



## National Vocational Certificate Level 4 for Mobile App, Web and Game Development



## National Vocational Certificate Level 4 for Mobile App, Web and Game Development

### “Theme Developer”



## National Vocational Certificate Level 4 for Mobile App, Web and Game Development



## ***National Vocational Certificate Level 4 for Mobile App, Web and Game Development***



### **ACKNOWLEDGEMENTS**

National Vocational and Technical Training Commission (NAVTTTC) extends its gratitude and appreciation to representatives of business, industry, academia, government agencies, provincial TEVTAs, sector skill councils and trade associations who spared time and extended their expertise for the development of National Vocational Qualification for the trade of **Mobile App, Web and Game Development**. This work would not have been possible without the technical support of the above personnel.

NAVTTTC initiated development of CBT&A based qualifications for 200 traditional / hi-tech trades under the Prime **Minister's Hunarmand Pakistan Program**, focusing on Development & Standardization of 200 Technical & Vocational Education & Training (TVET) Qualifications. NAVTTTC efforts have received full support from the Ministry of Federal Education and Professional Training which highly facilitated progress under this initiative.

It may not be out of place to mention here that all the experts of Industry, Academia and TVET experts of TEVTAs, BTEs and PVTC work diligently for making this qualification worthy and error free for which all credit goes to them. However, NAVTTTC accepts the responsibility of all the errors and omissions still prevailing in the Qualification document.

It is also noteworthy that development of Skill Standards is a dynamic and ongoing process, and the developed skill standards needs periodic review and updating owing to the constant technological advancements, development in scientific knowledge, and growing experience of implementation at the grass root level as well as the demand of industry. NAVTTTC will ensure to keep the qualifications abreast with the changing demands of both national and international job markets.

**Executive Director (NAVTTTC)**



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## ***National Vocational Certificate Level 4 for Mobile App, Web and Game Development***



### **Introduction**

#### **a. Definition/Description of Training Program Mobile App, Web and Game Development**

The importance of modern gadgets in our everyday life and activities is undeniably unending. This is so because there is ongoing tremendous transformation in which mobile phones, laptops and other devices are no longer the ordinary device they used to be. They have become the colossal point of attention for individuals and businesses alike, courtesy of the various incredible features and opportunities that they offer. The cumulative progress of technology, the availability and access to high speed internet and the remarkable communicative interface in these devices results into a whole level of new and innovative experience.

Web designing is the computer field which deals with the creation of websites and web application. The person who deals with the creation of websites and web application is known as a web designer or web developer. The best part of being a web developer is that they are employed by almost every organization and they can even work independently as a freelancer.

Mobile phones and devices have become such a ubiquitous part of our everyday lives that it's difficult to imagine going through an entire day without one. This shift to ubiquity has been driven largely in part by the increasing scope of mobile application development. Over just the past few years an explosion in not just the scope but also the depth of utility of these devices has occurred which rivals, if not exceeds that seen in any other discrete class of technology.

Game Development is the art of creating games and describes the design, development and release of a game. It may involve concept generation, design, build, test and release. While you create a game, it is important to think about the game mechanics, rewards, player engagement and level design.

#### **b. Purpose of the Training Program**

Being conscious of the emerging trends in the market, National Vocational & Technical Training Commission (NAVTTTC) has developed competency standards in consultation with the stakeholders including academia, researchers, industry, chambers and TEVTAs for 'Mobile App, Web & Game



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Development' under National Vocational Qualifications Framework (NVQF). The competency standards document has been designed in a way that trainees can develop skill in the ability to Describe and analyze writing in technical, scholarly and professional contexts. They can consolidate their knowledge and skills through advanced practice in writing, editing, designing and producing texts for professional and technical purposes, with concrete application on industry sourced documents and projects.

### **c. Objectives of Training Program**

**The main objectives of the National Vocational Certificate Level 4 for Mobile App, Web and Game Development are as follows:**

- Empower the youth with globally required employable skills.
- Produce competitive Web, Mobile App and Game Developers.
- Produce a skilled youth for Mobile App, Web & Game Development Industry.
- Improve the quality and effectiveness of the training and assessment for Mobile App, Web & Game Development Industry.

### **d. Competencies to be gained after completion of course**

At the end of the course, the trainee has attained the following core competencies:

#### **National Vocational Certificate Level 4 for Mobile App, Web and Game Development**

- 1) Design Database
- 2) Manipulate database using SQL
- 3) Implement database in firebase
- 4) Control and monitor database
- 5) Conduct Keyword Research and Analysis
- 6) Perform On-Page SEO
- 7) Perform Off-Page SEO



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- 8) Perform Advance Technical SEO
- 9) Perform Local SEO
- 10) Analyze Reports and Management
- 11) Integrate Google Search Console
- 12) Analyze through Google Analytics
- 13) Describe/Install different front end frameworks
- 14) Design web templates using front end frameworks
- 15) Design mobile app layouts using front end frameworks
- 16) Design Game Screens using different frameworks
- 17) Use frontend libraries in Theme development
- 18) Customize templates/themes
- 19) Develop workplace policy and procedures for sustainability
- 20) Manage meetings
- 21) Manage recruitment selection and induction processes
- 22) Manage personal work priorities and professional development
- 23) Manage workforce planning
- 24) Undertake project work
- 25) Identify and communicate trends in career development
- 26) Apply specialist interpersonal and counselling interview skills
- 27) Work safely in an office environment
- 28) Develop workplace documents
- 29) Implement negotiation
- 30) Maintain professionalism in the workplace
- 31) Organize schedules



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- 32) Create/Manage profile on Non-traditional Freelance Platforms
- 33) Create/Manage profile on traditional Freelance Platforms
- 34) Write professional proposals for freelance projects
- 35) Develop communication skills

### **e. Possible job opportunities, available immediately and later in the future:**

#### **Possible Career Paths**

- Database Administrator
- SEO Professional
- Theme Developer
- Freelancer

### **f. Trainee Entry Level**

The entry requirement for **National Vocational Certificate Level 4 for Mobile App, Web and Game Development** is given below:

Title	Entry requirements
National Vocational Certificate Level 4 for Mobile App, Web and Game Development	National Vocational Certificate Level 3 for Mobile App, Web and Game Development



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### **g. Minimum Qualification of Trainer/Instructor:**

A. BSCS/BSSE/BSIT/equivalent qualification, having expertise in Web and Mobile Application

**OR**

B. National Vocational Certificate Level 5 for Mobile App, Web and Game Development “Full Stack Developer” with at least 6 months experience in relevant trade

### **h. Recommended Trainer: Trainee Ratio**

The recommended maximum trainer: trainee ratio for this program is 1 trainer for 25 trainees.

### **i. Medium of Instruction i.e. Language of Instruction:**

Medium of instruction will be in Urdu / English / Local language

### **j. Duration of the course (Total time, Theory & Practical time):**

The distribution of contact hours is given below:

<b>Total</b>	-	<b>630 hours</b>
<b>Theory</b>	-	<b>141 hours (22.38%)</b>
<b>Practical</b>	-	<b>489 hours (77.61%)</b>

### **k. Sequence of Modules**

- 1) Design Database
- 2) Manipulate database using SQL
- 3) Implement database in firebase
- 4) Control and monitor database



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- 5) Conduct Keyword Research and Analysis
- 6) Perform On-Page SEO
- 7) Perform Off-Page SEO
- 8) Perform Advance Technical SEO
- 9) Perform Local SEO
- 10) Analyze Reports and Management
- 11) Integrate Google Search Console
- 12) Analyze through Google Analytics
- 13) Describe/Install different front end frameworks
- 14) Design web templates using front end frameworks
- 15) Design mobile app layouts using front end frameworks
- 16) Design Game Screens using different frameworks
- 17) Use frontend libraries in Theme development
- 18) Customize templates/themes
- 19) Develop workplace policy and procedures for sustainability
- 20) Manage meetings
- 21) Manage recruitment selection and induction processes
- 22) Manage personal work priorities and professional development
- 23) Manage workforce planning
- 24) Undertake project work
- 25) Identify and communicate trends in career development
- 26) Apply specialist interpersonal and counseling interview skills
- 27) Work safely in an office environment
- 28) Develop workplace documents



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- 29) Implement negotiation
- 30) Maintain professionalism in the workplace
- 31) Organize schedules
- 32) Create/Manage profile on Non-traditional Freelance Platforms
- 33) Create/Manage profile on traditional Freelance Platforms
- 34) Write professional proposals for freelance projects
- 35) Develop communication skills

### Summary Template - Overview of the Curriculum

Following is the structure of the course:

Level 4								
1	Design Database	<b>Database Administrator</b>	4	Tech nical	12	48	60	6
2	Manipulate database using SQL		4	Tech nical	10	39	49	4.9
3	Implement database in firebase		4	Tech nical	6	24	30	3
4	Control and monitor database		4	Tech nical	3	12	15	1.5



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5	Conduct Keyword Research and Analysis	<b>SEO Professional</b>	4	Technical	5	21	26	2.6	
6	Perform On-Page SEO		4	Technical	4	18	22	2.2	
7	Perform Off-Page SEO		4	Technical	8	33	41	4.1	
8	Perform Advance Technical SEO		4	Technical	10	42	52	5.2	
9	Perform Local SEO		4	Technical	5	21	26	2.6	
10	Analyze Reports and Management		4	Technical	5	21	26	2.6	
11	Integrate Google Search Console		4	Technical	6	24	30	3	
12	Analyze through Google Analytics		4	Technical	6	24	30	3	
13	Describe/Install different front end frameworks		<b>Theme Developer</b>	4	Technical	6	18	24	2.4



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1 4	Design web templates using front end frameworks		4	Technical	8	42	50	5
1 5	Design mobile app layouts using front end frameworks		4	Technical	12	48	60	6
1 6	Design Game Screens using different frameworks		4	Technical	12	48	60	6
1 7	Use frontend libraries in Theme development		4	Technical	8	30	38	3.8
1 8	Customize templates/themes		4	Technical	6	24	30	3
1 9	Develop workplace policy and procedures for sustainability	<b>Soft Skills</b>	4	Generic	6	24	30	3
2 0	Manage meetings		4	Generic	4	21	25	2.5
2 1	Manage recruitment selection and induction processes		4	Generic	4	21	25	2.5
2 2	Manage personal work priorities and professional development		4	Generic	4	21	25	2.5



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2 3	Manage workforce planning		4	Gene ric	4	21	25	2.5
2 4	Undertake project work		4	Gene ric	4	21	25	2.5
2 5	Identify and communicate trends in career development		4	Gene ric	4	24	28	2.8
2 6	Apply specialist interpersonal and counseling interview skills		4	Gene ric	4	24	28	2.8
2 7	Work safely in an office environment		4	Gene ric	4	21	25	2.5
2 8	Develop workplace documents		4	Gene ric	4	18	22	2.2
2 9	Implement negotiation		4	Gene ric	4	21	25	2.5
3 0	Maintain professionalism in the workplace		4	Gene ric	6	21	27	2.7
3 1	Organize schedules		4	Gene ric	6	21	27	2.7



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3 2	Create/Manage profile on Non-traditional Freelance Platforms	<b>Freelancer</b>	4	Gene ric	7	33	40	4
3 3	Create/Manage profile on traditional Freelance Platforms		4	Gene ric	7	33	40	4
3 4	Write professional proposals for freelance projects		4	Gene ric	7	33	40	4
3 5	Develop communication skills		4	Gene ric	4	30	34	3.4
	<b>Total</b>				<b>215</b>	<b>945</b>	<b>1160</b>	<b>116</b>
	<b>Percentage</b>				<b>18.5</b>	<b>81.5</b>		

**Proposed Course Duration:** 6 Months

**Estimated Contact Hours:** 600 Hours

**Estimated Credit Hours:** 60 Hours



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### 1. Database Administrator

Module: 0613-S&AD&A-1 Design Database

**Objective:** After the completion of this module, the Trainee will be able to Install the database application.

Duration: 60 Hours

Theory: 12 Hours

Practice: 48 Hours

Credit Hours: 6

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1.  Install database application	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Search for different available database management systems (DBMS)</li> <li>Download suitable DBMS</li> <li>Install DBMS</li> <li>Describe their tools and features</li> </ul>	<u><b>Knowledge-based questions.</b></u> <ul style="list-style-type: none"> <li>Define DBMS.</li> <li>Enlist different database management systems.</li> <li>Enlist different steps of DBMS Installation.</li> <li>Enlist four key features of DBMS.</li> </ul> <u><b>Practical Activity:</b></u>  Install SQL Server.	<b>Theory-</b> 02 Hrs  <b>Practical-</b> 08 Hrs  <b>Total-</b> 10Hrs	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>SQL Sever</li> </ul>	<ul style="list-style-type: none"> <li>Class Room/Computer Lab</li> </ul>



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<p><b>LU2.</b></p> <p>Create Database</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Identify the purpose of the database</li> <li>Find and organize the information required.</li> <li>Create the database with a suitable name</li> </ul>	<p><b><u>Knowledge-based questions</u></b></p> <ul style="list-style-type: none"> <li>Describe the main purposes of creating a database.</li> <li>Enlist the key information that is required to organize in a database.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create a database with the name of the student</p>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 08 Hrs</p> <p><b>Total-</b> 10 Hrs</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>SQL Sever</li> </ul>	<ul style="list-style-type: none"> <li>Class Room/Computer Lab</li> </ul>
<p><b>LU3.</b></p> <p>Manage Tables</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Divide information to manage in tables</li> <li>Create tables for identified information</li> <li>Specify primary keys if needed</li> <li>Setup table relationships</li> <li>Apply normalization rules</li> </ul>	<p><b><u>Knowledge-based questions</u></b></p> <ul style="list-style-type: none"> <li>Define tables and ER diagrams.</li> <li>Describe the purpose of creating tables.</li> <li>Enlist the key information that is required to organize a table.</li> <li>Enlist different types of normalization.</li> </ul>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 08 Hrs</p> <p><b>Total-</b> 10 Hrs</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>SQL Sever</li> </ul>	<ul style="list-style-type: none"> <li>Class Room/Computer Lab</li> </ul>



