



MARIAN COLLEGE
KUTTIKANAM
(AUTONOMOUS)

MAKING COMPLETE

"College with Potential for Excellence", NIRF 84 (2018)
'A' Grade with CGPA 3.52 (2014)

NAAC RE-ACCREDITATION - 4TH CYCLE

Criterion II - Teaching-Learning and Evaluation

Assessment Strategies- Programming/Coding Assessment Test for PG Freshmen

The PG Department of computer Applications (MCA) conducts **Programming/Coding assessment for the PG Freshmen**. It is conducted on behalf of "For a Good start" organization, who assesses the freshmen regarding their expertise in programming and coding. The team also conducts one to one discussion with the students to understand the knowledge gap.

This document contains sample assessment analysis of 2017 MCA batch by the 'For a Good Start' organization.

Sample Programming/Coding Assessment report of 2017 Batch



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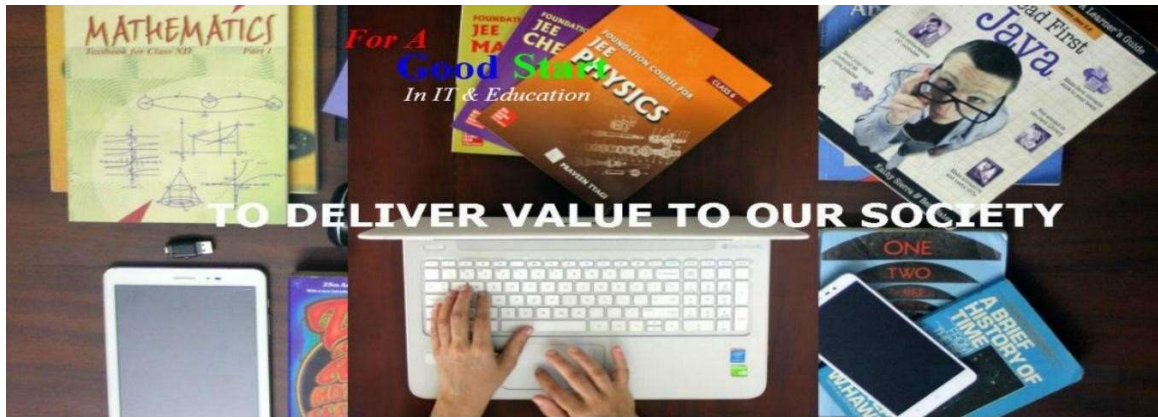


Kuttikkanam PO, Peermade
Idukki, Kerala, India - 685531



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Assessment – MCA Freshers, 2017 | Marian College, Kuttikkanam.
Executive Summary



Confidential – For your eyes only. Not to be forwarded without consent from For A Good Start

Salil Rawji
Shalini Annie Zacharia
June - Sep, 2017



Assessment - MCA Freshers, 2017 | Executive Summary | Approach



- This Assessment Framework is designed to help MCA Freshers identify their Gaps (Areas of Improvement) based on MG University BCA Syllabus ;fix the Gaps at the earliest and bench mark their knowledge
- This assessment framework covers
 - 25 topics related to computer science from MG University BCA Syllabus.
 - Group 1 Exam with 5 simple basic questions from each of the 25 Topics.
 - One to One discussion with students to identify their gaps based on Group 1 results
 - Students working on to Fix the Gaps for 2 months
 - Group 2 Exam to help baseline current (post BCA) knowledge level. Exam contains 5 basic questions from 22 topics. Questions are marginally complex (medium) than Group 1 questions.

- Data available post Group 1 Assessment**
- Bar Graph of the Assessment Scores of Group 1 Exam
 - Mensa IQ Score
 - Cambridge English Score
 - Areas of Improvement (Topics with Scores 1 or 0)
- How to Fix Gaps (Areas of Improvement)**
- Tangible Action Items
 - Planned end dates decided by Students
 - Use Links to Khan Academy videos, MOOC Videos and other Videos from YouTube shared by ForAGoodStart.
 - Students to watch at least a couple of videos* on each topic.
- Data available post Group 2 / Group 1 Round 2* Assessment**
- Bar Graph of the Assessment Scores of Group 2 / Group 1 Round 2 Exam
 - Comparison of Group 1 & Group 2 / Group 1 Round 2 Results
 - Areas of Improvement (Topics with Scores 1 or 0)
- Analysis & Executive Summary**
- This presentation is executive Summary

*If a student feels that a particular video shared is not interesting or useful, we advice them to identify a suitable one to fix the gaps.
+ Some Students who scored less in Group 1 Exam will have to repeat Group 1 exams.





