EXAMINATION CELL

Evaluation Process and Reforms

(Session 2013-14 onwards)

ARYA INSTITUTE OF ENGINEERING & TECHNOLOGY

(AFFILIATED TO RTU KOTA, APPROVED BY AICTE, NEW DELHI)

SP- 40, KUKAS INDUSTRIAL AREA (RIICO), DELHI ROAD, KUKAS, JAIPUR (RAJ)

Toll Free: - 1800-102-1044

Reforms in Continuous Internal Evaluation (CIE) system at the Institutional Level

Arya Institute of engineering technology follows the modalities of conducting the Continuous Internal Evaluation as prescribed by the Rajasthan Technical University (RTU).

- **Internal Tests (Theory) Evaluation:**
  - In last 5 years, there have been several changes in the mode of evaluation. The department will carry out an internal assessment on all courses based on **Internal Tests** (i.e. unit test, surprise test, assignments, quiz etc) performance of the students.
- **Internal Practical (Laboratory Work) Evaluation:**
  - **Student Laboratory Record Book** contains an evaluation report in which lab teacher award the internal marks in front of the student after every experiment performed and this internal evaluation report has criteria such as preparation marks, performance marks, viva marks, extra work marks, etc.
- **Mid Term Exam Evaluation:**
  - In a semester, two **Midterm Tests** are conducted. Each of tests consists of descriptive or numeric or analytical questions as per University guidelines. The average of the two midterm tests is considered for Final Internal Assessment. Previously the midterm test paper consists of 40 marks but according to a new guideline of University, different courses have different marking scheme according to their credits.
- **Assignment:**
  - **Assignments** of each course are given to the students by the concerned faculty member. After the completion of every unit, assignment questions uploaded on College website (www.aryainstitutejpr.com), by the faculty members teaching theory subjects. Student access the assignments and has to write it and submit within a week and each question is mapped

with CO's. So the students will be able to understand the course outcomes of a particular subject.

For smooth conduction of Internal Examination, the institute has an Examination Cell. Selection of midterm paper and guideline for internal assessment are described by the exam cell. The exam cell collects all internal award list data and store in digital format for recovery/reference purpose.

For effective implementation of the Continuous Internal Evaluation (CIE) system at the institutional level, the institute conduct two unit tests and one pre-university test per course per semester and performance based improvement test. The answer scripts are given back to the students after evaluation for their information, providing sufficient transparency and accountability. Surprise mock tests are organised at the departmental able to ensure on time performance and delivery of the student.

The college give the facility to participate in competitive examinations and higher studies. Industrial visits are arranged for the students and student submits the visit report which is also evaluated for term work marks. For each program viz. UG, PG and professional courses, suitable components are included in their CIE. The participation of performance of the students in sports, NSS and other extracurricular and cultural activities also given weight age. The feedback system is provided to the student for giving feedback on all fronts whether it is CRT program, classroom teaching, Labs or assignments. The institute communicates progress report of their ward to the parents. It organise parent and guardian meet to have a communication once in a year.

Mechanism to Deal with Examination Related Grievances Is Transparent, Time Bound & Efficient

It is very important for every examination system to be transparent, time bound & efficient. Students should have faith in examination system. The process should be fair and if any discrepancy is reported by the student, it should be addressed properly with in a time frame.

For the purpose, a Grievance Redressal Committee consisting of Director, Principal, Registrar, Examination In charge, head of Department and some faculty members is formed in the college. The Director/ Principal is Chairperson of the committee. The committee verifies the grievances & the nature of Grievances.

The work of The Grievance Redressal Committee is to take the following complaints listed below and take the decision to resolve these complain.

- Marks Totalling related complains
- Out of Syllabus complains
- Quality of paper related complains
- Casual/ Careless attitude of checking related complains
- Invigilator behavioural related complains
- Any other complain related to examination deemed fit for consideration.

Student need to apply to the University for Correction in marks and re-evaluation. The process is governed by RTU ordinances. The examination cell of the college guides the students about the process. The process is also explained on RTU portal (www.rtu.ac.in). For errors like mark sheets indicating that the student was absent, the college promptly send the duly certified attendance sheets to assist in locating marks in exam branch and correcting discrepancies.

The internal assessment system of the student is transparent. Internal assessment committee addresses all grievances related to internal assessment marks. The

committee is setup at college level to sort issues related to attendance and internal assessments and all queries are responded by the internal assessment to the committee convenor. The committee promptly deals with mistake/ errors related to attendance, lab records and internal assessment of the students.