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	<ul style="list-style-type: none"> <li>Alter tables if needed through alter table query</li> <li>Delete Table if needed using Drop table query</li> </ul>	<ul style="list-style-type: none"> <li>Enlist the procedure of creating relationships among tables.</li> <li>Enlist the step to delete a table using the query.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create tables of std_inform and std_class and assign the primary key to Roll_no from std_inform table.</p>			
<p><b>LU4.</b></p> <p>Manage Views</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Identify the views needed to create</li> <li>Identify tables for views</li> <li>Identify attributes for views</li> <li>Create a view using “Create View” Query</li> <li>Replace view if needed using REPLACE View Query</li> <li>Delete view if needed using DROP View Query</li> </ul>	<p><b><u>Knowledge-based questions</u></b></p> <ul style="list-style-type: none"> <li>Describe view table in SQL.</li> <li>Enlist types of views (table)</li> <li>Enlist main purposes of using view in SQL</li> <li>Describe the use of views instead of tables</li> <li>Enlist the CRUD operations on views</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 08 Hrs</p> <p><b>Total-</b> 10 Hrs</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>SQL Sever</li> </ul>	<ul style="list-style-type: none"> <li>Class Room/Computer Lab</li> </ul>



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		<ul style="list-style-type: none"> <li>• Write a query to create a view of student results.</li> <li>• creates a view named daily_sales based on the orders, order_items, and products tables</li> <li>• Replace order_items with product_items in the above table</li> </ul>			
<p><b>LU5.</b></p> <p>Create Functions</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Specify the name of the function</li> <li>• Specify the name and datatype of each parameter</li> <li>• Specify Return keyword and datatype of the return value</li> <li>• Specify the function body</li> <li>• Specify the End keyword</li> </ul>	<p><b><u>Knowledge-based questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe a method to create a function</li> <li>• Enlist the SQL functions and types</li> <li>• Differentiate the difference between function and procedure in SQL</li> <li>• Define function</li> <li>• Define value to be returned</li> <li>• Defrantiate return statement and return</li> </ul>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 08 Hrs</p> <p><b>Total-</b> 10 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• SQL Sever</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room/Computer Lab</li> </ul>



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		<ul style="list-style-type: none"> <li>Describe the data types of the return values</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create a Function in SQL and use the return value in your function</p>			
<p><b>LU6.</b></p> <p>Create Store Procedures</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Create Store procedure using “Create Procedure” keyword</li> <li>Specify parameters using a comma-separated list</li> </ul>	<p><b><u>Knowledge-based questions</u></b></p> <ul style="list-style-type: none"> <li>Define the store procedure</li> <li>Enlist different store procedures.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create a store procedure with the name of the result for a student table.</p>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 08 Hrs</p> <p><b>Total-</b> 10 Hrs</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>SQL Sever</li> </ul>	<ul style="list-style-type: none"> <li>Class Room/Computer Lab</li> </ul>



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### Module: 0613-S&AD&A-2 Manipulate database using SQL

**Objective:** After the completion of this module, the Trainee will be able to manipulate the database using SQL.

**Duration: 49 Hours**

**Theory: 10 Hours**

**Practice: 39 Hours**

**Credit Hours: 4.9**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU1.  Insert data in a table	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Identify Table in which wants to insert/add data</li> <li>Use INSERT INTO clause with a Table name</li> <li>Write a comma-separated list of columns in the table surrounded by parenthesis</li> <li>Write comma-separated values surrounded by parenthesis in the VALUES clause</li> </ul>	<u><b>Knowledge-based questions.</b></u> <ul style="list-style-type: none"> <li>Enlist two ways to insert the data into the table</li> <li>Enlist the steps to insert data into a single column in SQL</li> <li>Define the steps to insert data into multiple tables using a single query</li> </ul> <u><b>Practical Activity:</b></u>  Write a query to separate comma-separated values in SQL?	<b>Theory-01</b> Hrs  <b>Practical-</b> 08 Hrs  <b>Total- 09</b>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>SQL Sever</li> </ul>	Class  Room/Computer Lab



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<p><b>LU2.</b></p> <p>Modify data in a table</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Identify the record or data to update in the table</li> <li>Use UPDATE clause with a Table name</li> <li>Use the SET clause with column name and value of particular column name/s to update the existing value/s</li> <li>Use WHERE clause with the condition to select a target row</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>Enlist data types in SQL Server</li> <li>Define SET clause</li> <li>Describe the use of the WHERE clause</li> <li>Describe the modification of the table in a database</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Write an UPDATE query to modify data in a table</p>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 08 Hrs</p> <p><b>Total- 10</b> Hrs</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>SQL Sever</li> </ul>	<p>Class Room/Comput er Lab</p>
<p><b>LU3.</b></p> <p>Delete data from table</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Identify the record to delete from the table</li> <li>Use DELETE FROM clause to remove a record from the table</li> <li>Identify operators and functions used in the WHERE clause</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>Enlist the key steps to delete data from a table in the SQL server.</li> <li>Define the procedure to delete all the rows of a table</li> <li>Enlist the steps to delete duplicate records in the SQL server</li> <li>Describe the WHERE clause in the SQL server</li> </ul>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 08 Hrs</p> <p><b>Total- 10</b> Hrs</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>SQL Sever</li> </ul>	<p>Class Room/Comput er Lab</p>



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	<ul style="list-style-type: none"> <li>• Use Where clause with the condition to select a target row to delete</li> </ul>	<p><b><u>Practical Activity:</u></b></p> <p>Write a DELETE query to delete a particular row in a student table.</p>			
<p><b>LU4.</b></p> <p>View data from table/s</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Identify table/tables to view data</li> <li>• Identify attributes from tables to view data</li> <li>• Use the SELECT clause with column names</li> <li>• Use FROM clause with table/s name/s to mention table/s name/s</li> <li>• Use WHERE clause with the condition to select target data</li> <li>• Describe and use AND, OR, NOT in where clause</li> <li>• Use appropriate operators to form a condition</li> <li>• Describe available joins used in WHERE clause</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Describe view in SQL server.</li> <li>• Enlist the steps to create a view in the SQL server.</li> <li>• Describe the use of AND, OR, NOT in the where clause.</li> <li>• Enlist joins that are used in the WHERE clause.</li> <li>• Describe wildcard characters</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Write SQL queries to create a view of student results?</p>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 05 Hrs</p> <p><b>Total- 07</b> Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• SQL Sever</li> </ul>	<p>Class Room/Computer Lab</p>



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	<ul style="list-style-type: none"> <li>Describe and use wildcard characters</li> <li>Learn the syntax of joins</li> <li>Use suitable join to view data</li> <li>Describe and use Alias</li> </ul>				
<p><b>LU5.</b></p> <p>Use aggregate functions etc.</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Describe the aggregate functions in DBMS</li> <li>Describe working of aggregate functions</li> <li>Use suitable aggregate functions</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>Define the working of aggregate functions.</li> <li>Define the aggregate functions in DBMS.</li> <li>Enlist suitable aggregate functions.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Write a query to get 50% aggregate marks from the result table</p>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 05 Hrs</p> <p><b>Total-</b> 07 Hrs</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>SQL Sever</li> </ul>	<p>Class Room/Computer Lab</p>
<p><b>LU6.</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Describe available keywords in DBMS</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>Describe keywords in DBMS.</li> <li>Enlist the key functionality of keywords.</li> </ul>	<p><b>Theory-</b> 01 Hrs</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>SQL Sever</li> </ul>	<p>Class Room/Computer Lab</p>



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<p>Use DBMS keywords e.g. group by, order by, distinct, limit, etc.</p>	<ul style="list-style-type: none"><li>• Describe the functionality of keywords</li><li>• Use suitable keywords for better representation of DBMS</li></ul>	<p><b><u>Practical Activity:</u></b></p> <p>Write a query to sort the student table result using order by keyword.</p>	<p><b>Practical-</b> 05 Hrs</p> <p><b>Total- 09</b> Hrs</p>		
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### Module: 0613-S&AD&A-3 Implement database in Firebase

**Objective:** After the completion of this module, the Trainee will be able to Implement a database in Firebase.

**Duration: 30 Hours**

**Theory: 06 Hours**

**Practice: 24 Hours**

**Credit Hours: 3.0**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Complete Prerequisites	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Install the latest version of Android Studio</li> <li>Meet Firebase usage requirements</li> </ul>	<u><b>Knowledge-based questions.</b></u> <ul style="list-style-type: none"> <li>Enlist the installation steps of Android Studio.</li> <li>Describe Android Open Source Project</li> <li>Describe installing Android Studio on Windows</li> <li>Describe installing Android Studio on Chrome OS</li> <li>Define Firebase projects</li> <li>Describe Firebase console</li> <li>Enlist troubleshooting steps to load the Firebase console</li> </ul>	<b>Theory</b> 0.5Hrs  <b>Practical-</b> 03 Hrs  <b>Total- 3.5</b>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>Android Studio</li> <li>Android Virtual Device</li> <li>Firebase SDK</li> <li>Firebase Console</li> <li>Crashlytics</li> <li>Google Analytics</li> </ul>	Class Room/Computer Lab



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		<p><b><u>Practical Activity:</u></b></p> <p>Install the latest version of Android Studio.</p>		<ul style="list-style-type: none"> <li>• Cloud Messaging</li> </ul>	
<p><b>LU2.</b></p> <p>Add Firebase using Firebase Console</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Create a Firebase project</li> <li>• Register your app with Firebase</li> <li>• Add a Firebase configuration file</li> <li>• Add Firebase SDK to your application</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Enlist the steps to register an app with Firebase.</li> <li>• Describe Firebase SDK</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create a Firebase project with the name of Pakistan.</p>	<p><b>Theory-</b> 0.5 Hrs</p> <p><b>Practical-</b> 03 Hrs</p> <p><b>Total- 3.5</b> Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• Android Studio</li> <li>• Android Virtual Device</li> <li>• Firebase SDK</li> <li>• Firebase Console</li> <li>• Crashlytics</li> <li>• Google Analytics</li> <li>• Cloud Messaging</li> </ul>	<p>Class Room/Computer Lab</p>



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<p><b>LU3.</b></p> <p>Prepare to Launch your Application</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Setup budget alerts for your project</li> <li>• Monitor usage and billing dashboard in Firebase console</li> <li>• Verify the firebase launch checklist</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Describe the budget for the project</li> <li>• Enlist the steps of firebase launch</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>How to configure an application for launching?</p>	<p><b>Theory-</b> 01Hrs</p> <p><b>Practical-</b> 03 Hrs</p> <p><b>Total-</b> 04 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• Android Studio</li> <li>• Android Virtual Device</li> <li>• Firebase SDK</li> <li>• Firebase Console</li> <li>• Crashlytics</li> <li>• Google Analytics</li> <li>• Cloud Messaging</li> </ul>	<p>Class Room/Computer Lab</p>
<p><b>LU4.</b></p> <p>Add Firebase Services to your Firebase Project</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Setup Google Analytics to gain user behavior insight</li> <li>• Setup a user authentication flow</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Describe Google Analytics</li> <li>• Enlist the steps of authentication</li> </ul> <p>Describe the procedure of storing data to Cloud</p>	<p><b>Theory-</b> 01 Hrs</p> <p><b>Practical-</b> 06 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• Android Studio</li> <li>• Android Virtual Device</li> </ul>	<p>Class Room/Computer Lab</p>



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	<ul style="list-style-type: none"> <li>• Store data of users in Cloud Firestore or Realtime Database</li> <li>• Store files, images, and videos into cloud storage</li> </ul>	<p>Firestore or Real-time Database</p> <ul style="list-style-type: none"> <li>• Enlist the steps to store videos on cloud storage.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Write a SQL query to create a view of student results?</p>	<p><b>Total-</b> 07 Hrs</p>	<ul style="list-style-type: none"> <li>• Firebase SDK</li> <li>• Firebase Console</li> <li>• Crashlytics</li> <li>• Google Analytics</li> <li>• Cloud Messaging</li> </ul>	
<p><b>LU5.</b></p> <p>Add backend procedures</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Write backend code that runs in a secure environment (using cloud functions)</li> <li>• Configure notifications (cloud messaging)</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Describe cloud functions that run backup code in a secure environment.</li> <li>• Enlist the steps to configure notifications (cloud messaging).</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Configure the notifications in cloud messaging.</p>	<p><b>Theory-</b> 01 Hrs</p> <p><b>Practical-</b> 03 Hrs</p> <p><b>Total-</b> 04 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• Android Studio</li> <li>• Android Virtual Device</li> <li>• Firebase SDK</li> <li>• Firebase Console</li> <li>• Crashlytics</li> <li>• Google Analytics</li> </ul>	<p>Class Room/Computer Lab</p>



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				<ul style="list-style-type: none"> <li>• Cloud Messaging</li> </ul>	
<p><b>LU6.</b></p> <p>Setup Crashlytics</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Record what information can an application forward to the server when it crashes</li> <li>• Configure which information will be sent to the server when an application crashes</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Describe the information that crashes the application.</li> <li>• Enlist the step to avoid the severe from a crash.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Enlist the setup to avoid the severe from a crash.</p>	<p><b>Theory -</b> 01 Hrs</p> <p><b>Practical-</b> 03 Hrs</p> <p><b>Total- 04</b> Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• Android Studio</li> <li>• Android Virtual Device</li> <li>• Firebase SDK</li> <li>• Firebase Console</li> <li>• Crashlytics</li> <li>• Google Analytics</li> <li>• Cloud Messaging</li> </ul>	<p>Class Room/Computer Lab</p>



