

eGovernance Training and Certification Project

VIII. NAME OF CATEGORY- 'SPECIFIC SECTORAL AWARD for 2014-15: SKILL DEVELOPMENT AND EMPLOYABILITY'

1. Coverage – Geographical and Demographic :-

(i) Comprehensiveness of reach of delivery centres,

The e-Governance Training and Certification project being a web-based solution is reachable across the globe hence its comprehensiveness cannot be measured in terms of the delivery centres.

(ii) Number of delivery centres

Being a web-based solution, defining number of delivery centres may not be applicable.

(iii) Geographical

(a) National level – Number of State covered **ALL**

(b) State/UT level- Number of District covered **ALL**

(c) District level- Number of Blocks covered **ALL**

Please give specific details:-

Being a web-based solution, the coverage is across the globe.

(iv) Demographic spread (percentage of population covered)

The e-Governance Training and Certification exam is open to all, at National and International level so anyone across the globe can register and appear for the exam.

2. Situation Before the Initiative (Bottlenecks, Challenges, constraints etc with specific details as to what triggered the Organization to conceptualize this project):

Government of Maharashtra had started many initiatives in eGovernance domain long time back. In the initial stages of the eGovernance projects, a strong resistance was from the people involved in the process owing to unawareness and void of relevant skillset. It was an immense challenge to educate Government staff and the consultants working with the State Government about the various facets and applications of eGovernance.

Projects teams which comprised Software developers and Consultants

were unaware about some of the basic developments, standards and guidelines defined in the State. It was imperative to provide a skill development platform to DIT staff, consultants and developers in order to ensure successful implementation of all eGovernance projects taken up by the state. This propelled DIT to introduce the first of its kind eGovernance Online Certification Exam to check an individual's skills and enhance knowledge in eGovernance domain.

3. Scope of Services / Activities Covered (Level of education services possible, Processes covered, application used, Number/Type of Services, Extent of e-enablement in terms of number of services computerized, Extent to which steps in each service have been ICT– enabled#)

The e-Governance Training and Certification program offers the following.

- 1. Online Training Material to prepare for the exam**
- 2. Objective Type Test which is an objective test open all and its free of cost**
- 3. Subjective Type Test which is online written test and chargeable to the participant**
- 4. Personalized login area to the participant to have a consolidated view on test results and downloading the test passing certificates**
- 5. Online Payment to enroll for Subjective Type Test**
- 6. An administrator user to manage the examination batches, view registered participants, assign participant to batch, manage interview feedback etc.**
- 7. Email notification on User for user registration, online payment, test results etc.**

4. Strategy Adopted

(i) The details of base line study done

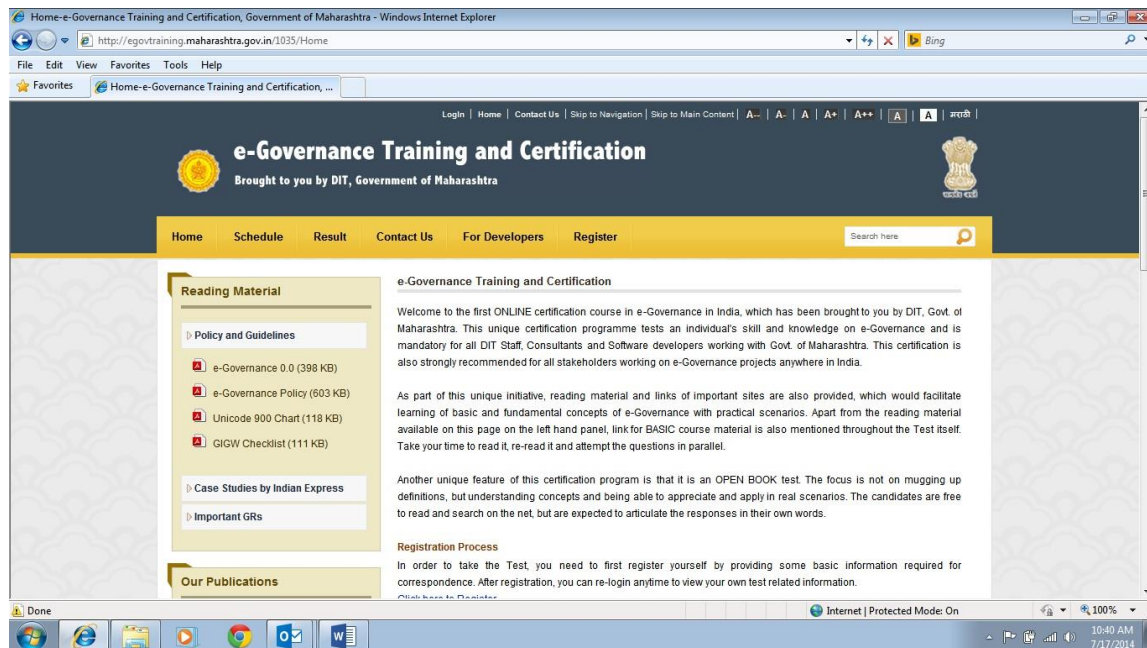
Keeping in mind that there was no e-Governance certification course/exam available in the country, it was decided that an online certification test should be launched. As a first step, a study was done focusing on creating a good question bank and reading material. The focus was not to build an in-house development. At the second stage, the project team explored various globally available Online Test making tools. After doing a cost-benefit analysis for top 10 online test designing tools, it was decided to start using 'Classmarker'.