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Assessment of MCA Freshers, 2017 | Executive Summary | Approach



- Marian College, Kuttikkanam is an Autonomous College which offers 18 programs including doctoral programs.
- Marian College's Department of Computer Application offers BCA and MCA courses.
- Alumni of this department are placed in many reputed companies in India and Abroad
- Department adopts innovative methods to generate 100 employment for students.

- Marian College hired ForAGoodStart to conduct assessment of MCA Fresher Batch, 2017. ForAGoodStart has to provide feedback to Students, MCA Director, Class Teacher and Placement Officer
- Assessment is based on
 - **BCA Syllabus, MG University**
- Links to sample educational videos from Internet (MOOC*, Khan Academy, Ted Talks etc....) are shared to Students before the assessment.
- Using the shared videos or similar videos, Students can prepare for assessments, interviews, projects etc.
- However, for exams use the text books and notes provided by MCA Dept. Marian College.

*Massive Open Online Course



Assessment of MCA Freshers, 2017 | Executive Summary | For A Good Start



We, Salil Rawji and Shalini Annie Zacharia are IT professionals with a combined experience of 23 years in MNCs. We are passionate about software, education and building tools and skills for society.

We left our corporate careers to start our own

For A Good Start

Visit our website www.foragoodstart.in for more details.





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NAAC RE-ACCREDITATION - 4TH CYCLE

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Assessment of MCA Freshers, 2017 | Executive Summary | Agenda



#	Topics	Slides	Remarks
1	For A Good Start	3	
2	Approach	4,5	
3	A Sample from Student Reports	6,7,8	
4	Where are we? - Class	9	
5	What is our Progress? - Class	10	
7	Where are we? - Students	11	
8	What is our Progress? - Students	12	
9	Findings – Where are we?	13	
10	Findings – What is our progress?	14	
11	Discussions – Students with Scores < 45 % for Group 2	15	
12	Discussions – Students with Progress ≤ -10 units	16	
13	Repeaters	17	
14	First Timers	18	
15	Appendix	19,20	





Criterion II - Teaching-Learning and Evaluation

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Assessment - MCA Freshers, 2017 | Executive Summary |
A Sample from Student Reports



ForAGoodStart's Guidelines for Benchmarking.




Total Questions in Group 1 Questionnaire is 125; Group 2 Questionnaire is 115; Mensa is 30 and Cambridge English is 40.

To aid comparison*, we calculated the % of the respective scores. So consider Group 1 Score, Group 2 Score and other scores out of 100

* Need to make the units same – centimeters cannot be compared with meters

Where do I Stand?

- Group 1 Score > 70 - Very Good
- 60 < Group 1 Score ≤ 70 - Good
- 50 < Group 1 Score ≤ 60 - Satisfactory
- Group 1 Score ≤ 50 - Scope for Improvement

- Group 2 Score > 70 - Excellent 
- 65 < Group 2 Score ≤ 70 - Very Good 
- 55 < Group 2 Score ≤ 65 - Good
- 45 < Group 2 Score ≤ 55 - Satisfactory
- Group 2 Score ≤ 45
- Need Assistance | Meet your Faculty 

What is my Progress?