An aggrieved student who has the Grievance(s) at the programme level shall make an application first to head of department, after verifying he facts will try to redress the grievance within a responsible time, preferably with a week of the receipt of application of student. If the student is not satisfied with the verdict or the solution of the head of department, then within a week from the date of the receipt of the reply from the head of the department, addressing to the chairperson (Director/ Principal) of the committee and a copy to Registrar.

The chairperson after verifying the facts and the papers concerned and after discussion with the head of the department will place the matter before the committee members which shall either endorse the decision of the head of department or shall pass appropriate order in the best possible manner within a reasonable time, preferably within 10 days of receipt of application.

Mechanism of Internal Assessment is Transparent and Robust in terms of Frequency and variety

The students are well informed during the orientation programme itself regarding the university norms for the award of internal assessment marks as well as the rules and regulations pertaining to the internal assessment tests and university examinations.

Midterm examination dates or procedures are notified on the college notice boards as well as student portal on the college website. Tentative Midterm exam dates are also displayed in college academic calendar or also announced by faculty members in the respective classes at least before the week in advance. After the midterm exam, the solution of the midterm paper will be uploaded on the college web portal. After checking, answer sheets are shown to students and marking pattern is discussed.

The answer sheet of examinations are shown to the students after evaluation to bring out the discrepancies, if any, to the notice of teacher concerned and the teacher make necessary corrections. Once students are satisfied with the marks obtained, teacher award these marks into award list and submit to exam cell. The assignment assessment lists are displayed on the notice board. Transparency and security of evaluation system are ensured. The maximum and minimum marks in internal practical assessments are further reviewed, discussed and debated on regular basis.

The students are made aware of evaluation procedures including revaluation and challenge valuation, examination pattern of college and university, well in advance through circular as well as information printed in the college notice boards.

The subject teachers give at least 5 assignments per subject and each assignment is evaluated, marks are allotted for each assignment. As per University regulations, 50 or 25 marks are awarded for Social Outreach Discipline and Extra Curricular Activities (SODECA). The institute conducts many events under its various committees, the participation in these activities is considered for this.

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Examination cell of the college directly works and synchronization with principal and Director of the institute. To maintain the efficacy and efficiency in the exam process and its evaluation, the college adopts the same exam process as per the University level.

Projects are assigned to a group of students. They evaluate the performance and authenticity in doing project work/ assignment work.

To ensure the same, the following steps are taken:

- Basic eligibility for evaluation process is made known to students through the Rajasthan Technical University website, this enables the student to keep regular updates at University level also through notice boards and class counselling.
- Institute notifies evaluation process and related documentation on the notice board as well as on institute website so student can plan the preparation accordingly; this process includes distribution of the marks and schedule and time table of internal evaluation plus University evaluation system.
- Institute also notifies the criteria for allocation of teamwork marks through notices and class counselling. Continuous assessment report for all the courses is displayed in respective laboratories every month by the lab assistant. This work gets constantly monitored by the head of the respective department.

Mechanism of Internal Assessment is Transparent and Robust in terms of Frequency and variety

The academic calendar is the backbone of various teaching learning plans prepared before the start of every semester. The institution ensures effective time management and timeliness. The academic calendar is prepared and published by the Rajasthan technical University, Kota. It is available on the university website. The college receives the academic calendar from either University portal or email and adheres to it.

Institute will also prepare the academic calendar by own based on the university calendar at the beginning of the academic semester. Academic calendar is also published on the college notice boards. The institute carries out effective planning to stick to the academic calendar. This allows the teacher and the student to space out their teaching learning and regular assessment of the same.

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EXAMINATION CELL

Semester Wise Academic Evaluation Process

S. No.	Particular	Remarks	Action Taken By	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15	2013-14
1.	**Academic Calendar**	Principal/ Director Office will finalise Academic Plan/ Calendar for smooth implementation of semester's activities. It should be in mapping with RTU Academic Calendar.	HODs, Registrar Office Principal, Director	√	√	√	√	√	√	√
2.	**Student Registration**	Every Department is instructed to do Registration of Each student and keep all documents within department (Class Teacher). Also whenever needed, authorities may ask details of student.	All Department HODs	√	√	√	√	√	√	√
3.	**Load Distribution**	All Department HODs have to take choices from faculties for upcoming semester teaching and after discussion with Principal/ Director/ Authorities, Load should be distributed and final sheets have to submit at Principal/ Director Office. If any subject teacher is replaced than it should also be notified.	HODs, Principal, Director	√	√	√	√	√	√	√