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<p><b>LU7.</b></p> <p>Test Application</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Write down unit tests for application</li> <li>• Verify that the application passes all unit tests</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Describe the unit test</li> <li>• Enlist the key steps of the unit test.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Write a code for unit testing.</p>	<p><b>Theory -</b> 01 Hrs</p> <p><b>Practical-</b> 03 Hrs</p> <p><b>Total- 04</b> Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• Android Studio</li> <li>• Android Virtual Device</li> <li>• Firebase SDK</li> <li>• Firebase Console</li> <li>• Crashlytics</li> <li>• Google Analytics</li> <li>• Cloud Messaging</li> </ul>	<p>Class Room/Computer Lab</p>
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### Module: 0613-S&AD&A-4 Control and monitor Database

**Objective:** After the completion of this module, the Trainee will be able to control and monitor the Database.

**Duration: 15 Hours**

**Theory: 03 Hours**

**Practice: 12 Hours**

**Credit Hours: 1.5**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU1.</b>  Manage Users in the database	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Access DBMS using root user and password</li> <li>• Create user account using CREATE command</li> <li>• Set Password</li> <li>• Describe and use wildcard characters</li> <li>• Delete user account using DROP command if needed</li> </ul>	<u><b>Knowledge-based questions.</b></u> <ul style="list-style-type: none"> <li>• Enlist the steps to create a user account and set their password.</li> <li>• Describe the wildcard characters</li> <li>• Define the DROP command</li> </ul> <u><b>Practical Activity:</b></u>  Write a query to delete the user account using the drop command.	<b>Theory-</b> 0.5Hrs  <b>Practical-</b> 03 Hrs  <b>Total-</b> 3.5Hrs	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• DBMS (SQL/mySQL etc.)</li> </ul>	Class Room/Computer Lab



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<p><b>LU2.</b></p> <p>Manage Permissions</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Describe permission attributes</li> <li>Grant Permissions to users using GRANT PRIVILEGES clause</li> <li>Grant ALL or multiple permissions</li> <li>View user privileges using SHOW GRANTS clause</li> <li>Revoke user privileges using REVOKE clause</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>Enlist the key attributes of permission.</li> <li>Describe Grant and Revoke clause.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Write a SQL query to grant a privilege to all the database users?</p>	<p><b>Theory-</b> 0.5 Hrs</p> <p><b>Practical-</b> 03 Hrs</p> <p><b>Total-</b> 3.5 Hrs</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>DBMS (SQL/MySQL etc.)</li> </ul>	<p>Class Room/Computer Lab</p>
<p><b>LU3.</b></p> <p>Monitor Database</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Monitor availability and connections using UPTIME, Thread_connected, Max_used_connections, Aborted_connects commands</li> <li>Identify Typical Errors/failure points</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>Describe SQL Monitoring tools</li> <li>Describe run Performance Monitor</li> <li>Define monitor Disk Usage</li> <li>Define monitor CPU Usage</li> <li>Enlist Database Metrics Should be Monitored</li> <li>Enlist the steps to monitor database activity</li> </ul>	<p><b>Theory-</b> 01 Hrs</p> <p><b>Practical-</b> 03 Hrs</p> <p><b>Total-</b> 04 Hrs</p>	<ul style="list-style-type: none"> <li>Computer</li> <li>Internet</li> <li>DBMS (SQL/MySQL etc.)</li> </ul>	<p>Class Room/Computer Lab</p>



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	<ul style="list-style-type: none"> <li>• Monitor queries using slow_queries, select_full_join, create_tmp_disk_tables etc.</li> <li>• Describe commands to monitor cache and use it</li> <li>• Describe commands to monitor buffer and use it</li> <li>• Describe commands to monitor locks and use it</li> <li>• Monitor performance using SHOW, EXPLAIN, etc.</li> </ul>	<p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Write commands to monitor locks.</li> <li>• Create charts, alerts, logs, and reports to monitor an instance of SQL Server.</li> </ul>			
<p><b>LU4.</b></p> <p>Secure database</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Update the password plugin</li> <li>• Set a password for the root account</li> <li>• Remove root account that is accessible from outside the localhost</li> <li>• Remove anonymous user accounts</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Describe the purpose of database security</li> <li>• Enlist the steps to secure a database</li> <li>• Enlist 5 key steps that help to ensure database security</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory-</b> 01 Hrs</p> <p><b>Practical-</b> 03 Hrs</p> <p><b>Total-</b> 04 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer</li> <li>• Internet</li> <li>• DBMS (SQL/mysql etc.)</li> </ul>	<p>Class Room/Computer Lab</p>



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	<ul style="list-style-type: none"><li>• Remove the test database and privileges that permit anyone to access the database with names that start with the test</li></ul>	<ul style="list-style-type: none"><li>• Configure how to remove anonymous user accounts.</li></ul>			
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### 2. SEO Professional

#### Module:0613-S&AD&A-5. Conduct Keyword Research and Analysis

**Objective:** After the completion of this module, the trainee will be able to perform Keyword research and analysis via laptop/desktop and smartphone, according to the workplace requirements.

**Duration: 26 Hours**

**Theory: 5 Hours**

**Practice: 21 Hours**

**Credit Hours:2 6**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU 1. Develop Business Analysis	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Analyze target audience</li> <li>Choose business scalability</li> <li>Choose business Integration</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>Describe target audience</li> <li>Define business scalability</li> <li>Enlist the steps of business integration.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Enlist the key steps to develop business analysis.</p>	<p><b>Theory-</b> 01 Hrs</p> <p><b>Practical-</b> 03 Hrs</p> <p><b>Total-</b> 04 Hrs</p>	<ul style="list-style-type: none"> <li>Computer/Laptop</li> <li>Google Keyword Planner</li> <li>Internet Connection</li> <li>Ubersuggest</li> <li>Yoast SEO</li> <li>Microsoft Excel</li> <li>Keywords Everywhere (Chrome Extension)</li> </ul>	Class Room/Computer lab



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<p>LU 2. Competitor Analysis</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check competitor domain</li> <li>• Check competitor ranking on Alexa ranking</li> <li>• Check competitor traffic</li> <li>• Check competitor domain authority and value</li> <li>• Check competitor visibility on digital platforms</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Define competitor analysis.</li> <li>• Write a step-by-step process for writing a competitor analysis report.</li> <li>• Define Alexa ranking</li> <li>• Describe competitor traffic analysis.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Enlist the key steps of competitor analysis.</p>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 05 Hrs</b></p> <p><b>Total- 06 Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Google Keyword Planner</li> <li>• Internet Connection</li> <li>• Ubersuggest</li> <li>• Yoast SEO</li> <li>• Microsoft Excel</li> <li>Keywords Everywhere (Chrome Extension)</li> </ul>	<p>Class Room/Computer lab</p>
<p>LU 3. Integrate keyword research tools with website</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Create Google Keyword Planner Profile</li> <li>• Generate Keyword Ideas</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Enlist key steps to create a google</li> </ul>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 05 Hrs</b></p> <p><b>Total- 06 Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Google Keyword Planner</li> <li>• Internet Connection</li> </ul>	<p>Class Room/Computer lab</p>



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		<p>keyword planner profile.</p> <ul style="list-style-type: none"> <li>Describe the procedure to generate keyword ideas.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Integrate keyword research tools to a website</p>		<ul style="list-style-type: none"> <li>Ubersuggest</li> <li>Yoast SEO</li> <li>Microsoft Excel</li> </ul> <p>Keywords Everywhere (Chrome Extension)</p>	
<p>LU 4. Conduct keyword analysis</p>	<ul style="list-style-type: none"> <li>Check Keyword Competition</li> <li>Check Keyword Traffic Volume</li> <li>Check Keyword Relevancy</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>Define keyword competition.</li> </ul> <p>Describe keyword traffic volume</p> <ul style="list-style-type: none"> <li>Enlist the steps to check the keyword relevancy</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 04 Hrs</b></p> <p><b>Total- 05 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer/Laptop</li> <li>Google Keyword Planner</li> <li>Internet Connection</li> <li>Ubersuggest</li> <li>Yoast SEO</li> <li>Microsoft Excel</li> </ul> <p>Keywords Everywhere (Chrome Extension)</p>	<p>Class Room/Computer lab</p>



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		Conduct keyword analysis of any two words.			
LU 5. Conduct keyword mapping	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Generate and Download Keyword List</li> <li>• Group Relevant Keywords</li> <li>• Generate Potential Keyword URLs</li> <li>• Integrate Potential URLs into Website</li> </ul>	<p><b><u>Knowledge-based questions.</u></b></p> <ul style="list-style-type: none"> <li>• Enlist the steps to download a keyword.</li> <li>• Enlist the steps to integrate potential URLs into the website.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Enlist the key steps of Conducting keyword mapping.</p>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 04 Hrs</b></p> <p><b>Total- 05 Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Google Keyword Planner</li> <li>• Internet Connection</li> <li>• Ubersuggest</li> <li>• Yoast SEO</li> <li>• Microsoft Excel</li> </ul> <p>Keywords Everywhere (Chrome Extension)</p>	Class Room/Computer lab



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### Module 0613-S&AD&A-6.Perform On-Page

**Objective:** After the completion of this module the trainee will be able to perform on-page SEO via laptop/desktop and smartphone, according to the workplace requirements

**Duration: 22 Hours**

**Theory: 4 Hours**

**Practice: 18 Hours**

**Credit Hours: 2.2**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU 1.</b> <b>Check on-page SEO</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Check website navigation</li> <li>Check website structure</li> </ul>	<u><b>Knowledge base</b></u> <u><b>Questions</b></u> <ul style="list-style-type: none"> <li>Define navigation of the website.</li> <li>Determine how to test for navigation.</li> <li>Define web testing.</li> <li>Describe the easiest way to navigate the website.</li> <li>Define website structure.</li> </ul>	<b>Theory-</b> 0.0 Hrs <b>Practical-1.0</b> Hrs <b>Total-</b> 1.0Hrs	<ul style="list-style-type: none"> <li>Computer System</li> <li>Yoast SEO (WordPress Plugin)</li> <li>Internet Connection</li> <li>Google Keyword Planner</li> </ul>	Class Room/Computer lab



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		<ul style="list-style-type: none"> <li>Describe the importance of website structure for SEO</li> <li>Discover how we visualize website architecture.</li> </ul> <p><b>Practical Activity:</b></p> <p>Identify the navigation on a website.</p>		<ul style="list-style-type: none"> <li>G Site Kit (WordPress Plugin)</li> </ul>	
<p><b>LU 2.</b></p> <p><b>Optimize On-page factors</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Check domain length and type</li> <li>Optimize page title</li> <li>Optimize meta description</li> </ul>	<p><b>Knowledge base</b></p> <p><b>Questions</b></p> <ul style="list-style-type: none"> <li>Enlist the key elements of on-page optimization.</li> <li>Describe how to improve page optimization?</li> <li>Define SEO ranking.</li> <li>Enlist the steps to check domain length and type.</li> </ul>	<p><b>Theory- 0.0Hrs</b></p> <p><b>Practical- 1.0 Hrs</b></p> <p><b>Total- 1.0Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Yoast SEO (WordPress Plugin)</li> <li>Internet Connection</li> <li>Google Keyword Planner</li> </ul>	<p>Class Room/Computer lab</p>



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		<ul style="list-style-type: none"> <li>Describe the steps to Optimize meta description.</li> <li>Elaborate on the target of SEO.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Check your domain length and type</p>		G Site Kit (WordPress Plugin)	
<p><b>LU 3.</b></p> <p><b>Analyze keyword density</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Check current keyword description</li> <li>Maintain ideal keyword density</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Define keyword density.</li> <li>Describe analyzing keyword density.</li> <li>Enlist the steps to check the keyword density in Google Docs.</li> <li>Define ideal keyword density.</li> <li>Describe either keyword density to be checked for SEO.</li> </ul>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 01 Hrs</b></p> <p><b>Total- 02 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Yoast SEO (WordPress Plugin)</li> <li>Internet Connection</li> <li>Google Keyword Planner</li> </ul>	<p>Class Room/Computer lab</p>



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		<p><b><u>Practical Activity:</u></b></p> <p>Check the keyword density on the website assigned instructor/examiner</p>		G Site Kit (WordPress Plugin)	
<p><b>LU 4.</b></p> <p><b>Develop keyword proximity and prominence</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Maintain keyword proximity</li> <li>Maintain max keyword prominence</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Define keyword prominence and proximity.</li> <li>Describe the method to improve keyword ranking</li> <li>Describe the method to find out the percentage for keyword density.</li> <li>Describe the procedure to maintain keyword density.</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory- 0.0 Hrs</b></p> <p><b>Practical- 01 Hrs</b></p> <p><b>Total- 01 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Yoast SEO (WordPress Plugin)</li> <li>Internet Connection</li> <li>Google Keyword Planner</li> </ul> <p>G Site Kit (WordPress Plugin)</p>	<p>Class Room/Computer lab</p>



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		Generate keyword proximity and prominence			
<b>LU 5.</b> <b>Conduct keyword placement</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Add keyword in the title</li> <li>• Add keyword in the meta description</li> <li>• Add keyword in headings</li> <li>• Add keyword in subheadings</li> <li>• Add keyword in the image name</li> <li>• Add keyword in alt tags</li> </ul>	<u><b>Knowledge base</b></u> <u><b>Questions</b></u> <ul style="list-style-type: none"> <li>• Define keyword placement.</li> <li>• Describe the method to organize keywords.</li> <li>• Enlist the steps to put keywords in the description.</li> <li>• Describe the procedure to include keywords in the meta description</li> <li>• Enlist the steps to add meta keywords.</li> </ul>	<b>Theory- 0.0 Hrs</b> <b>Practical- 01 Hrs</b> <b>Total- 01 Hrs</b>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Yoast SEO (WordPress Plugin)</li> <li>• Internet Connection</li> <li>• Google Keyword Planner</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	Class Room/Computer lab