(ii) Problems identified,

Key Problems identified were the lack of awareness and skillset in State Government staff, external consultants and developers working in eGovernance projects. It was also identified that there was a lack of certification or test of eGovernance awareness in India.

(iii) Roll out/implementation model

The course website was launched as <http://egovtraining.maharashtra.gov.in>



As part of this unique initiative, reading material and links of important sites were provided on above website, which facilitate learning of basic and fundamental concepts of e-Governance with practical scenarios. Apart from the reading material available on this page website, links for additional reading material were mentioned in the online question paper.

Another unique feature of this certification program is that it is an OPEN BOOK test. The focus is not on mugging up definitions, but understanding concepts and being able to appreciate and apply in real scenarios. The participants are free to read and search on the net, but are expected to articulate the responses in their own words.

Evaluation Methodology:

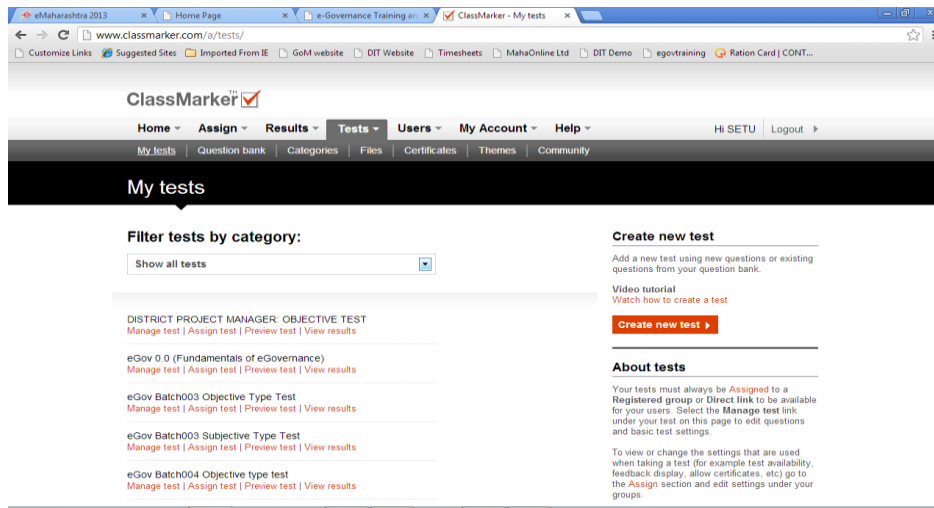
Two stage evaluation process is followed for this examination:

1. Online objective Q&A
2. Online subjective Q&A and Personal/Face2Face interview (though video-chat or in person)

Evaluation Stage	Marks	Description
FIRST	100	FIRST stage is the ONLINE written

		Objective Questions Test. One must score minimum 60 marks out of 100 in this to proceed to next stage
SECOND	200	SECOND stage is ONLINE written Subjective Questions Test and Interview. One must score minimum 100 marks out of 160 in written Subjective Test to proceed to Interview round. One must score minimum 20 marks out of 40 in Interview. One must score combined 120 to pass the SECOND stage.