EXAMINATION CELL

S. No.	Particular	Remarks	Action Taken By	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15	2013-14
4.	**Time Table**	All departmental HODs will prepare Class & Section Wise Time Table and display to notice boards. Also one copy of that has to submit at Principal Office/ Director Office. In case of any changes, please inform by submitting revised time table.	HODs, Principal, Director	√	√	√	√	√	√	√
5.	**Blown Up & Lecture Plan**	After allocation of subject, faculty have to prepare a tentative Blown Up/ Lecture Plan for 100% syllabus coverage as per prepared academic calendar. HODs have to verify all and submit a file to Principal Office/ Director Office.	HODs, Principal, Director	√	√	√	√	√	Only Lecture Plan	Only Lecture Plan
6.	**Weekly Report**	All Faculty members have to submit their teaching report in prescribed format called weekly report to concerned HOD for entire week teaching. Also Department HODs have to analyse weekly reports for further improvements/ planning and have to prepare & submit a consolidated sheet to Principal/ Director office.	All Faculties & HODs Principal, Director	√	√	√	√	√	√	√

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S. No.	Particular	Remarks	Action Taken By	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15	2013-14
7.	**Teacher's Log Diary & Attendance Registers**	All Teaching Faculty members have to prepare attendance register of their section and continuously monitor and record student's attendance in this. Also every faculty have to maintain Teacher's Log Diary by marking Lecture wise day activities in that. These register & Log diaries will be checked by HODs & Principal/ Director on weekly basis.	All Faculties, HODs Principal, Director	√	√	√	√	√	√	√
8.	**Class Before Class (CBC)**	This is an initiative to improve skills of teaching. In this every faculty member have to prepare their lecture of the day and have to deliver in front of Senior Teacher, HODs, and Principal/ Director. Suggestion can be made by them for better teaching.	Faculties, HODs Principal, Director	√	√	√	√	√	√	-
9.	**Faculty Teaching Evaluation**	HODs, Principal, Director may evaluate Theory & Practical Teaching of Faculty in sudden round by sitting in classes & labs.	HODs Principal, Director	√	√	√	√	√	√	√

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S. No.	Particular	Remarks	Action Taken By	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15	2013-14
10.	**Student's Practical Evaluation**	Every conducted practical have to be evaluated and marked in next lab with conduction of next practical and it should be recorded in student's lab record which has fixed criteria of evaluation. Internal marks of entire semester will be based on marking given in Lab Records. Marking Lists have to be submitted by HODs at the end of semester and keep all lab records in departmental stores for future needs.	Faculties, HODs, Registrar Office, Principal, Director	√	√	√	√	√	√	√
11.	**Student's Theory Evaluation (Assignment)**	Every Faculty member has to prepare Unit wise assignments covering all topics. Questions should be distributed in all segments as per Cos & Pos. HODs are also required to upload those assignments on college website as well as on notice boards. Students can access from any of mentioned medium. Students have to complete assignment in given time and submit to respective faculty for further evaluation. Department has to keep record of marks of assignment.	Faculties, HODs, Registrar Office, Principal, Director	√ (Compulsory)	√ (Compulsory)	√ (Compulsory)	√ (Compulsory)	√	√	√

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S. No.	Particular	Remarks	Action Taken By	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15	2013-14
12.	**Student's Theory Evaluation (Unit Test)**	Every Faculty member has to conduct Unit Tests after completion of unit. Department has to keep record of marks of Unit Test and Subject Teacher and HOD should monitor student's performance & Improvement.	Faculties, HODs	√ (Compulsory)	√ (Compulsory)	√ (Compulsory)	√	√	√	√
13.	**Student's Theory Evaluation (Mid Term Test)**	**Notice of Information of Exam** (To all concerned Departments)	Exam Cell	√	√	√	√	√	√	√
		Time Table of Exam Notice Board/ College Website	Exam Cell	√	√	√	√	√	√	√
		Question Papers (On RTU Pattern) (2/3 Sets from different faculties)	Departments	√	√	√	√	√	√	√
		Mixing & Setting of Question papers (By Selection Committee)	Exam Cell & Selection Committee	√	√	√	√	√	√	√
		Display of Lists Debarred Students who have less than 75% attendance.	Department & Exam Cell	√	√	√	√	√	√	√
		Seating Arrangement On Common Areas/Respective LTs/ College Website	Exam Cell	√	√	√	√	√	√	√
		Finalised Question Paper Printing (Centralised for All Departments)	Exam Cell	√	√	√	√	√	√	√

