processes are working, and that information is used to drive an organization's decisions over time. Typically, performance is measured and compared to organizational goals and objectives. Results of performance measurement provide information on how an organization's current programs are working and how its resources can be allocated to optimize the programs' efficiencies and effectiveness

MEASUREMENT OF PERFORMANCE

- ❖ *Second step*
- ❖ *Quantitative measurement*
- ❖ *Qualitative factors*
- ❖ *Measurable and immeasurable*
- ❖ *Observation, inspection, reports*



other undesirable situations. It is usually a set of actions that laws or regulations require an organization to take in manufacturing, documentation, procedures, or systems to rectify and eliminate recurring nonperformance. Non-conformance is identified after systematic evaluation and analysis of the root cause of the non-conformance. Non-conformance may be a market complaint or customer complaint or a failure of machinery or a quality management system, or misinterpretation of written instructions to carry out a work. The corrective and preventive action is designed by a team that includes quality assurance personnel and personnel involved in the actual observation point of nonconformance. It must be systematically implemented and observed for its ability to eliminate further recurrence of such non-conformation.

CORRECTIVE ACTIONS

- ❖ *Corrective actions*
- ❖ *Prevention of mistakes*
- ❖ *Change, improvement, training*
 - ❖ *Future related*
 - ❖ *Variation report*
 - ❖ *Prompt reporting*

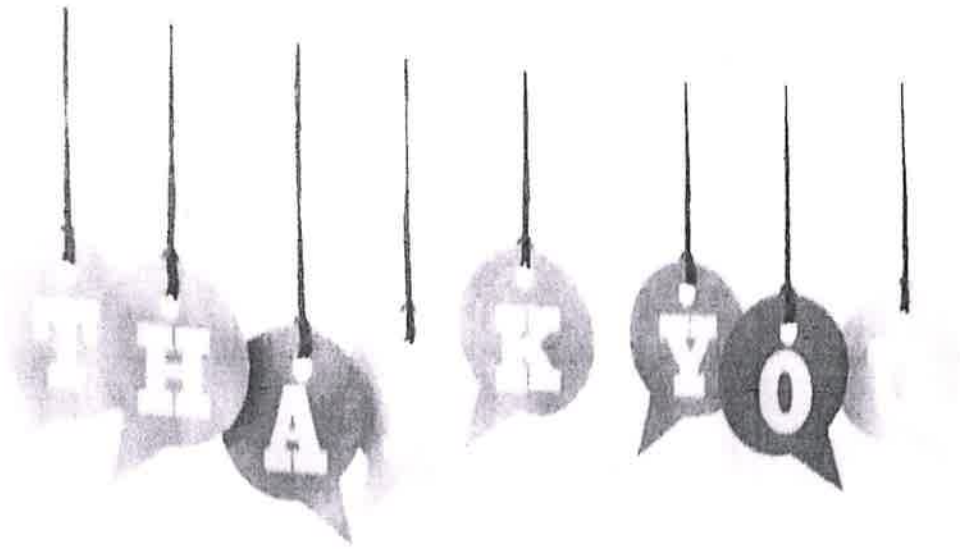




OBJECTIVE OF CONTROL

- ❖ *Conformation of activity*
- ❖ *Co-operation of human resource*
- ❖ *Detection of deviations*
 - ❖ *Maximum use*
 - ❖ *Level of stocks*
- ❖ *Maintain consistency*





UNIT TEST

Name: Sai Raju Balekundri

①

Date: 16-2-2023

Web Technology

13/15

Write any three

- ① What is HTML5? & structure of HTML5 with example?
- ② Explain web development process?
- ③ Which are the text level tags & write syntax with example?
- ④ Which are the block level tags & write syntax with example?

Que 3] Text level Formatting: Text level formatting is a singular process, or one or two type sentence or it is minimum process.

① heading tag: heading tag it is a pair or container tag. it is define a heading tag. heading tag is used to show the name of chapter, title. it has 6 steps. h1 tag is largest tag & h6 tag is smallest tag. it's size is minimize or maximize due to their steps of heading tag.