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		<ul style="list-style-type: none"><li>• Enlist the key steps to add keywords in subheadings.</li><li>• Enlist the key steps to add keyword in image name.</li><li>• Enlist the key steps to add keyword in alt tags.</li></ul> <p><b>Practical Activity:</b></p> <p>Generate keyword placement</p> <p>Using Best Keyword Research Tool</p> <p>choosing a target keyword for content assigned and mark add headings on them</p>			
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<p><b>LU 6.</b> <b>Analyze domain selection and value</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Select the minimum character domain name</li> <li>Check domain pricing</li> <li>Include a keyword in the domain name</li> </ul>	<p><b><u>Knowledge base</u></b> <b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Define the domain analysis process.</li> <li>Describe the character limit for a domain name.</li> <li>Enlist the steps to check domain pricing.</li> <li>Describe the key steps to include a keyword in the domain name.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Analyze your domain selection and value</p>	<p><b>Theory- 0.0 Hrs</b> <b>Practical- 01 Hrs</b> <b>Total- 1.0Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Yoast SEO (WordPress Plugin)</li> <li>Internet Connection</li> <li>Google Keyword Planner</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	<p>Class Room/Computer lab</p>
<p><b>LU 7.</b> <b>Optimize file name and title tag</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Include a keyword in the page title</li> <li>Include keyword page URLs</li> </ul>	<p><b><u>Knowledge base</u></b> <b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Describe the key steps to optimize a title tag.</li> </ul>	<p><b>Theory- 0.0 Hrs</b> <b>Practical- 01 Hrs</b> <b>Total- 01 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Yoast SEO (WordPress Plugin)</li> </ul>	<p>Class Room/Computer lab</p>



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		<ul style="list-style-type: none"> <li>Describe the purpose of an optimized title tag.</li> <li>Define keyword URL.</li> <li>Describe the key steps to writing an SEO URL.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Optimize your file name and title tag.</p>		<ul style="list-style-type: none"> <li>Internet Connection</li> <li>Google Keyword Planner</li> </ul> <p>G Site Kit (WordPress Plugin)</p>	
<p><b>LU 8.</b></p> <p><b>Install Yoast SEO plugin</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Search Yoast SEO in the plugins section</li> <li>Activate Yoast SEO plugin</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Define Yoast SEO.</li> <li>Describe the key steps to search Yoast in the plugin section.</li> <li>Describe the Key steps to activate Yoast SEO.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Install the Yoast SEO plugin.</p>	<p><b>Theory- 0.0 Hrs</b></p> <p><b>Practical- 0.5 Hrs</b></p> <p><b>Total- 0.5 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Yoast SEO (WordPress Plugin)</li> <li>Internet Connection</li> <li>Google Keyword Planner</li> </ul>	<p>Class Room/Computer lab</p>



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				G Site Kit (WordPress Plugin)	
<b>LU 9. Install G Site Kit Plugin</b>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Search G Site Kit in the plugins section</li> <li>• Activate G Site Kit plugin</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define G Site Kit.</li> <li>• Describe the key steps to search G Site Kit in the plugin section.</li> <li>• Describe the key steps to activate the G Site Kit plugin</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Install G Site Kit Plugin.</p>	<p><b>Theory- 0.0Hrs</b></p> <p><b>Practical- 0.5 Hrs</b></p> <p><b>Total- 0.5Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Yoast SEO (WordPress Plugin)</li> <li>• Internet Connection</li> <li>• Google Keyword Planner</li> </ul> <p>G Site Kit (WordPress Plugin)</p>	Class Room/Computer lab
<b>LU 10. Install AMP Plugin</b>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Search AMP in the plugins section</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define AMP Plugin.</li> </ul>	<p><b>Theory- 0.0 Hrs.</b></p> <p><b>Practical- 1.0 Hrs</b></p> <p><b>Total- 1.0 Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer System</li> </ul>	Class Room/Computer lab



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	<ul style="list-style-type: none"> <li>• Activate AMP plugin</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the key steps to Search AMP in the plugin section.</li> <li>• Describe the key steps to activate AMP plugins.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Install AMP Plugin.</p>		<ul style="list-style-type: none"> <li>• Yoast SEO (WordPress Plugin)</li> <li>• Internet Connection</li> <li>• Google Keyword Planner</li> </ul> <p>G Site Kit (WordPress Plugin)</p>	
<p><b>LU 11.</b></p> <p><b>Optimize content with Yoast SEO</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Optimize content with Yoast SEO guidelines</li> <li>• Resolve warning issues</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define Yoast SEO.</li> <li>• the key steps to optimize Yoast SEO</li> <li>• Enlist the benefits of Yoast SEO.</li> </ul>	<p><b>Theory- 0.0 Hrs</b></p> <p><b>Practical- 1.0 Hrs</b></p> <p><b>Total- 1.0 Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Yoast SEO (WordPress Plugin)</li> <li>• Internet Connection</li> </ul>	<p>Class Room/Computer lab</p>



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		<ul style="list-style-type: none"> <li>Describe the key steps to resolve warning issues.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Optimize the Yoast SEO plugin and resolve the warning issues.</p>		<ul style="list-style-type: none"> <li>Google Keyword Planner</li> </ul> <p>G Site Kit (WordPress Plugin)</p>	
<p><b>LU 12.</b></p> <p><b>Optimize header and footer</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Create primary menu in the header</li> <li>Create at least one page for each menu section</li> <li>Add resourceful links in the footer</li> <li>Add widgets in the footer</li> <li>Add social icons in the footer</li> <li>Add a business description in the footer</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Define header and footer.</li> <li>Describe the key steps to create the primary menu in the header.</li> <li>Describe the key steps to add resourceful links in the footer.</li> <li>Define widgets.</li> </ul>	<p><b>Theory- 0.5 Hrs</b></p> <p><b>Practical- 1.0 Hrs</b></p> <p><b>Total- 2.0 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Yoast SEO (WordPress Plugin)</li> <li>Internet Connection</li> <li>Google Keyword Planner</li> </ul> <p>G Site Kit (WordPress Plugin)</p>	<p>Class Room/Computer lab</p>



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		<ul style="list-style-type: none"> <li>• Describe the key steps to add widgets in the footer.</li> <li>• Define social icons.</li> <li>• Describe the social icons in the footer.</li> <li>• Define business description in the footer.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Add the header and footer on content assigned by the instructor/teacher also add the widgets.</p>			
<p><b>LU 13.</b> <b>Optimize page speed</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check website speed with google page speed insights</li> <li>• Check image rendering issues</li> <li>• Check server response time</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define page speed.</li> <li>• Describe the key steps to check website speed with google page speed insights.</li> <li>• Define image rendering.</li> </ul>	<p><b>Theory- 0.0 Hrs</b></p> <p><b>Practical- 1.0 Hrs</b></p> <p><b>Total- 1.0 Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Yoast SEO (WordPress Plugin)</li> <li>• Internet Connection</li> </ul>	<p>Class Room/Computer lab</p>



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	<ul style="list-style-type: none"><li>• Implement less code for smooth functioning</li><li>• Resolve the issues guidelines by google page speed insights</li></ul>	<ul style="list-style-type: none"><li>• Describe the key steps to check image rendering issues.</li><li>• Define Implement less code.</li><li>• Describe the key steps to check image rendering issues.</li><li>• Define server response time.</li><li>• Describe the steps to check server response time.</li><li>• Describe the steps to resolve the issues guidelines by google page speed insights.</li></ul> <p><b><u>Practical Activity:</u></b></p> <p>Check <a href="http://www.navttc.gov.pk">www.navttc.gov.pk</a></p>		<ul style="list-style-type: none"><li>• Google Keyword Planner</li></ul> <p>G Site Kit (WordPress Plugin)</p>	
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		website speed with google page speed insights			
<b>LU 14. Develop URL Redirection</b>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Search 301 redirections in the plugins section</li> <li>• Install and activate the plugin</li> <li>• Create redirect links for updated page links</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define URL.</li> <li>• Define URL Redirection.</li> <li>• Describe the key steps to search 301 redirections in plugins sections.</li> <li>• Define plugins.</li> <li>• Describe the key steps to install and activate the plugins.</li> <li>• Describe the key steps to create redirect links for updated page links.</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory- 0.5 Hrs</b></p> <p><b>Practical- 1.0 Hrs</b></p> <p><b>Total- 1.5 Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Yoast SEO (WordPress Plugin)</li> <li>• Internet Connection</li> <li>• Google Keyword Planner</li> <li>• G Site Kit (WordPress Plugin)</li> </ul>	Class Room/Computer lab



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		Develop URL and Search 301 redirections in the plugins section			
<b>LU 15. Select Hosting</b>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check server downtime</li> <li>• Check to host backup</li> <li>• Check HTTPS hosting</li> <li>• Check real-time support</li> <li>• Compare pricing between other hosting services</li> <li>• Check server location</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define hosting.</li> <li>• Define server downtime.</li> <li>• Describe the key steps to check server downtime.</li> <li>• Define hosting backup.</li> <li>• Describe the key steps to check hosting backup.</li> <li>• Define real-time support.</li> <li>• Describe the key steps to check real-time support.</li> <li>• Describe the key steps to compare the pricing</li> </ul>	<p><b>Theory- 0.5 Hrs</b></p> <p><b>Practical- 1 Hrs</b></p> <p><b>Total- 1.5 Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Yoast SEO (WordPress Plugin)</li> <li>• Internet Connection</li> <li>• Google Keyword Planner</li> </ul> <p>G Site Kit (WordPress Plugin)</p>	Class Room/Computer lab



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		<p>between the different hosting services.</p> <ul style="list-style-type: none"> <li>• Define server location.</li> <li>• Describe the key steps to check server locations.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Compare the pricing with GoDaddy web hosting with other hosting services.</p>			
<p><b>LU 16.</b> <b>Create robots.txt files</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Open Yoast SEO plugin dashboard</li> <li>• Generate robots.txt file by clicking generate file tab</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Discover the working of robots.txt file.</li> <li>• Define plugin dashboard.</li> <li>• Describe the key steps to open Yoast SEO plugin dashboard.</li> </ul>	<p><b>Theory- 0.5 Hrs</b></p> <p><b>Practical- 1 Hrs</b></p> <p><b>Total- 1.5 Hrs</b></p>		



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		<ul style="list-style-type: none"> <li>Describe the key steps to generate robots .txt file by clicking generate file tab,</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Open Yoast SEO plugin dashboard and generate robots.txt file.</p>			
<p><b>LU 17.</b></p> <p><b>Create sitemaps</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Go to the sitemap generator</li> <li>Type website URL</li> <li>Generate sitemap</li> <li>Download the sitemap file</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Define sitemap.</li> <li>Describe the key steps to generate a sitemap.</li> <li>Describe the key steps to download the sitemap file.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Generate the sitemap and download the sitemap file.</p>	<p>Theory- 0.0 Hrs</p> <p>Practical- 1.0 Hrs</p> <p>Total- 1.0 Hrs</p>		



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<p><b>LU 18.</b> <b>Develop anchor text and internal links</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Develop anchor text and internal links</li> <li>• Choose anchor text for the hyperlink</li> <li>• Paste a link on the keyword</li> <li>• Add relevant internal links</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define anchor text.</li> <li>• Define internal links.</li> <li>• Describe the key steps to develop anchor text and internal links.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Develop anchor text and internal links.</p>	<p>Theory- 0.0 Hrs</p> <p>Practical- 1.0 Hrs</p> <p>Total- 1.0 Hrs</p>		
<p><b>LU 19.</b> <b>Create Schema</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Search Schema in the plugins section</li> <li>• Activate Schema plugin</li> <li>• Click on Schema Setting</li> <li>• Configure Schema Plugin according to your website like title, description, address, home URL, category, etc.</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define schema.</li> <li>• Describe the key steps to Configure Schema Plugin according to your website like title, description, address, home URL, category</li> </ul>	<p>Theory- 1 Hrs</p> <p>Practical- 1.0 Hrs</p> <p>Total- 2.0 Hrs</p>		



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	<ul style="list-style-type: none"><li>• Open Google Structured Data Testing Tool and fetch URL and check all data schema properly configured.</li></ul>	<ul style="list-style-type: none"><li>• Describe the key steps to Open Google Structured Data Testing Tool and fetch URL and check all data schema properly configured.</li></ul> <p><b><u>Practical Activity:</u></b></p> <p>Configure Schema Plugin according to your website like title, description, address, home URL</p>			
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## National Vocational Certificate Level 4 for Mobile App, Web and Game Development



### Module 0613-S&AD&A-7.Perform Off-Page SEO

**Objective::** After the completion of this module, the trainee will be able to perform off-page SEO. The trainee will be expected to perform off-page SEO via laptop/desktop and smartphone, according to the workplace requirements.