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		Conduction & Supervision of Exam Including Paper distribution.	Faculties, HODs & Exam Cell	√	√	√	√	√	√	√
		Centralised Mid Term Copy Checking	Faculties & Exam Cell	√	√	√	√	√	√	√
		Mid Term Copy & Performance Display to Student in LTs with Regular Classes	Faculty & Exam Cell	√	√	√	√	√	√	√
		Resolution of any Grievance Raised from Student for Evaluation of Mid Term Exam of any Subject	Faculty & Exam Cell	√	√	√	√	√	√	√
		Award Sheets Preparation	Faculty & Exam Cell	√	√	√	√	√	√	√
14.	**Student's Practical Evaluation (Internal Practical)**	Departments have to conduct internal practical exams twice in a semester. Dates may differ as per department. First Internal Practical will be conducted after completion of 50 % of total practicals. Second Internal Practical will be conducted after completion of 100% lab practicals. Marking record should be submitted to Exam Cell for Finalization of Internal marks.	Department & Exam Cell	√	√	√ **(Only One Internal)**	√ **(Only One Internal)**	√ **(Only One Internal)**	√ **(Only One Internal)**	√ **(Only One Internal)**

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EXAMINATION CELL

S. No.	Particular	Remarks	Action Taken By	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15	2013-14
15.	University Practical Exam	**Notice of Information of Exam** (To all concerned Departments)		√	√	√	√	√	√	√
		Time Table of Exam Notice Board/ College Website		√	√	√	√	√	√	√
		Appointment of Internal Examiners	Department	√	√	√	√	√	√	√
		Appointment of External Examiners	**Exam Cell**	√	√	√	√	√	√	√
		Conduction & Supervision of Exam.	**HOD & Exam Cell**	√	√	√	√	√	√	√
		Answer Book Checking & Award Sheets Preparation	**Respective Faculty & HOD**	√	√	√	√	√	√	√
16.	University Theory Exam	Notice for Exam Form Filling (Main/ Back/ Reback/ Mercy Back/ Improvement/ Revaluation)	Registrar Office	√	√	√	√	√	√	√
		Fees Deposition & Form Filling of Exam (Main/ Back/ Reback/ Mercy Back/ Improvement/ Revaluation)	Department	√	√	√	√	√	√	√
		Form details upload on University portal & deposition of Examination Fees to University	Registrar Office	√	√	√	√	√	√	√
		Download Admit Cards	Exam Cell	√	√	√	√	√	√	√
		Distribution of Admit Cards	Departments	√	√	√	√	√	√	√

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		Seating Arrangement On Common Areas/Respective LTs	Exam Cell	√	√	√	√	√	√	√
		Room Superintendent/ Relievers/ Floor wise Duties Appointment	Exam Cell	√	√	√	√	√	√	√
		Collection of Exam Paper from University Distribution Centre	Registrar	√	√	√	√	√	√	√
		Conduction & Supervision of Exam Including Paper distribution & Attendance Sheet distribution.	Principal & Exam Cell	√	√	√	√	√	√	√
		Any Supporting Work	Exam Cell	√	√	√	√	√	√	√
		Binding of Copies as per guidelines of University	Registrar Office	√	√	√	√	√	√	√
17.	**Finalization of Marks**	Preparation of Sheets for uploading on University Portal (Both Mid Term & Practical)	**Exam Cell**	√	√	√	√	√	√	√
18.	**Information**	Notification of Dates for New Semester Registration & Fee Deposition.	**Registrar Office**	√	√	√	√	√	√	√

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2.5.1 Internal Assessment

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5	Sample Mid Term Papers
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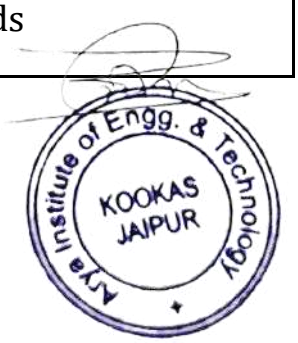
7	Sample Checked Assignments
8	Sample Checked Practical Lab Records