6
ex:

<h1>	Sai	</h1>	o/p.	Sai
<h2>	Sai	</h2>		Sai
<h3>	Sai	</h3>		Sai
<h4>	Sai	</h4>		Sai
<h5>	Sai	</h5>		Sai
<h6>	Sai	</h6>		Sai

② Bold tag : Bold tag it is a pair or container tag. it is define a bold tag. Bold tag is used to show the bold



effect on the text. Bold text is show the dark part of text.
ex: `My name is Sai`
o/p **My name is Sai**

③ Underline tag `<U>`: Underline tag is a pair tag or Container tag. It is define as underline tag. It is used for Underline the text as their instruction

ex: `<U>Welcome </U>`
o/p Welcome

④ Strike tag `<Strike>`: Strike tag is a pair tag or Container tag. It is define as a strike tag. It is used for delete the text as use to need the breke the sentence mearse medal of the text to underline the text. it is strike tag.

ex: `<Strike>Hello </Strike>`
o/p : ~~Hello~~

⑤ type writter `<tt>`: type writter tag is a pair tag or Container tag. It is define as type writter tag. It is used for text small size show.

ex: `<tt>What is this </tt>`

o/p : what is this



⑥ <Center> Center tag: Center tag is a pair tag or Container tag. It is define as the Center tag. It is used For the middle Center of the web page to show the text.

ex: <Center> Welcome to Vck </Center>
o/p Welcome to Vck

⑦ <i> italic tg: italic tag is a pair tag or Container tag. It is define as the center italic tag. It is used for the effect of italic style to the text it works same as in word proceser.

ex: <i> Welcome </i>
o/p Welcome

⑧ <sub>: It is a pair tag or Container tag. It is display the text, below the normal line

ex: H₂O
o/p H₂O

⑨ <sup>: It is a pair tag or Container tag. It is display the text, above the normal line

ex: 10th
o/p 10th

10) <delete>: It is a pair tag or Container tag. It is display the text delete it is appear to strike tag.

ex: Welcome
o/p ~~Welcome~~




VIVEKANAND COLLEGE, KOLHAPUR (Empowered Autonomous)
Department of BCA

NOTICE


Date: 12/02/2023.

All the students of B.C.A. I are here by informed that, there is **Unit Test - I** of the subject "**Web Technology**" on 16-2-23 at 8 A.M. The test is of 25 marks based on unit no 1. It is the part of student internal work.


Mr. V.B. Pujari
(HOD)

HEAD
DEPARTMENT OF B.C.A.
VIVEKANAND COLLEGE, KOLHAPUR
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Co-ordinator
Department of B.C.A.
Vivekanand College, Kolhapur

Que 1] HTML5 - Introduction to HTML5

HTML5 stands for the hyper text markup language. It is used for design a web page using link between the web pages of web. The markup language it use to define structure of web page. HTML5 is the 5th structure. version of HTML. It has include the markup available for documents & introduce application programming interfaces.

HTML5 (Basic Structure)

① Every programming language has certain rules & which every users agree to following while interacting.

② In HTML5 we can create our own webpage & contain their must be fixed structure in the space for web browser to read & intersect to your web pages properly.

③ In short HTML5 content some tags that describe its major section & indicate to the browser what type of coding the web document uses.

④ Their are some tags that contribute toward creating structure tags areas follows.

- 1) <!doctype html>
- 2) <html>
- 3) <head>
- 4) <title> - - - </title>
- 5) </head>
- 6) <body>
- 7) </body>
- 8) </html>



① <!doctype html>

i] In html's document the 1st line of the document should be <!doctype html>

ii] The <!doctype> always placed at the beginning of the document or start always with exclamation sign

iii] Basically html's not a case sensitive but the word doctype html should always has to be upper case.

iv] Using <!doctype> is like a signing a contract that whatever part we going to use

② <html>

html specifies actual beginning html's element

all of the html coding expect doctype tag should be placed within the pair of <html>

The pair of <html> tag every other tags in html's documents

③ <head>

<head> is like first member of html family. It is more of a description tag enable the user section of the browser who add content of information of the web page.

The head section contents the page title which is the text that will appear in the title bar of web page



1. <title>

1] <title> Specifies more information about the content of html5 documents.

2] The text within & pair display on the top of window browser

2] <body>

1] body is the second part of the html5

2] It acts like a container or actual container of web page.

3] It specifies main interactive of display area where web developers can insert diff object like images, tables for

4] Every part includes in the body

example:

```
<!doctype html>
```

```
<html>
```

```
<head>
```

```
<title> Basic Structure of tags </title>
```

```
</head>
```

```
<body><h1> HTML5 </h1>
```

```
<p> Introduction to html5 </p>
```

```
</body>
```

```
</html>
```

O/P:

HTML5

Introduction to html5



Quest]- Block level Formatting :

The block level formatting text the bulk of data available. The block systematically

1) Paragraph <P>

<P> tag is a pair tag & Container tag. This tag is used to block of line as paragraph in web page

ex: This is paragraph tag

<P> first paragraph </P>

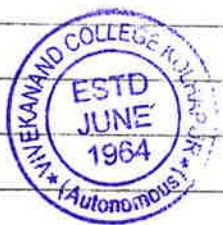
<P> second paragraph </P>

2)
 break tag

 it is pair tag or Container tag used to insert a new line

ex my name is Sai

18-2-23




VIVEKANAND COLLEGE, KOLHAPUR (Empowered Autonomous)
Department of BCA

NOTICE


Date: 18/09/2022.