**Duration: 41 Hours**

**Theory: 8 Hours**

**Practice: 33 Hours**

**Credit Hours: 4.1**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU 1.</b> <b>Check backlinks</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Identify backlink entities</li> <li>Describe link building process</li> </ul>	<u><b>Knowledge base</b></u> <u><b>Questions</b></u> <ul style="list-style-type: none"> <li>Defi backlink entities</li> <li>Describe link building process.</li> </ul> <u><b>Practical Activity:</b></u> Check backlinks in the developed website.	<b>Theory- 0.5 Hrs</b> <b>Practical- 03 Hrs</b> <b>Total- 3.5 Hrs</b>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> </ul>	Class Room/Computer lab



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				<ul style="list-style-type: none"> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	
<p>LU 2.</p> <p><b>Create backlinks</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Add relevant outbound links</li> <li>Reply to relevant blogs on other websites</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Enlist to add relevant outbound links</li> <li>Describe the procedure to reply to relevant blogs on another websites.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create five backlinks</p>	<p><b>Theory- 0.5 Hrs</b></p> <p><b>Practical- 03 Hrs</b></p> <p><b>Total- 3.5Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> </ul>	<p>Class Room</p> <p>Training Workshop</p> <p>Lab/ Field Visit</p>



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				<ul style="list-style-type: none"> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	
<p><b>LU 3.</b> <b>Submit website to search engines</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Create web profile</li> <li>Validate confirmation</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Enlist the step to create a web profile</li> <li>Describe the procedure to validate confirmation.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Create a web profile</li> </ul>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 03 Hrs</b></p> <p><b>Total- 04 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> </ul>	



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				<ul style="list-style-type: none"> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	
<b>LU 4.</b> <b>Submit website to directories</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Add web profile</li> <li>Validate email confirmation</li> </ul>	<u><b>Knowledge base</b></u> <u><b>Questions</b></u> <ul style="list-style-type: none"> <li>Describe the procedure to submit website to directory</li> <li>Enlist the procedure to validate email confirmation.</li> </ul> <u><b>Practical Activity:</b></u> Submit a developed website to a directory	<b>Theory- 01 Hrs</b> <b>Practical- 03 Hrs</b> <b>Total- 04 Hrs</b>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> </ul>	



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				<ul style="list-style-type: none"> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	
<p><b>LU 5.</b></p> <p><b>Submit website to blogs</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Reply on relevant blogs</li> <li>Type website URL</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Describe the blogs</li> <li>Define website URL</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Submit website to a blog</p>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 03 Hrs</b></p> <p><b>Total- 04 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> </ul>	



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				<ul style="list-style-type: none"> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	
<p><b>LU 6.</b> <b>Submit to forums</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Add relevant discussion topics on forums</li> <li>Insert website URL</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Describe forums</li> <li>Enlist steps to insert website URL</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Insert relevant discussion topics on the forum and submit them.</p>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 03 Hrs</b></p> <p><b>Total- 04 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> </ul>	



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				<ul style="list-style-type: none"> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	
<p><b>LU 7.</b></p> <p><b>Submit to Q&amp;A websites</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Create a website profile as a business entity</li> <li>Reply to relevant topics</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Describe Q &amp; A.</li> <li>Enlist the key step to creating a website profile as a business entity.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create a website profile as a business entity and reply to relevant topics.</p> <p>Create a Twitter profile for your business</p>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 06 Hrs</b></p> <p><b>Total- 07 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> </ul>	



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				<ul style="list-style-type: none"> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	
<p>LU 8.</p> <p><b>Conduct social bookmarking</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Add relevant topics or website pages' links on social media platforms</li> <li>Insert relevant website links to other social media posts in the comments</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Enlist social media platforms.</li> <li>Describe bookmarking</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Insert relevant website links (at least five) to other social media posts in the comments</p>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 06 Hrs</b></p> <p><b>Total- 07 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> </ul>	



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				<ul style="list-style-type: none"> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	
<p><b>LU 9.</b></p> <p><b>Create articles on blog submission websites</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Create blog profile on the blogger</li> <li>Write a blog article</li> <li>Share it with others and on social media platforms</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Describe the concept of blogger.</li> <li>Enlist the steps to create a blog profile on the blogger</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create at least one article on a blog</p> <p>Creat blog of five students present in your class</p>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 03 Hrs</b></p> <p><b>Total- 04Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> </ul>	



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				<ul style="list-style-type: none"><li>• AMP (WordPress Plugin)</li></ul> <p>G Site Kit (WordPress Plugin)</p>	
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## National Vocational Certificate Level 4 for Mobile App, Web and Game Development



### Module 0613-S&AD&A-8. Perform Advanced Technical SEO

**Objective:** : After the completion of this module the trainee will be able to perform off-page SEO. The trainee will be expected to perform off-page SEO via laptop/desktop and smartphone, according to the workplace requirements.

**Duration: 52 Hours**

**Theory: 10 Hours**

**Practice: 42 Hours**

**Credit Hours: 5.2**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU 1.</b> <b>Conduct page speed analysis</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Monitor page speed with AMP interface</li> <li>Analyze desktop and mobile version page speed</li> </ul>	<u><b>Knowledge base</b></u> <u><b>Questions</b></u> <ul style="list-style-type: none"> <li>Describe AMP interface</li> <li>Enlist the step to check the mobile version page speed.</li> </ul> <u><b>Practical Activity:</b></u> Check to monitor page speed with AMP interface	<b>Theory- 02 Hrs</b> <b>Practical- 04 Hrs</b> <b>Total- 06 Hrs</b>	<ul style="list-style-type: none"> <li>Computer/Laptop</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	Class Room/Computer lab



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<p><b>LU 2.</b> <b>Create content friendly URLs</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Insert keyword in URL</li> <li>• Type descriptive URL</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Enlist the step to insert the keyword in the URL.</li> <li>• Define content friendly URLs</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Create at least two content friendly URLs</p> <p>create a filter class in which an instance of the filter for each request to render web content that contains URLs to other web content items.</p>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 06 Hrs</p> <p><b>Total-</b> 08 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Internet Connection</li> <li>• 301 Redirection (WordPress Plugin)</li> <li>• Google Page Speed Insights</li> <li>• Notepad</li> <li>• AMP (WordPress Plugin)</li> </ul> <p>G Site Kit (WordPress Plugin)</p>	<p>Class Room/Computer lab</p>
<p><b>LU 3.</b> <b>Generate robot tags and robot's txt file</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Specify no-follow sections</li> <li>• Insert robot tags to relevant sections</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe robot tags</li> </ul>	<p><b>Theory-</b> 02 Hrs</p> <p><b>Practical-</b> 08 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Internet Connection</li> <li>• 301 Redirection (WordPress Plugin)</li> </ul>	<p>Class Room/Computer lab</p>



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		<ul style="list-style-type: none"> <li>Enlist the procedure to create the robot's.txt file.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Generate at least five robot tags</p> <p>Create and submit robots.txt file</p>	<b>Total- 10 Hrs</b>	<ul style="list-style-type: none"> <li>Google Page Speed Insights</li> <li>Notepad</li> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	
<b>LU 4. Conduct Redirection Strategy</b>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Update the links with the 301 redirection plugin</li> <li>Do not remove any updated links</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Describe redirection strategy</li> <li>Describe 301 redirection plugin</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Configure 301 redirection plugin</p>	<p><b>Theory- 01 Hrs</b></p> <p><b>Practical- 08 Hrs</b></p> <p><b>Total- 09 Hrs</b></p>	<ul style="list-style-type: none"> <li>Computer/Laptop</li> <li>Internet Connection</li> <li>301 Redirection (WordPress Plugin)</li> <li>Google Page Speed Insights</li> <li>Notepad</li> <li>AMP (WordPress Plugin)</li> <li>G Site Kit (WordPress Plugin)</li> </ul>	Class Room/Computer lab



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<b>LU 5.</b> <b>Develop AMP Version</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Enable AMP version in post-editing section</li> <li>• Create content friendly posts</li> </ul>	<u><b>Knowledge base</b></u> <u><b>Questions</b></u> <ul style="list-style-type: none"> <li>• Enlist the steps to create user-friendly posts.</li> <li>• Enlist the steps to enable the AMP version in the post-editing section</li> </ul> <u><b>Practical Activity:</b></u> Download and Install AMP in Drupal/word press	<b>Theory-</b> 01 Hrs <b>Practical-</b> 08 Hrs <b>Total-</b> 09 Hrs	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Internet Connection</li> <li>• 301 Redirection (WordPress Plugin)</li> <li>• Google Page Speed Insights</li> <li>• Notepad</li> <li>• AMP (WordPress Plugin)</li> <li>• G Site Kit (WordPress Plugin)</li> </ul>	Class Room/Computer lab
<b>LU 6.</b> <b>Analyze G Site Kit</b>	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Check Google search console dashboard</li> </ul>	<u><b>Knowledge base</b></u> <u><b>Questions</b></u>	<b>Theory-</b> 02 Hrs <b>Practical-</b> 08 Hrs	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Internet Connection</li> <li>• 301 Redirection (WordPress Plugin)</li> </ul>	Class Room/Computer lab



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	<ul style="list-style-type: none"> <li>• Check Google analytics dashboard</li> <li>• Apply for Google AdSense</li> </ul>	<ul style="list-style-type: none"> <li>• Describe google search console dashboard</li> <li>• Define Google AdSense</li> </ul> <p><b><u>Practical Activity:</u></b> Install and analyze G site Kit</p>	<b>Total- 10 Hrs</b>	<ul style="list-style-type: none"> <li>• Google Page Speed Insights</li> <li>• Notepad</li> <li>• AMP (WordPress Plugin)</li> </ul> <p>G Site Kit (WordPress Plugin)</p>	
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**Module 0613-S&AD&A-9.Perform Local SEO Perform Advanced Technical SEO**

**Objective::** After the completion of this module the trainee will be able to perform Local SEO via laptop/desktop and smartphone, according to the workplace requirements

**Duration: 26 Hours**

**Theory: 5 Hours**

**Practice: 21 Hours**

**Credit Hours: 2.6**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials	Learning
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**National Vocational Certificate Level 4 for Mobile App, Web and Game Development**



				Required	Place
<p><b>LU 1.</b> <b>Submit website to local business</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Create web profile on local business web</li> <li>• Confirm the email</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe the different local business websites to boost your business.</li> <li>• Describe the method to create a web profile on a local business</li> <li>• Explain the account approval process.</li> </ul> <p><b><u>Practical Activity:</u></b> Enlist your business on one of the following platforms. Google My Business, Hubspot, or Facebook.</p>	<p><b>Theory- 1Hrs</b> <b>Practical- 3Hrs</b> <b>Total- 4Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Word Processor</li> <li>• Internet Connection</li> <li>• Cell Phone</li> <li>• Writing Pad</li> <li>• Pen</li> </ul>	<p>Class Room/Computer lab</p>



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<p><b>LU 2.</b> <b>Submit website to local directories</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Sign up with web URL on online local directories</li> <li>• Confirm the validation email</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe the different local directories.</li> <li>• Explain the process of account approval using two-factor authentication.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Sign up with any of the free local directory and confirm your email on the local directory.</li> </ul>	<p><b>Theory- 1Hrs</b> <b>Practical- 3Hrs</b> <b>Total- 4Hrs</b></p>		<p>Class Room  Training Workshop  Lab/ Field Visit</p>
<p><b>LU 3.</b> <b>Submit website to free classifieds</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Create posts on classified website</li> <li>• Response to other relevant classified posts</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Describe the different classified websites.</li> <li>• Explain the process of adding reviews on relevant ads.</li> <li>• Describe the process of creating an ad on</li> </ul>	<p><b>Theory-1 Hrs</b> <b>Practical-3 Hrs</b> <b>Total- 4Hrs</b></p>		



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		<p>classified websites. E.g. OLX, PakWheels etc</p> <p><b><u>Practical Activity:</u></b> Post an ad on any of the classified websites.</p>			
<p><b>LU 4.</b> <b>Generate website profile to google my business</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Sign up on google my business</li> <li>• Confirm the validation email</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the Google my business domain.</li> <li>• Explain the account approval process.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Enlist your business on Google My Business.</li> </ul>	<p><b>Theory-</b> 0.5Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total- 3.5Hrs</b></p>		
<p><b>LU 5.</b> <b>Analyze website trend on google my business</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check web traffic on google my business</li> </ul>	<p><b><u>Knowledge-Based Questionsthe Trainee</u></b></p>	<p><b>Theory-0.5</b> Hrs</p> <p><b>Practical-</b> 3Hrs</p>		



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	<ul style="list-style-type: none"> <li>• Check click through rate keyword queries</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the different statistics graphs on Google my business.</li> <li>• Describe the keyword researching techniques.</li> <li>• Describe the search result rankings.</li> </ul> <p><b><u>Practical Activity:</u></b> Write down the five most commonly used keywords related to your business.</p>	<p><b>Total- 3.5Hrs</b></p>		
<p><b>LU 6.</b> <b>Maintain consistent strategy for business</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Reply to reviews</li> <li>• Reply to comments on posts</li> <li>• Resolve issues with users</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the reviews and feedback form.</li> <li>• Explain the issues resolving techniques.</li> <li>• Describe the dispute creation and resolving process.</li> </ul>	<p><b>Theory-</b> 0.5Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total- 3.5Hrs</b></p>		



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		<p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Post an ad on any of the classified websites and reply to the user reviews on your post.</li> </ul>			
<p><b>LU 7. Engage with users</b></p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Post images of the business environment</li> <li>Post value offers</li> <li>Compliment users in replies</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Explain the supported image formats on different web platforms.</li> <li>Explain how to improve user engagement in different businesses. E.g. offering deals etc</li> </ul> <p><b><u>Practical Activity:</u></b> Optimize how to attract and engage more customers by integrating SEO social media content marketing</p>	<p><b>Theory-0.5 Hrs</b></p> <p><b>Practical- 3Hrs</b></p> <p><b>Total-3.5 Hrs</b></p>		



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### Module 0613-S&AD&A-10. Analyze Reports and Management

**Objective::** After the completion of this module the trainee will be able to perform Reports and Management via laptop/desktop and smartphone, according to the workplace requirements.