2017-18

GUIDELINES / INSTRUCTIONS TO CANDIDATE
REGARDING MID-TERM EXAMINATION

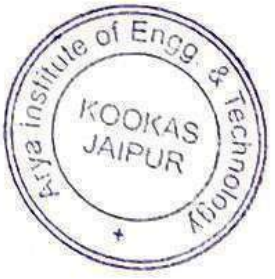
1. PLEASE FILL THE BLOCKS OF ROLL NO. CORRECTLY. WRONG ENTRY WILL LEAD TO RESULT WITH HELD.
2. Supplementary answer-book shall be issued if required. Write on each ruled lines on both sides of the leaf. Please do not waste pages.
3. The rough work carried out on last pages and must be crossed out clearly and this will not be read by the Examiner.
4. Make all due entries on the cover page very carefully only at the space provided for the purpose. Ensure correct and legible entry of your Roll Number at the space provided.
5. DO NOT WRITE ANY SUCH THING SUCH AS MOBILE NUMBER ETC. AT ANY LOCATION OTHER THAN THE SPECIFIED. WHICH MAY DISCLOSE YOUR IDENTITY. Such cases will be treated as case of unfair means.
6. Write question number and its part (if any) clearly in the left margin of answer-book.
7. Leave two line space after completion of answer of each question or part thereof.
8. Bringing cell phone/programmable calculator (i.e. having memory capacity of more than six numbers)/communication devices (cell phone, pager, etc.) in the examination hall is strictly prohibited. Exam conducting authority will not be responsible for the custody of such articles. However, use of scientific calculator is permitted.
9. Students using unfair means are liable to be punished as per provision of RTU Exam Regulation and Prevailing Govt. Act/Rules.
10. No paper is to be brought in the examination hall for scribbling on. Cases of candidates found talking, coping or using any type of Unfair means or outside the examination rooms will be dealt with in accordance with provision of Unfair means.
11. Do not leave the examination hall without handing over your answer book to the Room Superintendent and without permission of Room Superintendent.
12. During the course of examination the candidate shall be under the discipline and control of the Examination In charge/Registrar and shall obey all orders passed by the Examination In charge/Registrar on all matters relating to the examinations.
13. Where candidate changes ink while he/she is answering a paper, he/she should bring this fact to the notice of the Room Superintendent on duty who will record this fact at the appropriate place and affix the facsimile stamp of Principal of the College with BLUE INK only.
14. CANDIDATE SHOULD READ THE QUESTION PAPER AND THE INTRUCTIONS CAREFULLY BEFORE HE/SHE BEGIN TO WRITE HIS/HER ANSWERS.
15. Answer Books are not subjected to production before any internal & external agency under any circumstances.
16. Bringing and use of any type of arms/weapons/liquor/intoxicants etc. In the Examination Hall are strictly prohibited. If found guilty of above, appropriate action shall be taken in accordance with the provision of unfair means.
17. After attempting all questions in the answer sheet, please write "The End" at the last written page.

1. For Internal Assessment (IA) of the theory papers: Two Mid-Term Tests of 20 Marks.
2. Institute can arrange a third Mid-Term Test as per the convenience of the students.
3. Syllabus shall be prepared without units.
4. The question paper shall contain seven (07) questions of 16 marks each. The first question shall cover the entire syllabus and it shall be compulsory, it shall contain eight parts of 2 marks each, and answer to be given in about 25 words. From remaining six questions, student shall attempt any four questions.
5. Passing Rules for B.Tech. (4 Yr. Course)

The result of a candidate will be worked out at the end of each Semester Examination.

For a Pass, candidate must obtain marks for each theory.

(A)	Theory Paper	Passing%	(B)	Practical/Sessionals	Passing%
(i)	Internal Assessment	Nil	(i)	Sessional (60% component)	40%
(ii)	End Semester (B.Tech.) University Exam	35%	(ii)	Practical (40% component) University Exam	40%
(iii)	Total of (i) & (ii)	40%	(iii)	Total of (i) & (ii)	50%



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Ref. No. Exam /2018-19/23 **Dated: 09/09/2018**

CIRCULAR

GUIDELINES FOR MID-TERM QUESTION PAPER

1. Faculties should prepare their respective subject paper in proper format in equal proportion & uniformly distributed. Paper should contain numerical & theory question as well (if applicable) and submit to respective HOD on or before date given in notice.
2. HODs should ensure quality of papers, format and submit to exam cell on or before scheduled date.
3. Exam cell should identify the papers received from all colleges, cross examine them & prepare a file for finalization of papers and submit to the selection committee.
4. Selection committee should ensure that all **three sets of question papers of each subject** will be emailed on time.
5. Selection committee will finalize the subject question papers and submit to exam cell again for printing.
6. **Selection committee will also ensure Moderation/Finalization of the exam paper as per CO-PO of the concerned subject.**
7. Exam cell should ensure proper printing of question papers & keep safe until paper has been conducted.
8. It is also ensure by all the faculties, HODs, selection committee & examination cell to keep all the material in safe custody, confidential & secured.