(Group 2 Score – Group 1 Score)

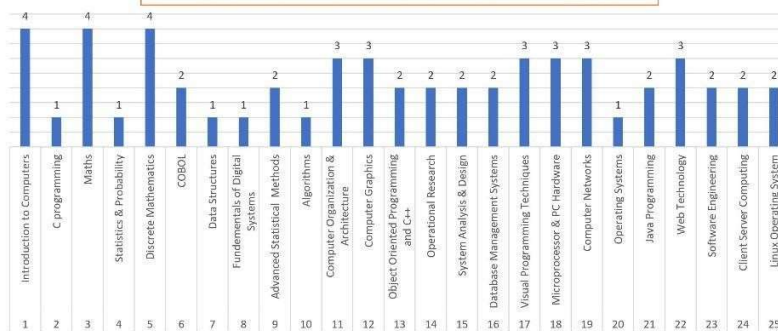
- Progress > 15 - Excellent 
- 10 < Progress ≤ 15 - Very Good 
- 5 < Progress ≤ 10 - Good
- 0 < Progress ≤ 5 - Satisfactory
- - 5 < Progress ≤ 0 - Work More
- - 10 < Progress ≤ - 5 - Work Harder
- Progress ≤ - 10 - Need Assistance | Meet your Faculty 



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Group 1



A SAMPLE from Student Report



Mensa IQ : 50
Cambridge English : 40
Technical Score : 45

Areas of Improvement:

- C Programming
- Statistics
- Digital Systems
- Data Structures
- Algorithm
- Operating Systems

#	Action Item	Planned End Date	Remarks
1	Brush Up Areas of improvement and Topics with Scores equal to 2.	30 th July, 2017	Fix Basics
2	Watch Movies / TED Talks / Educational Videos in English		Improve English Usage
3.	Solve 3 X 3 Rubik's Cube. Use You Tube Videos	30 th July, 2017	Improve Logic





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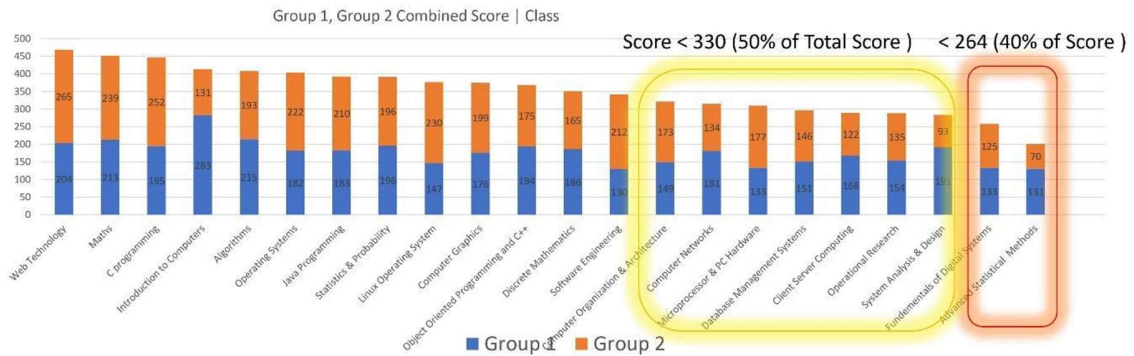
Assessment - MCA Freshers, 2017 | Executive Summary | Where are we? - Class



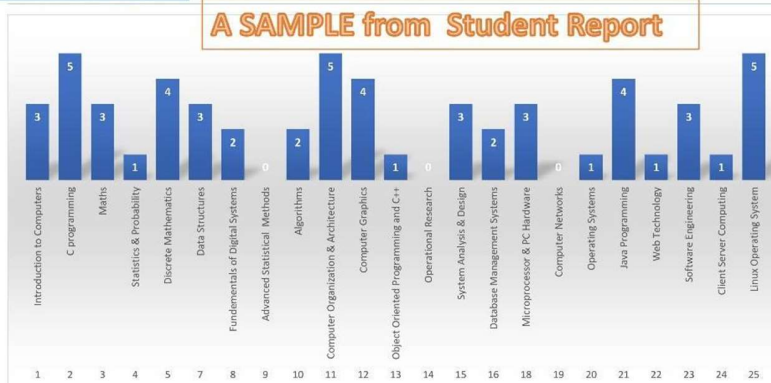
Four Slides from here - current skills of the Class as a whole and Students in particular and the progress made.

