

QUALIFICATION FILE

Application Documentation: Version 1 /01 September, 2016

NSDA Reference
To be added by NSDA

CONTACT DETAILS OF SUBMITTING BODY

Name and address of submitting body:

C-DAC, ACTS

ACTS, Innovation Park, S. No. 34/B/1,

Panchvati, Pashan, Pune 411 008

Name and contact details of individual dealing with the submission

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List of documents submitted in support of the Qualifications File

1. Qualification File
2. Course Content

QUALIFICATION FILE

SUMMARY

Qualification Title and Code:	Certificate Course in Advanced Web Technology (CAWT)
Body/bodies which will award the qualification:	Centre for Development of Advanced Computing (C-DAC) organization of the Ministry of Electronics and Information Technology (MeitY), Ministry of Communications & Information Technology.
Body which will accredit providers to offer the qualification:	C-DAC
Body/bodies which will be responsible for assessment:	C-DAC
Occupation(s) to which the qualification gives access:	<p>The Certificate Course in Advanced Web Technology (CAWT) course aims to groom the students to enable them to work on current web technology scenarios as well as prepare them to keep pace with the changing face of technology and the requirements of the growing IT industry.</p> <p>After the completion of the course, students can work as Web Developer / Web Designer / IT Support staff.</p>
Proposed level of the qualification in the NSQF:	Level 7
Anticipated volume of training/learning required to complete the qualification:	<p>320 hrs of classroom/lab learning</p> <p>(4 Months, 4 hrs 5 days in a week)</p>
Entry requirements / recommendations:	Any Engineering /Science graduate with mathematics up to 10+2 level
Progression from the qualification:	<p>The course aims to groom the students to enable them to work on current web technology scenarios as well as prepare them to keep pace with the changing face of technology and the requirements of the growing IT industry.</p> <p>These candidates will be trained in Web designing, Database Technology and Management skills. They can start career as software Web Developer / Web Designer / IT Support staff.</p> <p>Candidate can start from level 7 and lead to further levels.</p>
Planned arrangements for RPL:	NA
International comparability where known:	There are many courses available on Web designing, Database Technology but CDAC providing knowledge of management development program.

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Formal structure of the qualification:			
Title of NOS/unit or other component (include any identification code used)	Mandatory/ Optional Enter M or O for each unit/ component	Estimated size (learning hours) The total should be the same as the entry under “anticipated volume” above	Level In the NSQF, individual units or components of qualifications can have outcomes which put them at levels which are higher or lower than the whole qualification.
Computer & Programming Concepts	M	40	7
Web Programming – I (HTML , CSS, Ajax)	M	60	7
Database Concepts	M	20	7
Web Programming – II (PHP, Java scripts)	M	80	7
Internet Terminologies	M	20	7
Management Development Program	M	60	7
Project	M	40	7

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum or Qualification Pack.

Give details of the document here:

SECTION 1

ASSESSMENT

Body/Bodies which will carry out assessment:

C-DAC’s Exam, Evaluation and Certification department will carry out assessment as per evaluation guideline finalized by Academic Council/ Academic Management Committee.

Will the assessment body be responsible for RPL assessment?

- Same will be finalised when the national RPL Policy will be finalised.
- Assessment is online through our e-Pariksha system or manually (OMR Based), depending on the strength of students.
- Issuance of qualification is centralized through C-DAC.

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:

Assessment is a necessary and essential part of conducting the Certificate Course in Advanced Web

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Technology (CAWT), as it provides important feedback and inputs to both the institute as well as the student. The institute gets an idea about the relative performance of each student, which also serves as feedback about the design and conduct of the course. The student gets a clear picture of his academic standing, individually and in comparison to his fellow students.