All the students of **B.C.A. II** are here by informed that, there is **Unit Test -I** of the subject "**RDBMS**" on 20-09-22 at 8 A.M. The test is of 25 marks based on unit no 1. It is the part of student internal work.


Mr. V.B. Pujari
(HOD)

HEAD
DEPARTMENT OF B. C. A.
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)




Mr. S. S. Kale
(Co-Ordinator)

Co-ordinator
Department of B.C.A.
Vivekanand College, Kolhapur

Name: Sayali Suresh Asabe.

Div: A Subj: RDBMS

Date: 20-9-2022



- Q1) Difference betⁿ DBMS & RDBMS
Q2) What is Relational model & write its types
Q3) Explain functional dependency with ex^{am} & types with example.
Q4) Explain Normalization & it's types with example.

Q1)

DBMS	RDBMS
1) Store data as a file	1) Store appn data as tabular format.
2) Data stored hierarchical or Navigational form.	2) There are identifier from primary key & data stored form of tables.
3) Normalization is not present in DBMS	3) Normalization is present in RDBMS.
4) Does not apply security with regards to data manipulation.	4) It performs integrity constant for the purpose of ACID (Automatically consistency Isolation durability)
5) It use file system to store data so no relation bet ⁿ tables.	5) Data values stored in the form of table bt ⁿ this data value with stored in the form of table.
6) It doesn't support distributed database.	6) RDBMS support distributed database.
7) It support single user for small amt of data.	7) It support multiple user for large amount of data
8) e.g → file system, XML etc.	8) MySQL, SQL server, oracle.



• Above example hours fully functional dependency on employee no & project no.

• The no of hr spend on the project by particular employee can not be determine with the project alone.

Syntax

emp - no \rightarrow { project - nm, hours }

② Partially functional dependency:-

• In partially functional dependency if there is a some attribute removed from a \neq dependency will still hold.

e.g \rightarrow { emp - no, project - no } \neq emp - name

• In above example emp - name is partially dependent on emp - no, project - no.

• Reason for that because emp - name can being determine if project - no is removed from the relation or all the table.

③ Transitive functional dependency

• when one key attribute is functionally dependent on non-key attribute such dependency is called transitive functional dependency.

e.g \rightarrow order { product - id, price, discount }

• dependency of order is on dependent of product - id, price & discount.

• product - id \rightarrow price price \rightarrow discount
product - id \rightarrow price \rightarrow discount.



Q3) Multivalued functional dependency:-

It defines a relationship between attributes which accept the cross product pattern.

e.g → product purchased {prod.no, customer, city}

city → prod.no, cust.no

customer name & product name is independent.

Q4)

→ Normalization:-

It is process of organization the data in database to avoid data redundancy.

Repeated data is avoid to create table

It is use mainly in two purpose:-

① Eliminating redundancy (useless) data.

② Insuring data dependency may i.e data logically stored.

Types:-

① 1NF:-

rows of data must contain repeating groups of information.

→ e.g → Teacher-details

id	Name	Age	P-no
1	A	20	9699021465
2	B	25	9934567901
3	C	30	2021234302 56789101112

o/p →

id	Name	Phone.No
1	A	9699021465
2	B	994567901
3	C	2021234302
3	C	56789101112



Name: Saurabh Suresh Nanda

Grade: 10th
Date:

Above e.g. \rightarrow phone no. of student can repeated
to make 1NF table we can repeat num.
in column

② 2NF

data is repeating in 2NF
when:

table in 1NF, \neq Nonprime attribute is
not dependent on proper subset of any candi-
date key of table.

e.g. Teacher table

ID	Name	Subject	age
1	XYZ	Maths	25
2	ABC	english	30
3	BCD	physics	35

op \rightarrow Teacher-details

id	Name	age
1	XYZ	25
2	ABC	30
3	BCD	35

Teacher subjects

Id	subjects
1	Maths
2	english
3	Physics

③ 3NF

A table is designed if following conditions
follows.



- 1) Table must be in 2NF.
- 2) Transitive functional dependency should be removed.

e.g. → employee

emp-id	name	pincode	city	dist.	state
1	A	416505	pune	kolhapur	Maha
2	B	416506	Mumbai	Mumbai	Maha
3	C	416507	kolhapur	kolhapur	Maha

PP

dp →

emp-id	name	pincode
1	A	416505
2	B	416506
3	C	416507

4

city	district	State
pune	kolhapur	Maharashtra
Mumbai	Mumbai	Maha
kolhapur	kolhapur	Maha

21-9-2024