Data points - Answers from Group 1 and Group 2 Questionnaires of 66* Students of 23+ Topics
* Data of Students who are absent for Group 2 exam; discontinued the course; group 1 repeaters and first timers are not included
+ Topics COBOL and Visual Programming Techniques are not included in Group 2

of Students – 66 | Groups – 2 | Questions Answered by each student for a topic in a group – 5
of Data points for each topic in Group 1 – 66 * 5 = 330 | Group 2 – 66 * 5 = 330 | Group 1 & 2 Combined = 330 * 2 = 660



Assessment - MCA Freshers, 2017 | Marian College | Rinu Merin Abraham - 17pmc334
Group 2



Score
Technical : 45% -> 48.7%

- Areas of Improvement:**
- Statistics and Probability
 - Advanced Statistical Methods
 - Object Oriented Programming and C++
 - Operation Research
 - Computer Networks
 - Operating Systems
 - Web Technology
 - Client Server Computing

#	Action Item	Remarks
1	Focus on Areas of Improvement and Topics with Score 2.	
2	See why there is a dip from Group 1 to Group 2 Scores.	Computer Networks - 3/5 to 0/5
3.		



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Assessment - MCA Freshers, 2017 | Executive Summary | What is our Progress? - Class



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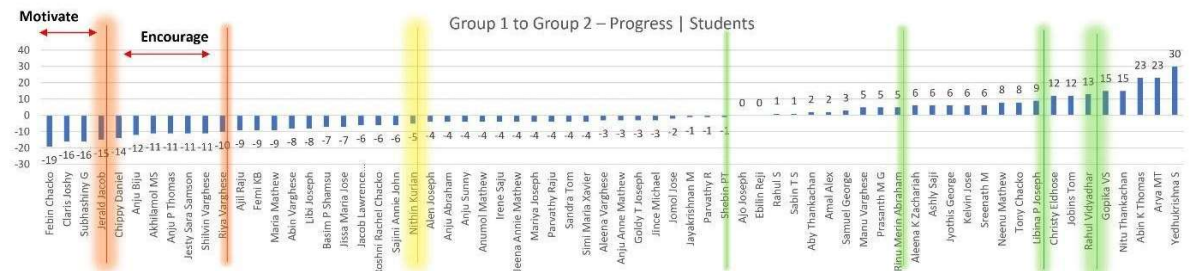
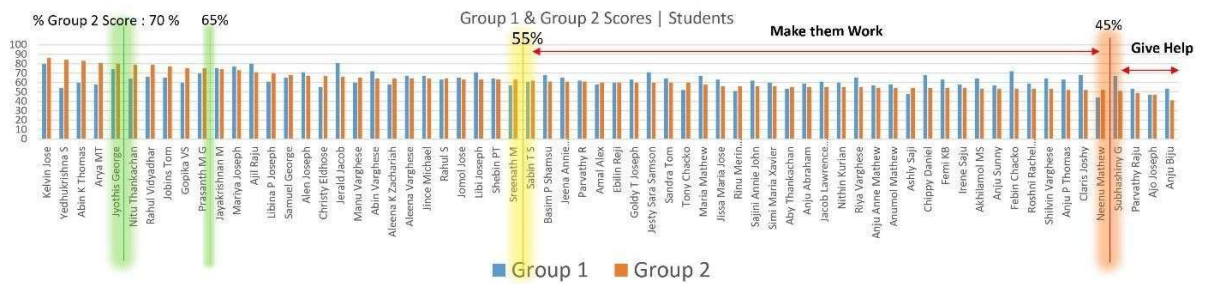
NAAC RE-ACCREDITATION - 4TH CYCLE

Criterion II - Teaching-Learning and Evaluation

Assessment Strategies- Programming/Coding Assessment Test for PG Freshmen



Assessment - MCA Freshers, 2017 | Executive Summary | What is our Progress? - Students