Use of MOOC/Cloud Platform:The project uses online evaluation solution on cloud platform (MOOC type)



Grading Method:

All candidates are graded by a group of mentors (Subject Matter Experts) in the following way:

Grade	Marks Criteria
Distinction	120 or above in Subjective test AND 25 or above in Personal Interview.
Pass	100 or above in subjective AND 20 or above in Interview

(iv) Communication and dissemination strategy and approach used

The link to the website is provided on the State Government of Maharashtra's official website <http://maharashtra.gov.in> so that maximum number of visitors could take the test and increase their awareness on eGovernance. Bulk Emails

and SMSs are used to send communications and OTPs (for registration and login) to interested users. Interviews are conducted either telephonically or over video conferencing).

5. Technology Platform used-

(i) Description,

IIS 7.0, MS SQL Server 2008

Microsoft .Net Framework, ASP.Net, C#, HTML, JavaScript, CSS

(ii) Interoperability

The project is developed in Microsoft Technologies, would require the Microsoft .Net Framework and MS SQL Server as backend.

(iii) Security concerns

The project is hosted at SDC of Maharashtra state and the SDC already meets all security compliance. The project offers making online payment for examination fee of Subjective Type Test and for the same the SSL Certificate is been configured to ensure having secure transaction. Also, the project had passed the security audit in June 2013, and now will go for the security audit post development of the ongoing modules.

Third party application subscribed for the Online Test, is hosted on the cloud platform and it is compliant with standard security measurements.

(iv) Any issue with the technology used

Not any as of now.

(v) Service level Agreements(SLAs) (Give details about presence of SLA, whether documented, whether referred etc. #)

The support for the project is managed by Mahaonline (Joint venture of Govt. of Maharashtra and TCS) where the issues are being addressed on demand basis with immediate turnaround time. SLA of 48 hours for grievance redressal is maintained by Project Team.

6. Citizen Centricity (Give specific details on the following#)

- (i) Impact on effort, time and cost incurred by user,

Effort & Time: A total time of around 25 hours spread over a span of 20 days is required to be put in by the users. Users need to spend most of the time in studying the reading material provided on the home page of the official website. For Objective Test a time limit of 60 minutes is placed and the test is to be finished at one go. For Subjective Test a time limit of 6 hours is placed but candidates are allowed to log out and resume at any point of time. This also gives them opportunity to understand the concepts or read the links provided in the questions. Interviews last for a maximum of 15 minutes.

Cost: Objective Test is free but for the Subjective Test, an examination fee of Rs.500 is charged. Also, the examination reading material is been made available online free of cost so the citizens need not spend money to purchase books

- (ii) Feedback/grievance redressal mechanism,

There is an online feedback form in which user can submit any grievance/feedback. Moreover, users can also send emails to the Project Team for any grievances or feedback. An SLA of 48 hours to address an issue is followed by the Project Team.

- (iii) Audit Trails

Earlier the project was having static information on the site so no audit trail was required. With the addition of new modules like User Registration/Login, Batch Management, User and Admin dashboard, Assign the participant to the batch, interview feedback etc., audit trails are maintained for each activity.

- (iv) Interactive platform for service delivery,

Although there is no interactive platform for service delivery currently, the same is planned to be used in the near future for increasing customer delight.

- (v) Stakeholder consultation

In order to make the eGovernance Certification programme more citizen centric, stakeholder consultation meetings are organized in

Mantralaya where in feedback from the Project Head, Developers, Consultants, Virtual Cadre Team and department Nodal Officers is recorded. Based on the approved changes, improvements are made in the existing web application. Some of the changes included decreasing the number of clicks of the user for registration, shortening the registration form, improving the User Interface, etc.

7. Efficiency Enhancement (Give specific details about the following #)

- (i) Volume of transactions processed,**
Transactions are measured in terms of the number of times a citizen uses our services, i.e. attempting tests (both objective and subjective), getting certificates and appearing in interviews. So far, tests have been organized for 13 batches. All in all, over 20,000 tests have been taken by more than 4,500 registered citizens. 971 citizens appeared in the interviews after clearing objective and subjective tests, while 407 citizens have received eGovernance awareness certification.