- A combined evaluation process is to be conducted for the course.
- The evaluation for each module must be completed as per guidelines given below. The mid-module /surprise test evaluation is mandatory and can be taken after discussion with the concerned faculty.
- Students are evaluated on a continuous and throughout the duration of the course to make a fair assessment of the skills acquired by them. To have a very uniform and fair assessment. The evaluation process is divided into two parts:
 - Continuous Assessment - CA (150 marks)
 - Course End Examination - CCE (150 marks)

Continuous Assessment :This is being done primarily by the respective faculty in the form of Lab tests, assignments, quizzes, submission of term reports, presentations etc. conducted (with the help of respective course co-coordinators) at regular intervals and as and when the portions of the subjects are completed. These are basically internal exams and local to the centre. This process is further categorized into two parts.

- Lab test
- Internal test : Assignment/Case Studies /quiz and other valuation methods like case study, viva, group discussion depending on the subject and the faculty

It is recommended to conduct Management Development Program and Organisational Behaviour sessions and also conduct surprise test for the development of soft skills, logical, analytical capabilities and managerial skills for the benefit of the students and also give assignments and conduct some surprise test related to Management Development Program and Organisational Behaviour.

The figures shown below indicate the weightage of each module in the final performance statement. The examination(s) for each module must be conducted for at least that number of marks. However, the centre may conduct evaluation for a higher number of marks, in which case the marks will be scaled down. For example, if the examination for the Operating Systems Concepts module is conducted for 100 marks, the marks earned by the student will be scaled down to out of 40.

A student must score a minimum of 40 percent marks in each component of the evaluation, and also in the aggregate score, in order to successfully clear the module. If a student scores more than 40% on aggregate but has scored less than 40% in one component of the evaluation, he will not be declared as passed.

The weight age for each component will normally be:

Theory examination – (CCEE) 150 marks

Laboratory examination, Internal marks 150 marks

(Internal marks: Lab Assignment Evaluation, Surprise Tests, attendance, Viva, Seminars)

The question papers for the theory as well as the laboratory examinations at all the centres will be set by C-DAC, ACTS, Pune. The centres according to guidelines provided by, ACTS, Pune, will conduct the evaluation of the laboratory and assignments locally.

Minimum Pass marks:

The minimum marks to be obtained for declaring a student pass in any module is as follows:

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For 40 mark QP	:	16 marks
For 20 mark QP	:	8 marks
For 60 mark QP	:	24 marks

Assessment is through e-Pariksha system.

About e-Priksha System:

ePariksha is a web based application for the automation of the examination process. The system provides a great control on exams from preparing question paper to scheduling exam and from monitoring exam to generate results.

ePariksha has a strong administration which provides complete system status in one glance.

It's Results & Reports generations functionality provides system details in all standard and required formats.

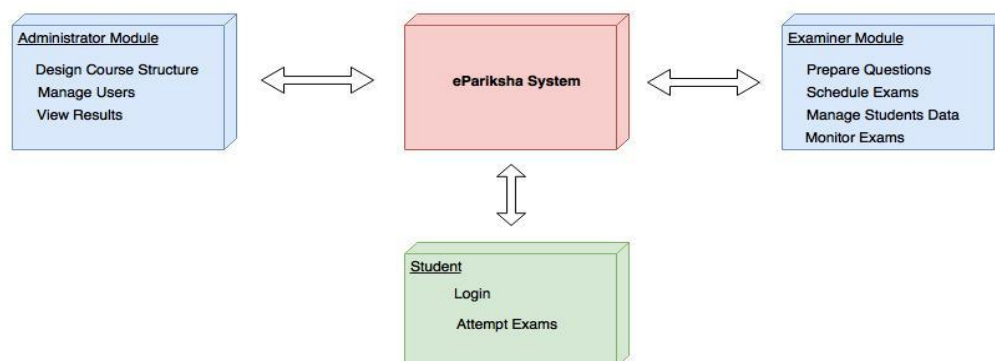
An image based, LAN based, secure, fault tolerant and scalable system through which examinations can be delivered "on demand" basis in selected examination centres spread across the country.

System Support:

- Decentralized mode of operation(LAN based)
- Question Paper approach
- Multi lingual and multi subject support
- Browser based

Components of the eE-Parikhsa System Includes:

- **Administration Module-** To design course structure,Manage users,view results.
- **ePariksha System** –Assessment of students through online system.
- **Examiner Module** -To manage the examination related activity and conduct- i.e Registration data and question paper uploading, conduct of examination, response generation
- **Student Login** –Allows students to login and attempt exams.



