



# **CCEK – NSQF ALIGNED PROGRAM**

## **COURSE SYLLABUS**

### **FOR**

## **Android Application Development**

## CCEK - NATIONAL SKILL DEVELOPMENT TRAINING PROGRAM

### Android Application Development

CCEK – NSDC course package covers the following Qualification Packs and leads to the following NSDC certifications. The students who successfully completed the course programs are entitled to get NSDC certification after undergoing the assessment process of NSDC as per the rules and regulations stipulated by NSDC from time to time.

SL. NO.	QUALIFICATIONS PACK	QUALIFICATIONS PACK CODE	NSQF LEVEL
1	<p><b><u>Web Developer</u></b></p> <p><b>Brief Job Description:</b></p> <p>Individuals at this job are responsible for designing and maintaining web-based applications that include static and dynamic content. This includes the design, layout, and coding of a website. They may work independently or along with application/functional developers as part of the overall solution that includes a web-based component.</p>	<b>SSC/Q0503</b>	<b>4</b>

**COURSE DETAILS**

**Android Application Development**

**EXAMINATION DETAILS**

COURSE NAME	COURSE CODE	ELIGIBILITY	DURATION
Android Application Development	G17	Plus Two	260

SL. NO.	EXAM	EXAM CODE	MAXIMUM MARK	INTERNAL	TOTAL MARK
<b>THEORY PAPERS</b>					
1	Fundamentals of Android and Java/Kotlin	T001	100	50	150
2	User Interface Design & UX Principles	T002	100	50	150
3	Advanced Android Concepts & App Deployment	T003	100	50	150
<b>PRACTICAL PAPERS</b>					
1	Android App Development – Advanced Level	L001	100	50	150
<b>TOTAL MARKS</b>					
1	Total Examination Marks (Theory Online + Practical Examination)				400
2	Total Internal Marks				200
3	<b>Total Marks (Total Internal Marks + Total Examination Marks )</b>				<b>600</b>

**Android Application Development**

**INTERNAL MARK CRITERIA FOR EACH**

<b>SL NO.</b>	<b>MODULE</b>	<b>MODULE CODE</b>	<b>MAXIMUM MARK</b>	<b>INTERNAL MARK</b>	<b>TOTAL MARK</b>
1	Fundamentals of Android and Java/Kotlin	T001	100	50	150
2	User Interface Design & UX Principles	T002	100	50	150
3	Advanced Android Concepts & App Deployment	T003	100	50	150
4	Android App Development – Advanced Level	L001	100	50	150
	<b>TOTAL</b>		400	200	600

<b>ATTENDANCE</b>	<b>GENERAL PERFORMANCE</b>	<b>INTERNAL EXAMINATIONS/ PROJECTS/ ASSIGNMENTS</b>	<b>TOTAL MARKS</b>
5	5	40	50

# **COURSE SYLLABUS**

**FOR**

**Android Application Development**

<b>COURSE</b>	Android Application Development	
<b>TOTAL MARKS</b>	Mark: 600	Internal Mark: 200
<b>TOTAL HOURS</b>	260 Hrs	

### DEFENITION OF CREDIT

1 Credit	15Hrs Theory/ 30Hrs Practical
Skill Components	60 – 70 % of Total Credit

### MODULES INCLUDED IN THIS SUBJECT

SL NO	MODULE NAME	CREDIT BREAKUP
1	Module 1: Programming for the Web	<b>2</b>
2	Module 2: Contribute to the design of software products and applications	
3	Module 3: Technical skills for software design	
4	Module 4: Analysis and design of web -based applications	
5	Module 5: Develop media content and graphic designs for software products and applications	
6	Module 6: Interpret design specification	<b>0.5</b>
7	Module 7: Inclusive and environmentally sustainable workplaces	<b>0.5</b>
8	Module 8: Introduction to Employability Skills	<b>1.5</b>
9	Module 9: Constitutional values – Citizenship	
10	Module 10: Becoming a Professional in the 21st Century	
11	Module 11: Basic English Skills	

12	Module 12: : Career Development & Goal Setting	<b>0.5</b>
13	Module 13: Communication Skills	<b>0.5</b>
14	Module 14: Diversity & Inclusion	<b>0.5</b>
15	Module 15: Financial and Legal Literacy	<b>0.5</b>
16	Module 16: Essential Digital Skills	<b>0.5</b>
17	Module 17: Entrepreneurship	<b>0.5</b>
18	Module 18: Customer Service	<b>0.5</b>
19	Module 19: Getting ready for apprenticeship & Jobs	<b>0.5</b>
	Total	<b>8.5</b>

## **Training Outcomes**

- Evaluate the functioning of Business Requirement Specification, User Requirements Specification, Software Requirements Specification and Low-Level Design in the web development domain.
- Examine how assumptions, constraints, interfaces determine the process of web designing.
- Collate basic programming structures related to High Level design/Low Level Design and monitor the same.
- Examine how to create software code that is efficient, readable, and maintainable.
- Evaluate the process for converting designs into media and graphic content.
- Examine how to test new products and applications.
- Illustrate the various forms of coding tools required for software applications and web designs.
- Convert requirements into web content and graphic designs, leveraging reusable components.
- Discuss the technical validation of a web's HTML implementation.
- Demonstrate effective communication and collaboration with colleagues.
- Apply measures to maintain standards of health and safety at the workplace.
- Use different approaches to effectively manage and share data and information.
- Develop strong relationships at the workplace through effective communication and conflict management.
- Identify best practices to maintain an inclusive, environmentally sustainable workplace.

## MODULES

### **Module 1: Programming for the Web**

#### **THEORY**

- Evaluate the use of the Business Requirements Specification (BRS)/User Requirements Specification (URS).
- Identify the Software Requirements Specification (SRS).