(ii) Coping with transaction volume growth

Anticipating the transaction volume growth (an average of 12% every quarter), following measures were taken:

- 1) Eliminating Project Team involvement: Objective Test was made open 24x7 and certificate for passing the objective test was automatically generated on a single click by the citizen.**
- 2) Number of Mentors (currently 24) who could check subjective papers were increased while feature of simultaneous evaluation by all mentors was introduced.**
- 3) Automatized the end-to-end flow: From citizen (user) registration to the final certificate generation, the entire workflow was made automatic. Only batch allocation for subjective exam, feeding marks for subjective exam & interview is done manually, thus reducing human intervention and response time.**
- 4) Dashboard for citizens: A home page was created for citizens to know the results of each stage and to download the certificate. These were the two most frequently asked questions from the citizens during a batch processing. Marks were automatically pulled from Classmarker database and inserted in the dashboard.**

(iii) Time taken to process transactions,

Time taken to process one transaction right from the user registration to the final result declaration is reduced to 4 weeks based on the fact that most working professionals are available to take tests during weekends.

(iv) Accuracy of output,

Since the entire work flow is automatic involving only a few manual interventions where really required, accuracy of output is close to 100%. There is only one in 1000 cases when a user reports non-receipt of log-in credentials for subjective test from Classmarker (where manual intervention is involved).

(v) Number of delays in service delivery

When there is mismatch in the availability of mentors (interviewers) or candidates who appear for interviews, interview process gets delayed. Such delays although negligible are inevitable owing to unforeseen schedule of candidates and mentors. In such cases (so far 23), results are published with the names of such candidates against a remark 'Interview Pending'.

8. Ease of transaction (Give details about method deployed to educate user on how to avail service, security of data shared by user(if applicable), completeness of information provided, Linkages for financial processes (if applicable) etc. #)

1. All the steps to be taken by the user have been clearly mentioned in the home page of <http://egov.maharashtra.gov.in> . Have simplified the examination process for the citizen and to ensure only serious practitioners of eGovernance domain obtains the eGovernance Fundamentals certificate, so the earlier three stages of examination process is been shorten to two stage of examination and as per that the First stage is of Objective Test and the Second Stage is of Subjective Written online Test and personal interview.

2. Have automated the end to end flow of examination in terms of user registration for objective test, de-dupe of the candidate registration for subjective, displaying the subjective and interview marks and downloading the certificate online by the candidate by itself rather interacting with DIT staff over the email.

3. An Admin module is been incorporated to manage the above mentioned functionality online. Also, the site is been integrated with the payment gateway to facilitate the candidate to pay the examination fee online and quickly get enrolled for the Subjective test.

9. Innovation (Give details on Extent to which the initiative/ project is unique in purpose/goal, compared to other common e-Governance projects in the Health Care, any use of new and emerging technology, impact on number of steps required, identification and removal of bottlenecks/ Irrelevant steps etc. #)

- “eGovernance Training and Certification” is the first and only ONLINE certification course in e-Governance in India, managed by Directorate of Information Technology (DIT) , Govt. of Maharashtra.
- It is open to all, at national and International level. This unique certification programs tests an individual's skill and knowledge on e-Governance.
- This programme aims to facilitate learning of basic and fundamental concepts of e-Governance with practical scenarios.
- Rather than theoretical concepts and examples, this programme stresses upon practical knowledge
- Objective is to test the fundamental/practical knowledge grasped by the candidate
- Successful candidate are awarded with a certificate of Achievement from DIT
- A team of “Mentors” is built in this process, thus helping DIT, to further propagate the project.
- Automating the examination process flow to the possible extent so as to reduce the possible manual intervention of DIT Staff and to expedite the response time to the citizen query/issue on examination process thus to follow the mantra “Minimum Government and Maximum Governance”

10. **Appropriateness of context and degree of localization** (Give details about degree of localization i.e. local language interface, database support etc. relevance of content, etc. #)

Localization is under process. The static part in the Website has been localized but the dynamic part including schedule of tests and user registration is yet to be localized. Localization of tests has also been tested in certain cases (such as for the selection of Virtual Cadre) where in objective tests have been conducted in Marathi language. The evaluation of subjective test in Marathi Language by Mentor as well as the fact that only a few people know how to type in Marathi are two key challenges which we are trying to address.

11. **Accessibility** (Give details about how following has been enhanced with automation: user accessibility, transparency in system, single-window resolution, ease of navigation; impact on service response time, number of visits required for accomplishing the task before and after automation etc.#)

- **User Accessibility:** After the user is locally registered in our Database, a home page is created for each user to access his test related progress and other relevant information. The application being mobile compatible

can be accessed using mobile gadgets giving an anytime, anywhere experience to the citizens.