Salient Features:

- Exam Resume - Power Failure Handling
- Random Question Paper
- User friendly Interface
- Question Bank
- Instant Result

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- Live Monitoring of Exams & Assignment
- Time bound exams
- Multilingual support
- Handheld devices Support
- Responsive Design

Feedback System: C-DAC's Advanced Computing Training School (ACTS) offers various courses and training programs through its own training centres and its network of Affiliated Training Centres (ATC) spread across the country. Each year, thousands of students and professionals are trained at these centres.

The purpose of the system i.e. Online Feedback System (OFS) is to develop a web application for getting the online faculty feedback by the students studying at centres and also at the various Authorized Training Centres (ATC) affiliated to for different training programs offered by C-DAC ACTS.

This system is for conducting "The Student Survey" for quality assurance of education. Students, Faculties and administrators can all benefit from survey. This is helpful in the continual improvements in teaching programs, processes as well as infrastructure and thereby enhancing the students' learning experience at C-DAC ACTS.

The Online Feedback System make the student feedback procedure centralized for all C-DAC centres as well as various Authorized Training Centres (ATCs) located across the country through which headquarter manager can manage student feedback of faculties as well as infrastructure studying at different training centres with different reports for feedback analysis.

Please attach any documents giving further information about assessment and/or RPL.

Give details of the document(s) here:

ASSESSMENT EVIDENCE

Each module should be evaluated as per the weightage there will be 150 questions to answer in 3 hours duration in Course End Exam as per the following distribution mentioned below given below.

Sr. No.	Module	Learning Outcome	Theory	Lab & IA	Total Marks
1	Computer & Programming Concepts	<ul style="list-style-type: none">• Understand fundamental of computer,• Difference between an operating system and an application program, and what each is used for in a computer.• Exploring operating systems.• Understand programming concepts, algorithms and flowcharts.	20	30	50
2	Web Programming – I (HTML, CSS, Ajax)	<ul style="list-style-type: none">• Students will be able to design and implement dynamic websites with good aesthetic sense of designing and latest technical know-how's.• Apply knowledge of Web servers, HTML5, Java script for website	30	40	70

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		<p>designing.</p> <ul style="list-style-type: none"> • Have a Good grounding of Web Application Terminologies, Internet Tools, E – Commerce and other web services. • Learn and apply CSS • Create forms for web pages. 			
3	Database Concepts	<p>Students will be able to:</p> <ul style="list-style-type: none"> ○ Develop an Entity Relationship Model with the appropriate entities, attributes, relationships, connectivity, and cardinality using Crow’s Foot notation to represent 1-1, 1-M, and M-N relationships. ○ Demonstrate Third Normal Form ○ Use SQL Data Manipulation Language to create and query sample data. ○ Create and manipulate databases. 	15	40	55
4	Web Programming – II (PHP, Java scripts)	<ul style="list-style-type: none"> • PHP application programming • Learn and apply Java Script 	45	40	85
5	Internet Terminologies	<ul style="list-style-type: none"> • Students will able to understand the working of internet as well as deployment of project on internet. 	10	-	10
6	Management Development Program	<p>Students can demonstrate:</p> <ul style="list-style-type: none"> • Good conversation skills • Good problem solving skills 	30	-	30
7	Project	Think critically, creatively and analytically in developing technological solutions to simple and complex problems.	Grade		
Total			150	150	300

Complete a grid for each grouping of NOS, assessment unit or other component as listed in the entry on the structure of the qualification on page 1.