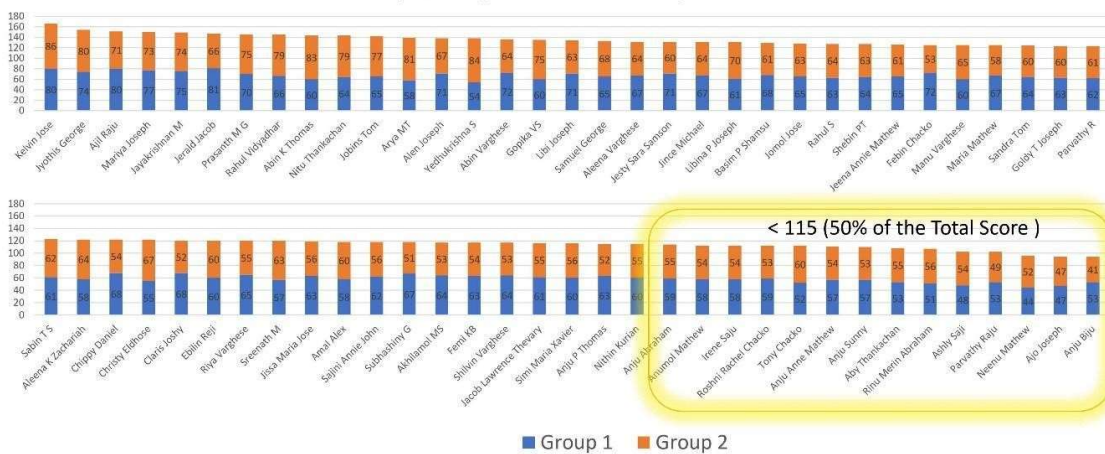


Assessment - MCA Freshers, 2017 | Executive Summary | Where are we? - Students



of Topics – 23 | Groups – 2 | Questions Answered by each student for a topic in a group – 5
of Data points for each student in Group 1 – 23 * 5 = 115 | Group 2 – 23 * 5 = 115 | Group 1 & 2 Combined = 115 * 2 = 330

Group 1, Group 2 Scores Combined | Students





Criterion II - Teaching-Learning and Evaluation

Assessment Strategies- Programming/Coding Assessment Test for PG Freshmen



Assessment - MCA Freshers, 2017 | Executive Summary | Findings – Where are we?



Note – Group 2 questions are marginally difficult than Group 1 questions.
At the same time, students were shared links for self study after Group 1 exam.

Where are we? - Class (Slides 7)

- Class has good basics on Web Technology, Maths and C Programming.
 - Challenge them with more assignments and projects on Web Technology.
- Class need more attention on Advanced Statistical Methods and Digital Systems.
 - Give Extra classes on these topics.
- Class may need more hand holding in Computer Networks, DBMS and System Analysis and Design.
 - Faculty can work closely with students on these topics.

Where are we? – Students (Slide 9)

- Almost all Students scored more than 40 % when total questions from Group 1 and Group 2 are considered together.
- 24% of the Students considered in this exercise scored below 50%.
 - So, there are students in the group that need extra help from faculty or peers.
- Students Report has the detailed Analysis of every Student.





Criterion II - Teaching-Learning and Evaluation

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Assessment - MCA Freshers, 2017 | Executive Summary | First Timers
Where are we? – Class | Students



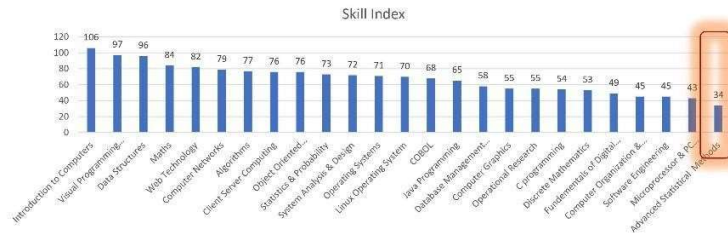
of Topics – 25 | Questions Answered by each student for a topic in a group – 5
of Data points for each student in Group 1 – 25 * 5 = 125

- 3 Students * Scored below 50 needs special help. They have a year gap between BCA & MCA
- Continue with the framework



of Students – 24 | Questions Answered by each student for a topic in a group – 5
of Data points for each topic in Group 1 – 24 * 5 = 120

- Pattern is more or less similar to the earlier assessment.
- Topics taught in current semester have a leftward shift



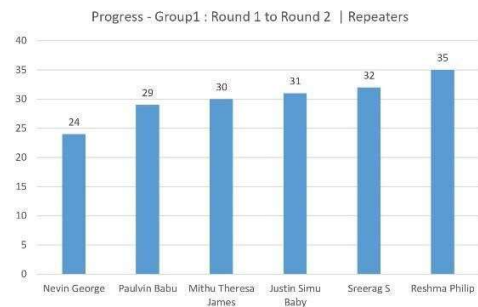
* Ajo Joseph, Achithra M, Leyona Joseph. We suggest that they should prepare using the links shared and re-take Group 1 Exam.