- **Transparency in system:** The schedule and results are clearly visible on public domain thus increasing the transparency in system.
- **Ease of Navigation:** On visiting the official website, user gets access to test related information and can easily navigate to the schedule, registration, log in, results pages by clicking on the tab or hyperlinks provided in the body. After user registration, one click is what requires for the user to start taking the objective test. Similarly, for subjective test, user needs to click to make online payment post which log-in credentials are sent at his email ID to start taking the test.
- **Impact on service response time:** Response time has reduced significantly since the process is automatic and responsive based on citizen's inputs.
- **Number of Visits required:** No interactions with DIT staff or visits are required as the information about an individual test progress is available on his home page accessible using an OTP sent to his mobile.

12. User convenience (Give specific details about the followings #)

- (i) Service delivery channels (Web, email, SMS etc.)

Tests can be taken by anyone having internet access to computers or mobile gadgets. Passwords for user registration/home page-login need not be remembered by citizens since the same are sent via SMS as OTP. Test Log-in credentials and other notifications are sent via email, alerting the user to take subjective test.

- (ii) Completeness of information provided to the users,

A comprehensive understanding on the objective of the certification programme and the stages of the exams, along with the schedule and results of previous batches is provided on the web portal. Moreover, individual user gets an authorized access to his personal homepage where his test progress is recorded.

- (iii) Accessibility (Time Window),

There is system generated time window for accessing the tests (60 mins for objective test and 6 hours for subjective test), however, user can log out and resume the subjective test at his will. The time-clock stops whenever the user log out. While accessing the home page, a time window of 15 minutes is provided for idle usage.

(iv) Distance required to travel to Access Points

Not applicable.

(v) Facility for online/offline download and online submission of forms,

User registration form and test answers have to be submitted online by the user. Successfully passing certificates can be downloaded by the user at any time from his home page.

(vi) Status tracking

Status of an individual user's test progress comprising objective, subjective and interview stages is automatically populated from the database in the home page dashboard of the user. A registered user can keep a track of his performance in this dashboard by logging in using OTP sent via SMS and email. Hence, international candidates can also track their test performance.

13. **Scalability** (Give details about sufficiency of back end support framework – institutional support, technology support e.g. availability of bandwidth, means adopted for disaster recovery (backup of data/ backup server); etc. #)

The Test and Evaluation Process is on cloud-platform, hence is highly scalable. Further, it is backed by a strong institutional support headed by the Principal Secretary-IT and comprised of consultants, Virtual Cadre and mentors. Subjective Test evaluation and online interview by multiple examiners (mentors) is possible. A mentor team of 24 members is available for evaluation. Currently tape backup of data is taken on a daily basis while the disaster recovery set up is under way.

14. **Sustainability** (Give details about relevance; building; Cost effectiveness, Financial viability of initiative etc. #)

- **This project was self-funded project initiated by the Government of Maharashtra in October 2012 and no examination fee was being charged to the citizen.**
- **Looking at the popularity of the exam and also to ensure only serious e-Governance practiser appear for the test, the subjective test is been made chargeable to the candidate.**
- **With the use of the existing shared infrastructure, there is no operational cost of this project whereas the third party subscription**

for conducting exam is very minimal which costs less than 10 rupees to conduct one test.

- With an objective of only serious practitioner appear for the exam, the subjective exam is chargeable which brings the revenue and is being utilized in running the project thus there is no cost in running this project.
- Also, the examination reading material is been made available online free of cost so the citizens need not to spend money in buying books.

15. Extent to which the Objective of the Project is fulfilled-(benefit to the target audience i.e.G2G, G2C, G2B, G2E or any other, size and category of population/stakeholder benefited etc):

The Project has provided certifications to 407 candidates so far. These certified candidates are either working with State Govt. of Maharashtra as consultants and developers or are now eligible to work with the state in the domain of eGovernance. With more than 4,500 registered test takers, the objective of the project continues to be met both for the candidates who become aware about the various aspects of eGovernance as well as for the State Departments who can now get services from much more aware and certified eGovernance professionals.

16. Adaptability Analysis

(i) Measures to ensure adaptability and scalability

The modules and features of web application can be changed by an authorized user from DIT. CMS is also provided to DIT for making content changes etc. With an in-house team of developers, changes in the application layer can be made live very quickly.

(ii) Measures to ensure replicability

No specific measure has been taken in this regard, however, the model can be replicated.