#### **PRACTICAL**

- Examine the software requirements for carrying out web development process.
- Evaluate the process of HLD (High Level Design) application for web programming.
- Elaborate the application of LLD (Low Level Design) to create a web program.
- Design basic programming structures to implement functionality in line with requirements defined in BRS/URS, SRS, and HLD.
- Examine how assumptions, constraints, interfaces determine the process and build-up for web design.

### **Module 2: Contribute to the Design of Software Products and Applications**

#### **THEORY**

- Collate inputs from design experts to identify, resolve and record design defects.
- Discuss conclusions from defects for improving future designs.
- Discuss how to use various ranges of coding tools.

#### **PRACTICAL**

- Interpret design specifications, pertaining to Business Requirements Specification (BRS), User Requirements Specification (URS), Software Requirements Specification (SRS), etc.
- Create proper documentation of the designs using standard templates and tools.
- Review the designs of programming structures with experts.

### **Module 3: Technical Skills for Software Design**

#### **THEORY**

- List the functional and non-functional requirements in software application for web development.
- Discuss the current practice in the design of software products.

**PRACTICAL**

- Demonstrate skills to run various software including JavaScript, WordPress, SQL, Web Builder, Photoshop, etc.

**Module 4: Analysis and Design of Web Based Applications**

**THEORY**

- Discuss the implications that new products and applications may have on business processes.
- Identify the sources of information to design software products and specifications.
- List range of equipment used to design software products and applications.

**PRACTICAL**

- Utilize basic program structures to design suitable software applications.
- Determine how to test new products and applications to determine if they are fit for design purpose.
- Evaluate common design defects and their resolution.
- Examine functional and non-functional requirement for web-based applications.

**Module 5: Develop Media Content and Graphic Designs for Software Products and Application**

**THEORY**

- Select reusable components, media and graphical packages and tools to develop media content.
- Identify any defects and corrective actions taken to improve media and graphics.

**PRACTICAL**

- Convert requirements into web content and graphic designs, leveraging reusable components.
- Validate web content and graphic designs created.
- Examine whether components are suitable for re-use before final corrections.

**Module 6: Interpret Design Specification**

**THEORY**

- Identify the current practice in developing media content and graphic designs.
- Discuss the technical validation of a web's HTML implementation.

**PRACTICAL**

- Examine conversion process of media content and graphic designs using HLD and LLD application.

- Test media content and graphic designs to validate their purpose in the configuration system.
- Rework media content and graphic designs, to incorporate feedback.

## **Module 7: Inclusive and environmentally sustainable workplaces**

### **THEORY**

- Describe different approaches for efficient energy resource utilisation and waste management.
- Describe the importance of following the diversity policies.
- Identify stereotypes and prejudices associated with people with disabilities and the negative consequences of prejudice and stereotypes.
- Discuss the importance of promoting, sharing, and implementing gender equality and PwD sensitivity guidelines at organization level.

### **PRACTICAL**

- Practice the segregation of recyclable, nonrecyclable and hazardous waste generated.
- Demonstrate different methods of energy resource use optimization and conservation.
- Demonstrate essential communication methods in line with gender inclusiveness and PwD sensitivity.

## **Module 8: Introduction to Employability Skills**

### **THEORY**

- Discuss the Employability Skills required for jobs in various industries
- List different learning and employability related GOI and private portals and their usage

## **Module 9: Constitutional values - Citizenship**

### **THEORY**

- Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
- Show how to practice different environmentally sustainable practices

## **Module 10: Becoming a Professional in the 21st Century**

### **THEORY**

- Discuss importance of relevant 21st century skills.
- Exhibit 21st century skills like Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.

- Describe the benefits of continuous learning

## **Module 11: Basic English Skills**

### **THEORY**

- Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
- Read and interpret text written in basic English
- Write a short note/paragraph / letter/e -mail using basic English.

## **Module 12: Career Development and Goal Setting**

### **THEORY**

- Create a career development plan with well-defined short- and long-term goals.

## **Module 13: Communication skills**

### **THEORY**

- Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
- Explain the importance of active listening for effective communication
- Discuss the significance of working collaboratively with others in a team

## **Module 14: Diversity and Inclusion**

### **THEORY**

- Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
- Discuss the significance of escalating sexual harassment issues as per POSH

## **Module 15: Financial and Digital Literacy**

### **THEORY**

- Outline the importance of selecting the right financial institution, product, and service
- Demonstrate how to carry out offline and online financial transactions, safely and securely

## **Module 16: Essential Digital Skills**

### **THEORY**

- Describe the role of digital technology in today's life
- Demonstrate how to operate digital devices and use the associated applications and

features, safely and securely

- Discuss the significance of displaying responsible online behaviour while browsing, using various social media platforms, e-mails, etc., safely and securely
- Create sample word documents, excel sheets and presentations using basic features
- utilize virtual collaboration tools to work effectively

## **Module 17: Entrepreneurship**

### **THEORY**

- Explain the types of entrepreneurship and enterprises
- Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
- Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
- Create a sample business plan, for the selected business opportunity

## **Module 18: Customer Service**

### **THEORY**

- Describe the significance of analysing different types and needs of customers
- Explain the significance of identifying customer needs and responding to them in a professional manner.
- Discuss the significance of maintaining hygiene and dressing appropriately

## **Module 19: Getting Ready for Apprenticeship and Jobs**

### **THEORY**

- Create a professional Curriculum Vitae (CV)
- Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
- Discuss the significance of maintaining hygiene and confidence during an interview
- Perform a mock interview
- List the steps for searching and registering for apprenticeship opportunities