Assessment - MCA Freshers, 2017 | Executive Summary | Repeaters
Where are we? What is our Progress?



of Topics – 25 | Rounds – 2 | Questions Answered by each student for a topic in a group – 5
of Data points for each student in Round 1 – 25 * 5 = 125 | Round 2 – 25 * 5 = 125



- Group 1- Round 2 Scores are Good. All of them scored more than 55%
- Group 1 Round 1 to Group 1 Round 2 Progress is also very Good





Criterion II - Teaching-Learning and Evaluation

Assessment Strategies- Programming/Coding Assessment Test for PG Freshmen

For A Good Start In IT & Education		Assessment - MCA Freshers, 2017 Executive Summary Discussions Students with Progress (Group 2 – Group 1 Score) ≤ -10 Units				MARIAN COLLEGE KUTTIKANAM (AUTONOMOUS) MAKING COMPLETE	
#	Name	Group 1 Score*	Group 2 Score*	Progress	Remarks	Actions Suggested	
1	Febin Chacko	72	53	-19	Did not prepare much. Only saw videos of Data Structures and Statistics. Did not know about the date of exam.	Re-take Group 2 Exam after preparation	
2	Claris Joshy	68	52	-16	Did not prepare for Group 2 like Group 1 Not well during exam.	Re-take Group 2 Exam after preparation	
3	Jerald Jacob	81	66	-15	Was working to identify a Start Up Project. Did not get time to prepare. Seems Confused. Not sure on which stream to pick up. Says Data Science, then Networking and also don't want to become an Entrepreneur.	Jerald is a promising student. Please talk to him and clear his mind ☺	
4	Chippy Daniel	68	54	-14	Did not prepare much. Only saw couple of videos Lady representative of the class. Did not write the exam seriously	Re-take Group 2 Exam after preparation	
5	Akhilamol MS	64	53	-11	Did not prepare for Group 2 like Group 1	Re-take Group 2 Exam after preparation	
6	Anju P Thomas	63	52	-11	Did not prepare for Group 2 like Group 1 Did not know about the date of exam.	Re-take Group 2 Exam after preparation	
7	Jesty Sara Samson	71	60	-11	Did not prepare.		
8	Shilvin Varghese	64	53	-11	Did not prepare for Group 2 like Group 1 Busy with Start Up Project. Implemented in 2 places. Sleeps only for 3 – 4 hrs	Ideally should re-take Group 2 exam. But since he does not have time, at least see the video on DBMS.	
9	Riya Varghese	65	55	-10	First in CA 1 and CA 2. Did not concentrate much on Videos	Since Riya being the topper, suggest to prepare for Group 2 and re-take the exam,	

* Total # of Questions = 110. Scores on COBOL & Visual Programming Techniques are reduced from Group 1 Scores for comparison + Subhashini and Anju Biju figure in this list as well. But not shown, as their details are already given in previous slide

For A Good Start In IT & Education		Assessment - MCA Freshers, 2017 Executive Summary Discussions Students with Group 2 Score < 45%				MARIAN COLLEGE KUTTIKANAM (AUTONOMOUS) MAKING COMPLETE	
#	Name	Group 1 Score*	Group 2 Score *	Progress	Remarks	Actions Suggested	
1	Subhashiny G	58	44	-16	Watched Videos, but jumbled the answers	Request her to re-take Group 2 Exam	
2	Parvathy Raju	46	43	-3	She had 3 rd position in CA1. Did not brush up the topics. We can see an increase in Java and Software Engineering Scores and a dip in Computer Networks and DBMS from Group 1 to Group 2 Exam	Basic knowledge on general topics are required. So, request her to go through the links and re-take Group 1 and Group 2 Exams.	
3	Ajo Joseph	41	41	0	Have a gap of 2 years in Academics. Did not brush up topics. Was working in Networking field. Scored ok for Computer Network.	Basic knowledge on general topics are required. So, request him to go through the links and re-take Group 1 and Group 2 Exams.	
4	Anju Biju	53	41	-12	Did not brush up topics. Basics are not clear	Basic knowledge on general topics are required. So, request her to go through the links and re-take Group 2 Exams.	