(iii) Restrictions, if any, in replication and or scalability

Although the system is highly scalable as explained above, currently replicability is kept out of scope.

(iv) Risk Analysis

Since it is an open book test involving no confidential information of citizens in the data base, no major risk has been identified. The security audit of the web application has been done once in June 2013, while the second audit will be done post implementation of some additional changes in the application.

17. **Result Achieved/ Value Delivered** to the beneficiary of the project-(share the results, matrices, key learning"s, feedback and stakeholders statements that show a positive difference is being made etc):

(i) To organization

The Project has provided certifications to 407 candidates so far. These certified candidates are either working with State Govt. of Maharashtra as consultants and developers or are now eligible to work with the state in the domain of eGovernance. With more than 4,500 registered test takers, the objective of the project continues to be met for the State Departments including DIT who can now get services from much more aware and certified eGovernance professionals.

(ii) To citizen

Citizens who undergo the certification process become more aware about the various aspects of eGovernance including technological advancements, trends and projects. Serious eGovernance professionals become eligible for a consulting or software development opportunity with state Govt. of Maharashtra.

(iii) Other stakeholders

With more than 4,500 registered test takers, the objective of the project continues to be met for the State Departments including DIT who can now get services from much more aware and certified eGovernance professionals.

18. Comparative Analysis of earlier Vs new system with respect to the BPR, Change Management, Outcome/ benefit, change in legal system, rules and regulations

As-is process:

1. Frequent interactions between the candidate and DIT Staff over the email/phone on registration and enrolment for the objective and subjective test respectively.
2. Manual process for de-duping of candidate registrations and generating the certificate for the subjective test thus taking more time for DIT staff to setup the subjective test and issuing the certificate to candidate.
3. Multiple queries were being received from candidates, mostly of similar type, over the email and phone regarding results of subjective test and interview and issuance of pass certification.

After BPR:

1. The examination process has now been simplified for the citizen. To ensure only serious practitioners of eGovernance domain obtain the eGovernance Fundamental certificate, the earlier three stage of

examination process has been shortened to two stage examination. The First stage is of Objective Test and the Second Stage is of Subjective Written online Test and personal interview.

2. Have automated the end to end flow of examination in terms of user registration for objective test, de-duping of the candidate registration for subjective, displaying the subjective and interview marks and downloading the certificate online by the candidate by itself rather interacting with DIT staff over the email. Hence, it is a classic example of elimination of a transaction i.e. user (citizen) need not interact with Government (DIT) to take the test.

3. An Admin module is been incorporated to manage the above mentioned functionality online. Also, the site is been integrated with the payment gateway to facilitate the candidate to pay the examination fee online and quickly get enrolled for the Subjective test.

4. Post implementing the above, the overall completion time span for a batch is been reduced so for batches can be scheduled and more number of citizen can appear for the exam and take advantage of the same

19. Other distinctive features/ accomplishments of the project:

Key Achievements of this project, so far are:

- This has become highly popular training programme amongst all stakeholders in eGovernance domain in India.
- Participation by candidates from all over India as well as foreign countries (from USA/Africa etc)
- Immense improvement in knowledge base of participating candidates
- Improvements in quality of the project work being executed by successful candidates, due to better knowledge dissemination
- Early and effective adaptation of newer technologies in some of the eGovernance projects of Government of Maharashtra
- Knowledge dissemination amongst all stake-holders
- Better understanding of eGovernance Projects in state-government machinery.
- It has saved time and effort for identification/selection of egov resources within government departments
- A team of “Mentors” is built in this process, thus helping DIT, to further propagate the project.
- Personal login area for the candidate to access the various new functionalities like viewing results of test appeared for, paying examination fee online, download certificate and consolidated view on test results and its history.
- Charging examination fee for Subjective exam so only serious practitioner in e-Governance Domain appear for the exam and have a quality resource pool.

- Automated the end to end flow of conducting exam to the possible extent thus to remove the manual intervention and shorten the overall batch completion to more batches can be scheduled during the year for citizen to take maximum advantage of this exam.

20. Future Road map of the project

- Exploring the open source application to conduct exam to remove dependency from third party application subscription and reduce the operational cost.
 - Auto reminder to candidate qualified for Subjective Test and are yet to appear for the subjective test
 - Notification through email and SMS on various event like informing on completion of evaluation and interview marks so can download the certificate
 - Enhanced Admin module in terms of Test Statistics
-