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Title of NOS/Unit/Component:

Assessable outcomes	Assessment criteria for the outcome
Enter the learning outcomes /elements of competence which will be assessed.	List all the criteria applying to this element/outcome.
All the modules of PG-CAWT	<p>A+ >= 85%, A >= 70% to < 85% B >= 60% to < 70 % C >= 50% to < 60% D >= 40% to < 50% F < 40%</p>
<p>Means of assessment 1</p> <p>Theory portion Assessment will be done through LAN based online system or paper mode. Paper will be Objective question based. Lab exam will be done separately as per evaluation Guidelines.</p>	
<p>Means of assessment 2</p> <p>Re-examinations:</p> <p>The following conditions will be applicable for the course end re-exam:</p> <ul style="list-style-type: none"> • Students who do not appear for an exam on the scheduled date will not have an automatic right to re-examination. Only those students who, in the opinion of the centre/course coordinator have a genuine reason for being absent may be allowed to appear for a re-exam. • Students who have failed an exam may be allowed to appear for a re-exam. • The re-exam should be conducted following the same process as the regular examination. • Students, who failed/remained absent in the Course End Examination conducted by , shall be allowed to appear in the re-examination only once. • Students who remain absent or fail in the re-examination will not get any further chance for appearing for the re-examination. In such case the candidate can receive the Performance Statement and the certificate of participation without any grade. • On evaluation of their answer sheets 20% of the marks obtained by the students will be deducted (towards de-rating for re-examination) for arriving at the final score, i.e. in order to clear the module test the student has to score a minimum of 48% marks instead of 40%. • There will be no re-exam for the re-exam 	
<p>Pass/Fail:</p> <p>If Candidate scored below 40% in any of the component like Theory, lab or Internal will be consider as FAIL.</p>	

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SECTION 2

SUMMARY EVIDENCE OF LEVEL

Level	Process Required	Professional Knowledge	Professional Skill	Core Skill	Responsibility
7	Requires a command of wide-ranging specialised theoretical and practical skills, involving variable routine and non-routine contexts.	Wide-ranging factual and theoretical knowledge in broad contexts within a field of work or study.	Wide range of cognitive and practical skills required to generate solutions to specific problems in a field of work of study.	Good logical and mathematical skill understanding of social political and natural environment and organising information, communication and presentation skill.	Full responsibility for output of group and development

Assessed outcome	Process Required	Professional Knowledge	Professional Skill	Core Skill	Responsibility
1. Computer & Programming Concepts	Person may carry out a job as PHP web developer and Web designer. This job demands a command of wide-ranging specialised theoretical and practical skills, involving variable routine and non-routine contexts.	Learning Web programming concepts, Relational Database, Web Technologies will help to learner to get employment as Web developer or Web designer.	<ul style="list-style-type: none"> • Candidate can develop/test software based on practical knowledge. • Candidates as System Analyst examines the system requirements and implement and configure and test feasible. 	Candidate will be learning management Development Program and Organisational behaviour to communicate written and oral. Aptitude, basic understanding of social political and natural environment with good analytical and managerial skills	Candidate can perform well and responsible for output of group and development.
2. Web Programming – I (HTML , CSS, Ajax)					
3. Database Concepts					
4. Web Programming – II (PHP, Java scripts)					
5. Internet Terminologies					
6. Management Development Program					
7. Project					

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SECTION 3

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

Set up the Advanced Computing Training School (ACTS) in 1993 to meet the ever-increasing skilled manpower requirements of the Information Communication Technologies (ICT) industry as well as supplement its intellectual resource base for cutting-edge research and development. Over the years has designed and delivered various postgraduate and undergraduate degree and diploma programmes. In addition, imparts ICT training to state and national governments and agencies, strategic sectors, corporate and industries, foreign countries and international students, based on specific requirements.

What is the estimated uptake of this qualification and what is the basis of this estimate?

PHP is used by 82.2% of all the websites whose server-side programming language we know.

Popular sites using PHP

- Facebook.com
- Wikipedia.org
- Twitter.com
- Baidu.com
- Qq.com
- Taobao.com
- Vk.com
- Sina.com.cn
- Sohu.com
- Onclickads.net

<https://w3techs.com/technologies/details/pl-php/all/all>

What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?