**Duration: 26 Hours**

**Theory: 5 Hours**

**Practice: 21 Hours**

**Credit Hours: 2.6**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU 1. Analyze website ranking on different search engines	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Check page ranking for google</li> <li>• Check page ranking for Bing</li> <li>• Check page ranking for yahoo</li> </ul>	<u><b>Knowledge-Based Questions</b></u> <ul style="list-style-type: none"> <li>• Explain the basic page ranking criteria for different search engines.</li> </ul>	<b>Theory-</b> 0.5Hrs  <b>Practical-</b> 3Hrs  <b>Total- 3.5 Hrs</b>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Internet Connection</li> <li>• Google Analytics</li> <li>• Gmail Account</li> </ul>	Class Room/Computer lab



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		<ul style="list-style-type: none"> <li>Describe different ranking tools used to view the rankings. E.g. Bing Webmaster and Google Search Central etc</li> </ul> <p><b><u>Practical Activity:</u></b> Check the page ranking of Wikipedia on different search engines.</p>		<ul style="list-style-type: none"> <li>Website Admin Panel</li> </ul>	
<p>LU 2. Introduce Google Analytics</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Scope the google analytics</li> <li>Check the functionality of google analytics</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Explain the different analytical or business intelligence tools</li> <li>Explain the features of Google analytics.</li> <li>Explain the filtering analysis, segmentation and data analysis, and visualization.</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory- 1Hrs</b></p> <p><b>Practical- 3Hrs</b></p> <p><b>Total- 4 Hrs</b></p>		



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		<ul style="list-style-type: none"> <li>• Visualize your business website data on Google analytics.</li> <li>• Show the customer interaction on your business website.</li> </ul>			
<p>LU 3. Install Google Analytics</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Sign up for google analytics with web URL</li> <li>• Add tracking code in web header</li> <li>• Confirm the email, connected with website hosting</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the process of creating an account on Google analytics.</li> <li>• Describe how to add Google analytics to your business website.</li> <li>• Explain, How to ensure if analytics are working on your business page.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Configure Google analytics on your webpage and ensure if</li> </ul>	<p><b>Theory-</b> 0.5Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total- 3.5 Hrs</b></p>		



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		analytics are working or not.			
LU 4. Analyze Visitor Reports	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check user traffic in the visitor section</li> <li>• Check user timings</li> <li>• Check user devices</li> </ul>	<p><b>Knowledge-Based Questions</b></p> <ul style="list-style-type: none"> <li>• Explain the process of monitoring traffic on the analytics portal.</li> <li>• Describe the interaction time of the user on your webpage or website.</li> <li>• Explain, How to show the devices of incoming users or incoming traffic on a website.</li> </ul> <p><b>Practical Activity:</b> Configure Google analytics on your webpage and list down the most commonly used device's interaction on your website.</p>	<p><b>Theory-</b> 0.5Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total- 3.5 Hrs</b></p>		



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<p>LU 5. Analyze Geographic Reports</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check user location</li> <li>• Check to target audience traffic</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the audience Geo-location</li> <li>• Explain the target audience configuration on Google analytics. E.g. defining rules etc.</li> </ul> <p><b><u>Practical Activity:</u></b> List down the most commonly used location, where your website got hits, or the most used area your target audience is.</p>	<p><b>Theory-</b> 0.5Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total- 3.5 Hrs</b></p>		
<p>LU 6. Analyze Traffic Resources Reports</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check traffic medium</li> <li>• Check traffic keywords</li> <li>• Check traffic links</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the different mediums of your incoming traffic. E.g. Referral, Backlinks,</li> </ul>	<p><b>Theory-</b> 1Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total- 4 Hrs</b></p>		



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		<p>Social media or Organic traffic, etc.</p> <ul style="list-style-type: none"> <li>• Explain the traffic sources tab in Google analytics.</li> <li>• Describe the most commonly used search terms that are sending you the most organic traffic.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>• Write down the 10 keywords highly relevant to your website.</li> </ul>			
<p>LU 7. Analyze Keyword Reports</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check potential keyword searches</li> <li>• Monitor keyword volume</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the keyword research concerning Google analytics.</li> <li>• Explain the general topic bucket.</li> </ul>	<p><b>Theory- 1Hrs</b></p> <p><b>Practical- 3Hrs</b></p> <p><b>Total- 4 Hrs</b></p>		



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		<ul style="list-style-type: none"> <li>• Describe the keywords search volume tab in Google analytics.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p style="color: red;">Describe</p> <p style="color: green;">Identify and enlist</p> <p>different volume metrics e.g. MSV (Monthly search volume)</p>			
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### Module 0613-S&AD&A-11. Integrate Google Search Console (GSC)

**Objective::** After the completion of this module, the Trainee will be able to perform Integrate Google search console via laptop/desktop and smartphone, according to the workplace requirements.

**Duration: 30 Hours**

**Theory: 6 Hours**

**Practice: 24 Hours**

**Credit Hours: 3.0**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
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<p>LU 1. Analyze Google Search Console</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Scope the google search console</li> <li>• Integrate google search console app with web</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain the dashboard of the Google search console.</li> <li>• Explain how to enable or disable the Google search console Api's</li> </ul> <p><b><u>Practica Activity:</u></b> Create a Google search console API key to use the features of Google in your web app.</p>	<p><b>Theory- 0.5</b> Hrs</p> <p><b>Practical- 1.5</b> Hrs</p> <p><b>Total- 02 Hrs</b></p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Internet Connection</li> <li>• Gmail Account</li> <li>• Google Search Console</li> <li>• Website Admin Panel</li> </ul>	<p>Class Room/Computer lab</p>
<p>LU 2. Install Google Search Console</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Sign up for the website on the google search console</li> </ul>	<p><b><u>Knowledge-Based Questionsthe Trainee</u></b></p> <ul style="list-style-type: none"> <li>• Explain the process of creating an app or project in your Google console app.</li> </ul>	<p><b>Theory 0.5</b> Hrs</p> <p><b>Practical- 1.5</b> Hrs</p> <p><b>Total- 02 Hrs</b></p>		



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	<ul style="list-style-type: none"> <li>Add the tracking code in the web header to confirm the website</li> </ul>	<ul style="list-style-type: none"> <li>Explain the configuration steps of adding Analytics to your website.</li> </ul> <p><b><u>Practical Activity:</u></b> Configure Google analytics code into your website</p>			
<p>LU 3. Configure Google Search Console</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Check the real-time traffic performance</li> <li>Check coverage on the dashboard</li> </ul>	<p><b><u>Knowledge-Based Question</u></b></p> <ul style="list-style-type: none"> <li>Describe the real-time traffic monitoring tab through the console or dashboard.</li> <li>Explain the distribution of assigned User ID among all of your traffic.</li> </ul> <p><b><u>Practical Activity:</u></b></p>	<p><b>Theory- 0.5</b> Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total- 3.5Hrs</b></p>		



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		Display the weekly traffic report of your website/ webpage			
LU 4. Add website URL as property	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Type website URL as property</li> <li>Confirm the validation email for the property</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Explain the properties setup process in the Google Analytics account.</li> <li>Explain the process of website ownership.</li> </ul> <p><b><u>Practical Activity:</u></b> Verify your domain by adding the verification file.</p>	<p><b>Theory- 0.5</b> Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total- 3.5</b> Hrs</p>		
LU 5. Submit sitemaps	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Upload sitemap file on google search console</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p>	<p><b>Theory- 0.5</b> Hrs</p> <p><b>Practical-</b> 3Hrs</p>		



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	<ul style="list-style-type: none"> <li>Write the sitemap URL in the sitemap bar</li> </ul>	<ul style="list-style-type: none"> <li>Explain the process of generating sitemap.xml file</li> <li>Explain the sitemap.xml file structure.</li> </ul> <p><b><u>Practical Activity:</u></b> Generate a sitemap file of your system and add it into your files directory.</p>	<p><b>Total- 3.5 Hrs</b></p>		
<p>LU 6. Submit Site URLs</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Add the page and post URLs for indexing</li> <li>Check if the indexing can be done in real-time</li> <li>Check live testing</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Define website indexing into multiple search engines.</li> <li>Explain the index coverage report panel</li> </ul> <p><b><u>Practical Activity:</u></b> Generate an index coverage report of your website.</p>	<p><b>Theory- 0.5 Hrs</b></p> <p><b>Practical- 3Hrs</b></p> <p><b>Total- 3.5Hrs</b></p>		



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<p>LU 7. Resolve Crawl/Validations Errors</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check crawling issues</li> <li>• Validate and fix the errors</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain web crawling techniques.</li> <li>• Explain the indexable URLs.</li> </ul> <p><b><u>Practical Activity:</u></b> Enable web crawling of your website and validate your configurations.</p>	<p><b>Theory- 01</b> Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total- 4.0Hrs</b></p>		
<p>LU 8. Remove URLs</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Add URLs to remove from the indexed database</li> <li>• Search on google for confirmation</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>• Explain NoFollow links</li> <li>• Describe the process of removing Bulk URL's from indexes</li> </ul>	<p><b>Theory- 01</b> Hrs</p> <p><b>Practical-</b> 3.0Hrs</p> <p><b>Total- 4.0Hrs</b></p>		



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		<ul style="list-style-type: none"> <li>Define how to validate if our website is in Google or Bing search.</li> </ul> <p><b><u>Practical Activity:</u></b></p> <ul style="list-style-type: none"> <li>Enable web crawling of your website and validate your configurations.</li> </ul>			
<p>LU 9. Analyze Traffic on Google Search Cons</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Check the performance dashboard</li> <li>Check amp dashboard</li> <li>Check potential page URLs</li> </ul>	<p><b><u>Knowledge-Based Questions</u></b></p> <ul style="list-style-type: none"> <li>Describe the performance dashboard on the Google search console.</li> <li>Explain the features Of the AMP analytics Dashboard.</li> <li>Explain the URL inspection tool.</li> </ul>	<p><b>Theory-1</b> Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total- 4.0</b> Hrs</p>		



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		<p><b><u>Practical Activity:</u></b> Retrieve or display information about google's indexed version or your webpage.</p>		
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### Module0613-S&AD&A-12. Analyze through Google Analytics

After the completion of this module, the Trainee will be able to perform Analyze Google Analytics.

**Duration: 30 Hours**

**Theory: 6 Hours**

**Practice: 24 Hours**

**Credit Hours:3**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
LU 1. Add Properties	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Add web URL as property</li> <li>Confirm with email validation</li> </ul>	<b><u>Knowledge base</u></b>  <b><u>Questions:</u></b> <ul style="list-style-type: none"> <li>Define property</li> <li>Define email validation</li> </ul>	<b>Theory-</b> 0.5 Hrs  <b>Practical-</b> 2Hrs  <b>Total-</b> 2.5 Hrs	<ul style="list-style-type: none"> <li>Computer/Laptop</li> <li>Google Keyword Planner</li> <li>Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>Class Room/Computer lab</li> <li>Google Analytics</li> <li>Gmail Account</li> <li>Website</li> </ul>



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		<ul style="list-style-type: none"> <li>Enlist types of website properties</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Describe property and confirm email validation</p>		<ul style="list-style-type: none"> <li>Ubersuggest</li> <li>Yoast SEO</li> <li>Microsoft Excel</li> <li>Keywords Everywhere (Chrome Extension)</li> </ul>	
<p>LU 2. Add Views</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Create master view</li> <li>Create raw data view</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions:</u></b></p> <ul style="list-style-type: none"> <li>Define views</li> <li>Enlist the steps to create a master view</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Elaborate views, create master view and raw data view</p>	<p><b>Theory-</b> 0.5 Hrs</p> <p><b>Practical-</b> 2Hrs</p> <p><b>Total-</b> 2.5 Hrs</p>	<ul style="list-style-type: none"> <li>Computer/Laptop</li> <li>Google Keyword Planner</li> <li>Internet Connection</li> <li>Ubersuggest</li> <li>Yoast SEO</li> <li>Microsoft Excel</li> <li>Keywords Everywhere</li> </ul>	<ul style="list-style-type: none"> <li>Class Room/Computer lab</li> <li>Google Analytics</li> <li>Gmail Account</li> <li>Website</li> </ul>



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				(Chrome Extension)	
LU 3. Setup Goals and Conversions	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Add checkout page links</li> <li>• Add checkout link as conversion</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions:</u></b></p> <ul style="list-style-type: none"> <li>• Describe Goal conversion and how create conversion in google analytics</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Describe Goal conversion and create conversion in google analytics</p>	<p><b>Theory-</b> 0.5 Hrs</p> <p><b>Practical-</b> 2Hrs</p> <p><b>Total-</b> 2.5 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Google Keyword Planner</li> <li>• Internet Connection</li> <li>• Ubersuggest</li> <li>• Yoast SEO</li> <li>• Microsoft Excel</li> <li>• Keywords Everywhere (Chrome Extension)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room/Computer lab</li> <li>• Google Analytics</li> <li>• Gmail Account</li> <li>• Website</li> </ul>
LU 4. Install Google Tag Manager	<p><b>Trainee will be able to:</b></p>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions:</u></b></p>	<p><b>Theory-</b> 0.5 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Google Keyword Planner</li> </ul>	



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	<ul style="list-style-type: none"> <li>• Copy the code and paste it on website header</li> <li>• Confirm it by email confirmation Check Keyword Relevancy</li> </ul>	<ul style="list-style-type: none"> <li>• Describe google tag manager and how to add code in html page head element</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Describe Google tag manager installation and add in website head section</p>	<p><b>Practical-</b> 2Hrs</p> <p><b>Total-</b> 2.5 Hrs</p>	<ul style="list-style-type: none"> <li>• Internet Connection</li> <li>• Ubersuggest</li> <li>• Yoast SEO</li> <li>• Microsoft Excel</li> <li>• Keywords Everywhere (Chrome Extension)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room/Computer lab</li> <li>• Google Analytics</li> <li>• Gmail Account</li> <li>• Website</li> </ul>
<p>LU 5. Integrate Filters</p>	<p><b><u>Trainee will be able to:</u></b></p> <ul style="list-style-type: none"> <li>• Add IP addresses for internal traffic</li> <li>• Add IP addresses for external traffic</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions:</u></b></p> <ul style="list-style-type: none"> <li>• Describe integrated filters and types</li> </ul>	<p><b>Theory-</b> 0.5 Hrs</p> <p><b>Practical-</b> 2Hrs</p> <p><b>Total-</b> 2.5 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Google Keyword Planner</li> <li>• Internet Connection</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room/Computer lab</li> <li>• Google Analytics</li> <li>• Gmail Account</li> </ul>