* Total # of Questions = 110. Scores on COBOL & Visual Programming Techniques are reduced from Group 1 Scores for comparison





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Assessment - MCA Freshers, 2017 | Executive Summary | Findings - What is our Progress?



What is our Progress? - Class (Slides 8)

- In topics with Group 1 scores less than 150/330
 - Excellent progress in Group 2 scores for Software Engineering, Linux Operating Systems, Microprocessors, Computer Organisation and Design.
 - A deep dip of - 47% in Group 2 score for Advanced Statistical Methods. Attention required.
 - Fundamentals of Digital System has - 6% marginal dip.
- In Topics with Group 1 score was High
 - Deep Dip in Group 2 Score
 - Introduction of Computers
 - Software Analysis and Design
 - Dip is directly related to the nature* of the questions.
 - Encourage General Reading on Computers
 - Ensure Software Analysis and Design principles are followed in Projects

*Please refer the questions, answers and number of correct answers in Appendix.

What is our Progress? - Students (Slides 10)

- Based on the Group 2 results, we suggest to provide help to following Students.
 - Subhashiny G
 - Parvathy Raju
 - Ajo Joseph
 - Anju Biju
- Based on the difference in scores of Group 2 & Group 1 (Progress), we suggest to encourage | motivate following Students
 - Febin Chacko
 - Claris Joshy
 - Subhashiny G
 - Jerald Jacob
 - Chippy Daniel
 - Anju Biju
 - Akhilamol MS
 - Anju P Thomas
 - Jesty Sara Samson
 - Shilvin Varghese
 - Riya Varghese



Assessment - MCA Freshers, 2017 | Executive Summary | Appendix

Unit - 15 | System Analysis & Design | Group 2

Nature of the Questions that brought the Group 2 Scores down

1. New Application is introduced to Production in Deployment phase. Maintenance phase is required in SDLC to
a. Eliminate Errors in Production b. Tune the system against Production c. Train the Users d. None of these

-> 0 Correct Answers

2. System Audit and Period Evaluation happens in _____ Phase.
a. Planning b. Analysis c. Design d. Development e. Testing f. Deployment g. Maintenance

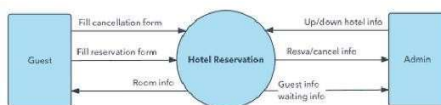
-> 3 Correct Answers

3. Identify Problem and Suggest Alternative Systems happen in _____ Phase. Interviews and Observations are done during this phase

a. Planning b. Analysis c. Design d. Development e. Testing f. Deployment g. Maintenance

4. Flow Chart and / or Data Flow Diagram are created in _____ phase
a. Planning b. Analysis c. Design d. Development e. Testing f. Deployment g. Maintenance

-> 9 Correct Answers



5. This Diagram is an example of

- a. Flow Chart b. Data Flow Diagram c. E-R Diagram
d. None of these





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Assessment - MCA Freshers, 2017 | Executive Summary | Appendix

Unit 1 | Introduction to Computers | Group 2

Nature of the Questions that brought the Group 2 Scores down

1. The _____ key in the keyboard allows you to stop a function or action.
a. F1 **b. esc** c. F8 d. Enter
2. Which of the following are known as personal computers
a. **PC** **b. Mac** c. Mainframe d. Servers
3. Files can be Stored in
a. RAM **b. Hard Disk** **c. ROM** d. All of these
-> **0 Correct Answers**
4. Video Card is responsible for what you _____
a. Hear **b. See** c. Both a & b d. None of these
-> **11 Correct Answers**
5. Any type of hand held computer is called as
a. Laptop b. Mac c. Desktop **d. mobile device**