NA

What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

Set up the Advanced Computing Training School (ACTS) in 1993 to meet the ever-increasing skilled manpower requirements of the Information Communication Technologies (ICT) industry as well as supplement its intellectual resource base for cutting-edge research and development. Over the years has designed and delivered various postgraduate and undergraduate degree and diploma programmes. In addition, imparts ICT training to state and national governments and agencies, strategic sectors, corporate and industries, foreign countries and international students, based on specific requirements.

The Education and Training activities of are governed and steered by Academic Council (AC) and Academic Management Committee (AMC). As per the Academic Council minutes and direction, a syllabus updation subcommittee is formed by combining members from different centres. The sub-committee gave their inputs for syllabus updation. The resource centre has conducted meetings for updating required modifications in the current syllabus of PG-Diploma. After that, minutes of the meeting with draft syllabus contents were circulated across all the participating centres for any suggestion and comments. If any suggestions come through discussion of all concerned members, we incorporate the same and circulate again for finalization. After that we make the source book and informed to all centres for their review.

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SECTION 4

EVIDENCE OF RECOGNITION AND PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

- This qualification has been designed in consultation with industry and domain expert keeping in mind today's need. Evaluation criteria have been added to ensure progression to related path ways identified as per career path.

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here:

1. Course Content

QUALIFICATION FILE

Certificate Course in Advanced Web Technology

Sl. No.	Modules	Hours
1	Computer & Programming Concepts	40
2	Web Programming - I (HTML , CSS, Ajax)	60
3	Database Concepts	20
4	Web Programming - II (PHP, Java scripts)	80
5	Internet Terminologies	20
6	Management Development Program	60
7	Project	40
	Total	320

Eligibility: Any Engineering /Science graduate with mathematics up to 10+2 level

Course Pre-requisites: Sound knowledge of Computing Fundamentals and Fundamentals of Programming.

Course Focus: The objective of this course is to provide the student with an expertise in Website development.

Detailed Syllabus

Computer & Programming Concepts (40 Hours)

- Fundamentals of Computers
- Uses of Computer, Hardware, Accessories,
- Interfaces and their functions, Computer hardware connectivity
- Primary and Secondary storage
- Input-output devices
- Software, types of software, Operating Systems
- Software used in Academic departments and other area.
- Computer language, Different types of Programming Languages
- Operating System
- Programming concepts
- Algorithm
- Flow charts
- Introduction to loops, functions

Web Programming - I (HTML, CSS, Ajax) (60 Hours)

- HTML 5.0 programming
- Overview of Internet and Web Pages
- Introduction to HTML Tags
- Introduction to Web Browser / Composer
- Introduction to HTML Editor
- CSS Introduction
- CSS Syntax
- CSS Id & Class
- CSS How To
- CSS Styling
- CSS Box Model
- CSS Summary
- Introduction to Ajax
- Web services and Ajax
- Ajax using HTML, CSSk

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Database Concepts (20 Hours)

- Database Concepts
- RDBMS Technologies
- Codd's Rules
- Normalization Techniques
- SQL and PL/SQL
- Overview of OORD (Oracle)
- Introduction SQL*Plus
- DDL, DML and DCL
- Tables, Indexes and Views

Web Programming – II (PHP, Java scripts) (80 Hours)

- Java Script Introduction
- JS output
- JS statement
- JS Comments
- JS Variable
- JS data types
- JS Switches, loops
- Introduction to PHP
- Working with arrays
- Functions
- Forms
- Handling date and Times
- Working with Files
- Working with database
- PHP and AJAX

Internet Terminologies (20 Hours)

- Web services
- Deployments of application on Internet
- Maintenance of application

Management Development Program

Introduction to communication, Barriers to communication, Kind of communication, Confidence building Non-verbal Communication, Fluency and vocabulary, Synonyms, Antonyms, Grammar, Noun Pronoun, Verb, Adjective, Preposition, Conjunction, Words of Idioms & phrases, Sentence Construction, Fill up the blanks, Pronunciation, Conversation practice, Polite Conversation, Greeting, Logical reasoning, General Aptitude, Writing: Covering letter, Resume, Email, Presentation Skill, group discussion, Interview skills, Mock interview

Project