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		<ul style="list-style-type: none"> <li>Describe add IP address for internal and external traffic</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Describe integrate traffic filters</p>		<ul style="list-style-type: none"> <li>Ubersuggest</li> <li>Yoast SEO</li> <li>Microsoft Excel</li> <li>Keywords Everywhere (Chrome Extension)</li> </ul>	<ul style="list-style-type: none"> <li>Website</li> </ul>
LU 6. Track Landing Page	<p><b><u>Trainee will be able to:</u></b></p> <ul style="list-style-type: none"> <li>Check the traffic on landing page</li> <li>analyze engaging keywords</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions:</u></b></p> <p>Describe Track Landing Pages Conversions</p> <p><b><u>Practical Activity:</u></b></p> <p>Describe track a landing page and measure the success of landing page</p>	<p><b>Theory-</b> 0.5 Hrs</p> <p><b>Practical-</b> 2Hrs</p> <p><b>Total-</b> 2.5 Hrs</p>	<ul style="list-style-type: none"> <li>Computer/Laptop</li> <li>Google Keyword Planner</li> <li>Internet Connection</li> <li>Ubersuggest</li> <li>Yoast SEO</li> <li>Microsoft Excel</li> <li>Keywords Everywhere</li> </ul>	<ul style="list-style-type: none"> <li>Class Room/Computer lab</li> <li>Google Analytics</li> <li>Gmail Account</li> <li>Website</li> </ul>



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				(Chrome Extension)	
LU 7. Track Visitor Location	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check the visitor stats in visitor reports</li> <li>• Check visitor timings</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions:</u></b></p> <ul style="list-style-type: none"> <li>• Describe visitor track of the activities/stats</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Describe visitor stats</p>	<p><b>Theory-</b> 0.5 Hrs</p> <p><b>Practical-</b> 2Hrs</p> <p><b>Total-</b> 2.5 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Google Keyword Planner</li> <li>• Internet Connection</li> <li>• Ubersuggest</li> <li>• Yoast SEO</li> <li>• Microsoft Excel</li> <li>• Keywords Everywhere (Chrome Extension)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room/Computer lab</li> <li>• Google Analytics</li> <li>• Gmail Account</li> <li>• Website</li> </ul>
LU 8. Track Visitor Conversion	<p><b>Trainee will be able to:</b></p>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions:</u></b></p>	<p><b>Theory-</b> 0.5 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Google Keyword Planner</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room/Computer lab</li> </ul>



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	<ul style="list-style-type: none"> <li>Click on conversion section</li> <li>Check for the conversions</li> </ul>	<ul style="list-style-type: none"> <li>Describe a data structure to track visitors</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Describe visitor tracking</p>	<p><b>Practical-</b> 2Hrs</p> <p><b>Total-</b> 2.5 Hrs</p>	<ul style="list-style-type: none"> <li>Internet Connection</li> <li>Ubersuggest</li> <li>Yoast SEO</li> <li>Microsoft Excel</li> <li>Keywords Everywhere (Chrome Extension)</li> </ul>	<ul style="list-style-type: none"> <li>Google Analytics</li> <li>Gmail Account</li> <li>Website</li> </ul>
<p>LU 9.</p> <p>Monitor Website Performance</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Check engaging page links</li> <li>Check engaging post links</li> <li>Check overall traffic of website</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions:</u></b></p> <ul style="list-style-type: none"> <li>Describe measure the performance of a Web application</li> <li>Describe website performance indicator</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Explain monitor website performance</p>	<p><b>Theory-</b> 0.5 Hrs</p> <p><b>Practical-</b> 2Hrs</p> <p><b>Total-</b> 2.5 Hrs</p>	<ul style="list-style-type: none"> <li>Computer/Laptop</li> <li>Google Keyword Planner</li> <li>Internet Connection</li> <li>Ubersuggest</li> <li>Yoast SEO</li> <li>Microsoft Excel</li> </ul>	<ul style="list-style-type: none"> <li>Class Room/Computer lab</li> <li>Google Analytics</li> <li>Gmail Account</li> <li>Website</li> </ul>



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				<ul style="list-style-type: none"> <li>Keywords Everywhere (Chrome Extension)</li> </ul>	
<p>LU 10.</p> <p>Check Website Bounce Rate</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>analyze bounce rate from dashboard</li> <li>analyze session timeout rate</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions:</u></b></p> <ul style="list-style-type: none"> <li>Describe website bounce rate</li> <li>Explain Bounce Rate Analytics</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Describe bounce rate and bounce rate analytics</p>	<p><b>Theory-</b> 01 Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total-</b> 04Hrs</p>	<ul style="list-style-type: none"> <li>Computer/Laptop</li> <li>Google Keyword Planner</li> <li>Internet Connection</li> <li>Ubersuggest</li> <li>Yoast SEO</li> <li>Microsoft Excel</li> <li>Keywords Everywhere (Chrome Extension)</li> </ul>	<ul style="list-style-type: none"> <li>Class Room/Computer lab</li> <li>Google Analytics</li> <li>Gmail Account</li> <li>Website</li> </ul>



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<p>LU 11.</p> <p>Monitor Visitor Behavior</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Check user device, and demographics</li> <li>• Check user sources and mediums</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions:</u></b></p> <ul style="list-style-type: none"> <li>• Describe user behavior data to track on website</li> </ul> <p><b><u>Practical Activity:</u></b></p> <p>Describe Visitor behavior data</p>	<p><b>Theory-</b> 0.5 Hrs</p> <p><b>Practical-</b> 3Hrs</p> <p><b>Total-</b> 3.5 Hrs</p>	<ul style="list-style-type: none"> <li>• Computer/Laptop</li> <li>• Google Keyword Planner</li> <li>• Internet Connection</li> <li>• Ubersuggest</li> <li>• Yoast SEO</li> <li>• Microsoft Excel</li> <li>• Keywords Everywhere (Chrome Extension)</li> </ul>	<ul style="list-style-type: none"> <li>• Class Room/Computer lab</li> <li>• Google Analytics</li> <li>• Gmail Account</li> <li>• Website</li> </ul>
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**3. Theme Developer**

**Module.0613-S&AD&A-13. Describe Explore /Install different front end frameworks**

**Objective:** : After the completion of this module, the Trainee will be will be able to select and install different front end frameworks.

**Duration:** 24 Hours

**Theory:** 6 Hours

**Practice:** 18 Hours

**Credit Hours:** 2.4

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials	Learning
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				Required	Place
<p><b>LU 1.</b> Search/select front end framework</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Describe different front end frameworks</li> <li>Compare these frameworks based on advantages, disadvantages, impact, popularity, and purpose, etc.</li> <li>Select appropriate frontend framework</li> </ul>	<p><b><u>Knowledge base Questions</u></b></p> <ul style="list-style-type: none"> <li>Define frontend framework.</li> <li>Enlist different front-end frameworks.</li> <li>Elaborate on the best front-end framework 2021.</li> <li>Enlist the fastest web development framework.</li> <li>Enlist key steps to choose a good front-end framework?</li> </ul> <p><b><u>Practical Activity</u></b></p> <ul style="list-style-type: none"> <li>Select a good and fastest front-end framework.</li> <li>Write down the <b>Advantages and Disadvantages of Using a Framework</b></li> </ul>	<p><b>Theory-</b> 2-Hrs</p> <p><b>Practical-</b> 6-Hrs</p> <p><b>Total-</b> 08-Hrs</p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>Web Browser</li> <li>Search Engines</li> <li>Youtube</li> <li>Angular</li> <li>Bootstrap</li> <li>Sublime, Brackets or Notepad++</li> <li>FTP Client</li> </ul>	<p>Class Room/Computer lab</p>



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<p><b>LU 2.</b> Install/setup framework(s)</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Install the selected framework.</li> <li>• Configure the framework</li> <li>• Search and Install plugins.</li> <li>• Activate Plugins</li> </ul>	<p><b><u>Knowledge- base Questions</u></b></p> <ul style="list-style-type: none"> <li>• Enlist the steps to Install the selected framework.</li> <li>• Enlist the steps to configure the framework.</li> <li>• Define plugins.</li> <li>• Enlist the steps to search and install Plugins.</li> <li>• Define plugin Activation?</li> </ul> <p><b><u>Practical Activity</u></b> Install and configure bootstrap.</p>	<p><b>Theory</b> - 2-Hrs</p> <p><b>Practical-</b> 6-Hrs</p> <p><b>Total-</b> 08-Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Angular</li> <li>• Bootstrap</li> <li>• Sublime, Brackets or Notepad++</li> <li>• FTP Client</li> </ul>	<p>Class Room/Computer Lab</p>
<p><b>LU 3.</b> Set up Working Environment</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Download editors</li> <li>• Install editors</li> <li>• Choose default browser</li> </ul>	<p>Knowledge base Questions</p> <ul style="list-style-type: none"> <li>• Define editors.</li> <li>• Enlist the step to download editors.</li> <li>• Enlist the steps to Install editors.</li> <li>• Define browser.</li> </ul> <p><b><u>Practical Activity</u></b></p>	<p><b>Theory-</b> 2-Hrs</p> <p><b>Practical-</b> 6-Hrs</p> <p><b>Total-</b> 08-Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> </ul>	



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		Download and install the editors.		<ul style="list-style-type: none"><li>• Angular</li><li>• Bootstrap</li><li>• Sublime, Brackets or Notepad++</li><li>• FTP Client</li></ul>	
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## National Vocational Certificate Level 4 for Mobile App, Web and Game Development



### Module. 0613-S&AD&A-14. Design web templates using frontend frameworks

**Objective::** After the completion of this module, the Trainee will be able to select and install different front-end frameworks.

**Duration: 50 Hours**

**Theory: 8Hours**

**Practice: 42 Hours**

**Credit Hours: 5**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
1. Discover Template/Theme Hierarchy	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Search for Basic Theme/Template Page Hierarchy</li> <li>• Build different template structures, like shopping carts, etc.</li> <li>• Add/edit other Template Files like search, attachment, etc.</li> <li>• Discover how to work with the theme components (e.g.</li> </ul>	<p>Knowledge base Questions</p> <ul style="list-style-type: none"> <li>• Define template.</li> <li>• Enlist the steps to create a hierarchy page in WordPress.</li> <li>• Enlist the steps to make a shopping card.</li> <li>• Define attachment template.</li> <li>• Enlist the steps to post the WordPress template.</li> <li>• Enlist the steps to create a theme layout component for a community</li> </ul> <p style="text-align: center;"><b><u>Practical Activity</u></b></p>	<p><b>Theory-</b> 2-Hrs</p> <p><b>Practical-</b> 14-Hrs</p> <p><b>Total-</b> 16-Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Angular</li> <li>• Bootstrap</li> <li>• Materialize</li> <li>• WordPress</li> </ul>	Class Room/Computer lab



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	style.css, functions.php, index.php files, etc.)	Download a shopping website template and build a shopping cart and edit the theme.		<ul style="list-style-type: none"> <li>• Sublime, Brackets or Notepad++</li> <li>• FTP Client</li> </ul>	
<p><b>2.</b></p> <p>Discover the concepts of Responsive Web Design</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Describe how to adjust the screen</li> <li>• Discover how to set the viewport for a web page</li> <li>• Build Grid views</li> <li>• Create responsive images and videos</li> </ul>	<p><b><u>Knowledge base Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define screen area.</li> <li>• Describe how we resize our browser window.</li> <li>• Define the viewport of a webpage.</li> <li>• Discover where is the viewport in the browse.</li> <li>• Define grid views.</li> <li>• Enlist grid frameworks</li> <li>• Describe how can we make our screen responsive.</li> <li>• Enlist the steps to make our website responsive.</li> </ul> <p><b><u>Practical Activity</u></b></p> <ul style="list-style-type: none"> <li>• Open your web browser and find the viewport of your web browser.</li> </ul>	<p><b>Theory -</b> 3-Hrs</p> <p><b>Practical-</b> 14-Hrs</p> <p><b>Total- 17-</b> Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Angular</li> <li>• Bootstrap</li> <li>• Materialize</li> <li>• WordPress</li> <li>• Sublime, Brackets or Notepad++</li> <li>• FTP Client</li> </ul>	



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		<ul style="list-style-type: none"> <li>Built responsive webpage and create the list grid views using HTML, CSS, and JavaScript.</li> </ul>			
<b>LU 3.</b> Design-templates	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Design simple templates</li> <li>Design RWD templates</li> <li>Edit/Create Headers/Footers in Theme</li> <li>Add Menus</li> <li>Work with Sidebars</li> <li>Add Widget Areas</li> </ul>	Knowledge base Questions <ul style="list-style-type: none"> <li>Discover the best website template.</li> <li>Define header and Footer.</li> <li>Enlist the steps for designing a Responsive web design template</li> <li>Describe entering the footer on the theme.</li> <li>Define Sidebars.</li> <li>Enlist the steps to add sidebars to your theme.</li> <li>Define widgets.</li> <li>Elaborate on the functions to create a new widget area.</li> <li>Enlist the steps to create the custom widget area.</li> </ul> <p><b><u>Practical Activity</u></b></p>	<b>Theory-</b> 3-Hrs  <b>Practical-</b> 14-Hrs  <b>Total-</b> 16-Hrs	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>Web Browser</li> <li>Search Engines</li> <li>Youtube</li> <li>Angular</li> <li>Bootstrap</li> <li>Materialize</li> <li>WordPress</li> <li>Sublime, Brackets or Notepad++</li> <li>FTP Client</li> </ul>	



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		<ul style="list-style-type: none"><li>• Design the responsive web design template</li><li>• Insert the header footer and menus.</li></ul>			
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## National Vocational Certificate Level 4 for Mobile App, Web and Game Development



### Module.0613-S&AD&A-15. Design web view layout for mobile using frontend frameworks

**Objective:** : After the completion of this module the trainee will be able to design mobile layouts

**Duration:** 60 Hours

**Theory:** 12 Hours

**Practice:** 48 Hours

**Credit Hours:** 6

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU 1.</b> Describe basic Layout Design	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Identify Grids, Gutters, Margins</li> <li>• Identify Vertical Rhythm</li> </ul>	<u><b>Knowledge base Questions</b></u> <ul style="list-style-type: none"> <li>• Define gutter in a grid layout.</li> <li>• Define Page margins</li> <li>• Enlist different types of grids.</li> <li>• Describe adjusting the grid of a gutter grid.</li> <li>• Define vertical rhythm.</li> <li>• Enlist the steps to find out the vertical Rhythm.</li> </ul> <u><b>Practical Activity</b></u> Design the web page and put grids on it and add gutter margins.	<b>Theory-</b> 4-Hrs  <b>Practical-</b> 16-Hrs  <b>Total-</b> 20-Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Angular</li> <li>• Bootstrap</li> <li>• Materialize</li> </ul>	Class Room/Computer lab



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				<ul style="list-style-type: none"> <li>• Sublime, Brackets or Notepad++</li> <li>• FTP Client</li> </ul>	
<p><b>LU 2.</b> Identify Responsive Mobile Layout concepts</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Discover screen compatibility e.g. Screen sizes, layouts, etc.</li> <li>• Develop layouts for different screen sizes and pixel densities</li> <li>• Apply breakpoints for different screen sizes through media queries</li> </ul>	<p><b><u>Knowledge base Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define screen compatibility.</li> <li>• Explain the method to support different screen sizes.</li> <li>• Define screen density.</li> <li>• Explain the method to manage different screen sizes and orientations</li> <li>• Describe the qualifier for the layout UI in landscape mode</li> <li>• Describe the most common media queries breakpoints</li> <li>• Define the breakpoints in media queries</li> <li>• Discover how do we write max and min in media queries?</li> </ul> <p><b><u>Practical Activity</u></b></p>	<p><b>Theory-</b> 4-Hrs</p> <p><b>Practical-</b> 16-Hrs</p> <p><b>Total-</b> 20-Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Angular</li> <li>• Bootstrap</li> <li>• Materialize</li> <li>• Sublime, Brackets or Notepad++</li> <li>FTP Client</li> </ul>	<p>Class Room/Computer lab</p>



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		Develop an RWD project that supports different screen sizes and applies breakpoints through media queries.			
<b>LU 3.</b> Design Mobile Layouts	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Apply Grid Systems like Bootstrap</li> <li>• Create Vertical Grid &amp; Vertical Rhythm</li> <li>• Balance Layout and properly use white space blocks</li> <li>• Design Mobile Responsive Layout</li> </ul>	<b>Knowledge base Questions</b> <ul style="list-style-type: none"> <li>• Define Grid System.</li> <li>• Describe the grid system does bootstrap use.</li> <li>• Enlist the grid structures does bootstrap follow.</li> <li>• Define horizontal rhythm.</li> <li>• Enlist the steps to find Vertical Rhythm.</li> <li>• Define white space rule.</li> <li>• Explain the method to fill white space in the design.</li> <li>• Discover how we create white spaces using entities.</li> <li>• Describe the responsive web design on mobile.</li> <li>• Enlist the types of mobile responsive design.</li> </ul>	<b>Theory-</b> 4-Hrs  <b>Practical-</b> 16-Hrs  <b>Total-</b> 20-Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Angular</li> <li>• Bootstrap</li> <li>• Materialize</li> <li>• Sublime, Brackets or Notepad++</li> <li>FTP Client</li> </ul>	Class Room/Computer lab



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**Practical Activity**

Develop RWD Project in which apply different design layouts.



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### Module. 0613-S&AD&A-16. Design Game Screens using different frameworks

**Objective::** After the completion of this module, the Trainee will be able to design responsive web templates

**Duration: 60 Hours**

**Theory: 12 Hours**

**Practice: 48 Hours**

**Credit Hours: 6**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU 1.</b> Discover game screen development concepts	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>• Identify the methods of game screens development for smartphones</li> <li>• Identify methods for desktop screen/web-based games development</li> <li>• Design Initial Paintings</li> <li>• Design shapes</li> <li>• Add texture</li> </ul>	<u><b>Knowledge base Questions</b></u> <ul style="list-style-type: none"> <li>• Describe the Android tools used for developing games.</li> <li>• Enlist the steps to make the phone game</li> <li>• Describe the methodology is used in game development.</li> <li>• Enlist the 5 elements of game design.</li> </ul> <u><b>Practical Activity</b></u> Develop a Project to develop the game screen using shapes and textures.	<b>Theory-</b> 4-Hrs  <b>Practical-</b> 16-Hrs  <b>Total-</b> 20-Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Adobe Photoshop</li> <li>• Drawing board</li> <li>• Drawing Paper</li> <li>• Adobe Premiere</li> <li>• Adobe Illustrator</li> <li>• Corel Draw</li> <li>• Word Press</li> </ul>	Class Room/Computer lab



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<p><b>LU 2.</b> Set game-play mechanics</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Design characters</li> <li>• Design levels and puzzles</li> <li>• Design art and animation</li> </ul>	<p><b><u>Knowledge base Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define character design concept.</li> <li>• Define character in art.</li> <li>• Define puzzle design.</li> <li>• Define art and animation.</li> <li>• Discover animation can be used in creative arts.</li> </ul> <p><b><u>Practical Activity</u></b></p> <p>Develop a game project to create a word puzzle.</p>	<p><b>Theory-</b> 4-Hrs</p> <p><b>Practical-</b> 16-Hrs</p> <p><b>Total-</b> 20-Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Adobe Photoshop</li> <li>• Drawing board</li> <li>• Drawing Paper</li> <li>• Adobe Premiere</li> <li>• Adobe Illustrator</li> <li>• Corel Draw</li> <li>• Word Press</li> </ul>	<p>Class Room/Computer lab</p>
<p><b>LU 3.</b> Design Game Theme</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Build game themes using screen development techniques</li> <li>• Integrate the screen concepts and gameplay mechanics</li> </ul>	<p><b><u>Knowledge base Questions</u></b></p> <ul style="list-style-type: none"> <li>• Define game theme.</li> <li>• Discover the best game theme.</li> <li>• Define game mechanics in a game.</li> <li>• Describe the method that game designers use game mechanics.</li> </ul>	<p><b>Theory-</b> 4-Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Adobe Photoshop</li> <li>• Drawing board</li> <li>• Drawing Paper</li> <li>• Adobe Premiere</li> </ul>	<p>Class Room/Computer lab</p>



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		<ul style="list-style-type: none"> <li>Enlist the elements of game design.</li> <li>Describe the main components of the game.</li> </ul> <p><b><u>Practical Activity</u></b></p> <p>Develop an 8 queen puzzle game theme.</p>	<p><b>Practical-</b> 16-Hrs</p> <p><b>Total-</b> 20-Hrs</p>	<ul style="list-style-type: none"> <li>Adobe Illustrator</li> <li>Corel Draw</li> <li>Word Press</li> </ul>	
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### Module. 0613-S&AD&A-17. Use frontend libraries in Theme Development

**Objective::** After the completion of this module, the Trainee able will be able to design themes templates using frontend libraries.

**Duration: 38 Hours**

**Theory: 8 Hours**

**Practice: 30 Hours**

**Credit Hours: 3.8**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
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<p><b>LU 1.</b> Describe different frontend libraries</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>Discover libraries</li> <li>List down features</li> <li>Compare libraries</li> <li>Download frontend libraries</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Define front-ended library.</li> <li>Describe some popular front-end frameworks and libraries.</li> <li>Enlist JavaScript libraries.</li> <li>Define redux library.</li> </ul> <p><b><u>Practical Activity</u></b></p> <p>Download JS Delivery Library</p>	<p><b>Theory-</b> 4-Hrs</p> <p><b>Practical-</b> 15-Hrs</p> <p><b>Total-</b> 19-Hrs</p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>Web Browser</li> <li>Search Engines</li> <li>Youtube</li> <li>Angular</li> <li>Bootstrap</li> <li>Sublime, Brackets or Notepad++</li> <li>FTP Client</li> </ul>	<p>Class Room/Computer lab</p>
<p><b>LU 2.</b> Configure Frontend libraries</p>	<p><b>Trainee will be able to:</b></p> <p><b>P1.</b> Design your library</p> <p><b>P2.</b> Integrate libraries with your applications</p> <p><b>P3.</b> Implement theme on application</p> <p><b>P4.</b> Build/Run the application through an editor</p>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>Enlist the steps to design your library</li> <li>Define application library.</li> <li>Describe the method to integrate the library.</li> <li>Enlist the steps to publish your library.</li> </ul>	<p><b>Theory-</b> 4-Hrs</p> <p><b>Practical-</b> 15-Hrs</p> <p><b>Total-</b> 19-Hrs</p>	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>Web Browser</li> <li>Search Engines</li> <li>Youtube</li> <li>Angular</li> <li>Bootstrap</li> </ul>	<p>Class Room/Computer lab</p>



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		<ul style="list-style-type: none"> <li>• Enlist the steps to run the application through an editor.</li> </ul> <p><b><u>Practical Activity</u></b></p> <p>Design your theme library</p>		<ul style="list-style-type: none"> <li>• Sublime, Brackets or Notepad++</li> <li>• FTP Client</li> </ul>	
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### Module. 0613-S&AD&A-18. Customize templates/themes

**Objective:** After the completion of this module, the Trainee will be able to customize website and mobile applications themes and templates.

**Duration: 30 Hours**

**Theory: 6 Hours**

**Practice: 24 Hours**

**Credit Hours: 3**

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials Required	Learning Place
<b>LU 1.</b> Search suitable Theme/Template	<b>Trainee will be able to:</b>  Select the appropriate design	<b><u>Knowledge base</u></b>  <b><u>Questions</u></b> <ul style="list-style-type: none"> <li>• Define designing theme.</li> </ul>	<b>Theory-</b> 2-Hrs  <b>Practical-</b> 8-Hrs	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> </ul>	Class Room/Computer lab



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	<p>Install Theme/Template</p> <p>Activate the Theme/Template</p>	<ul style="list-style-type: none"> <li>• Enlist key steps of installation.</li> <li>• Enlist key steps of theme activation.</li> </ul> <p><b><u>Practical Activity</u></b></p> <p>Install any theme template</p>	<p><b>Total-</b> 10-Hrs</p>	<ul style="list-style-type: none"> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Angular</li> <li>• WordPress</li> <li>• Bootstrap</li> <li>• Sublime, Brackets or Notepad++</li> <li>• FTP Client</li> </ul>	
<p><b>LU 2.</b> Configure/Customize Template</p>	<p><b>Trainee will be able to:</b></p> <ul style="list-style-type: none"> <li>• Customize Theme/Template header</li> <li>• Customize Homepage Settings and Content</li> <li>• Customize the Homepage</li> <li>• Add/Edit and Publish Webpages and Blogposts</li> </ul>	<p><b><u>Knowledge base</u></b></p> <p><b><u>Questions</u></b></p> <ul style="list-style-type: none"> <li>• Enlist the key steps to customize the theme.</li> <li>• Enlist the key step to Publish Webpages.</li> </ul> <p><b><u>Practical Activity</u></b></p> <p>Customize the Theme header and publish it.</p>	<p><b>Theory-</b> 2-Hrs</p> <p><b>Practical-</b> 8-Hrs</p> <p><b>Total- 10-</b> Hrs</p>	<ul style="list-style-type: none"> <li>• Computer System</li> <li>• Internet Connection</li> <li>• Web Browser</li> <li>• Search Engines</li> <li>• Youtube</li> <li>• Angular</li> <li>• WordPress</li> <li>• Bootstrap</li> <li>• Sublime, Brackets or Notepad++</li> </ul>	<p>Class Room/Computer lab</p>



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	<ul style="list-style-type: none"> <li>Add Social Media Buttons</li> </ul>			<ul style="list-style-type: none"> <li>FTP Client</li> </ul>	
<b>LU 3.</b> Install/Configure plugins	<b>Trainee will be able to:</b> <ul style="list-style-type: none"> <li>Install a Plugin.</li> <li>Activate the Plugins</li> <li>Configure Plugins</li> </ul>	<u><b>Knowledge base</b></u> <u><b>Questions</b></u> <ul style="list-style-type: none"> <li>Define plugins</li> <li>Enlist the steps to install the plugin.</li> </ul> <u><b>Practical Activity</b></u> Install and activate a plugins	<b>Theory-</b> 2-Hrs <b>Practical-</b> 8-Hrs <b>Total-</b> 10-Hrs	<ul style="list-style-type: none"> <li>Computer System</li> <li>Internet Connection</li> <li>Web Browser</li> <li>Search Engines</li> <li>Youtube</li> <li>Angular</li> <li>WordPress</li> <li>Bootstrap</li> <li>Sublime, Brackets or Notepad++</li> <li>FTP Client</li> </ul>	Class Room/Computer lab



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### Members of Curriculum Development Meeting

S#	Name	Designation
1.	Hamza Nadeem	NAVTTC Coordinator Islamabad
2.	Mr Aijaz Ahmed Zia	DACUM Expert, Lahore
3.	Ms. Tayyaba Amin	Sr. Instructor CIT, PGA, Lahore Representative P-TEVTA
4.	Muhammad Tahir Shafi	Advance Web Instructor KICS-UET Lahore
5.	Mr. Fawad Ali	Android Application Developer Mobi Droid Technologies, Lahore
6.	Syeda Farah Rehman	Sr. Instructor IT, GTTI Gulberg Lahore Representative P-TEVTA



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7.	Ms. Anam Yaseen	CBT&A Assessor, GCU Faisalabad
8.	Ms. Javeria Qazi	Web administrator, Representative PBTE
9.	Mr. Shadab Ali	Assistant Professor, KP TEVTA
10.	Mr. Talat Saeed	Instructor Computer Science, Representative S-TEVTA
11.	Mr. Adeel Abbas	Team Lead, Fast University (Research Lab) Islamabad
12.	Mr. Rehan Ahmad	Assistant Professor, UOL Lahore
13.	Dr. Muhammad Hamid	Asstt Professor, IT department UVAS Lahore
14.	Mr. Mubasher Ali	Sr. Software Engineer, ARTICARE Islamabad



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