DIRECTOR

Arya Institute of Engg. & Technology KOOKAS JAIPUR

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OFFICE ORDER

Mid Term Paper Selection & Moderation Committee

1. Dr. Surendra Sharma, Director
2. Dr. Yogesh Bhomia, Principal
3. Mr. Kshitiz Agarwal, COE
4. Respective HOD/ Senior Faculty

a. EE

Mr. Deepak Sharma

Mr. Pushpendra Foujdar

b. CSE/ IT

Mr. Pawan Sen

Mr. Sayar Singh Shekhawat

Mr. Manish Choubisa

Ms. Neha Jian

c. ME

Mr. Sandeep Jhamb

Mr. Yash Agarwal

d. ECE

Mr. Dhiraj Shrivastava

Mr. Devendra Soni

e. 1st Year & Humanities

Dr. Indu Gupta

Ms. Vinita Jain

Mr. Prahlad Holiwala

Mr. Rahul Saxena

f. MBA

Dr. Anupama Pandey

Ms. Ankita Jain

DIRECTOR

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• Ph. : 0141- 5148801, 5148802, 5148803 • FAX : 01426-510040

Ref. No.: Exam /2019/26.02/07 Dated: 26/02/2019

NOTICE

QUESTION PAPERS (II- MID TERM EXAMS)

All the faculty members who are taking classes of VI & VIII Semesters are hereby informed that they should submit question paper in soft copy for **II Mid Term Examination Session 2018-19 (from 60% Syllabus/III, IV & V)**. The question papers should **have 4 questions** (With internal choices) **for 2 hours duration of 40 Marks.** Faculties also have to mention their name on top of paper who is preparing that respective paper.

The questions must be uniformly distributed over the covered syllabus and must be on RTU pattern. The question papers should be submitted latest by 28th February, 2019 to the respective HODs.

All HOD's are requested to check the faculty name on question papers & it's quality and forward in soft copy to the Examination Cell on email id **aryaexam18@gmail.com** by 02nd March, 2019 in prescribed format.

DIRECTOR

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Exam /2020/20.02/06 20-02-2020

TIME TABLE

I MID TERM EXAMINATION 2019-20

MBA II Year IV Semester

Day/Date	Shift	Subject Code	II Sem.
02.03.2020 (Monday)	I	Core Paper	M- 401_ BECG (Common to All)
03.03.2020 (Tuesday)	I	Core Paper	M- 402_ PM (Common to All)
04.03.2020 (Wednesday)	I	Core Paper	M- 403_ BL (Common to All)
05.03.2020 (Thursday)	I	MJ- 1 Paper- 1	M- 411_ B&I (FIN) M- 430_ EL (HR) M- 451_ EB (IT)
	II	MJ- 1 Paper- 2	M- 412_ TCRM (FIN) M- 431_ PMRS (HR) M- 452_ SCL (IT)
06.03.2020 (Friday)	I	MJ- 2 Paper- 1	M- 420_ CBMR (MKT)
	II	MJ- 2 Paper- 2	M- 421_ MOS (MKT)

Shift Timings :- I - 9:30 -11:30 AM.
II- 1:00 - 3:00 PM.

19/02/20

PRINCIPAL

ARYA Institute of Engg. & Technology

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• S.P.- 40, Kukas Industrial Area (RIICO) Jaipur - 302028 • Website : www.aryainstitutejpr.com

• Ph.: 0141-5148801, 5148802, 5148803 • Fax : 01426-510040 • Toll Free No. : 1800-102-1044

Exam /2019/22.11/02

22-11-2019

TIME TABLE (Revised)

II MID TERM EXAMINATION 2019-20

B. Tech II Year III Semester

Day/Date	Shift	CE	CS	IT	ECE	EE	ME
Friday 29-Nov.-2019	I	3CE2-01 AEM-I	3CS2-01 AEM	3IT2-01 AEM	3EC2-01 AEM-I	3EE2-01 AM	3ME2-01 AEM-I
Saturday 30-Nov.-2019	I	3CE4-06 FM	3CS4-07 SE	3IT4-07 SE	3EC4-07 ED	3EE4-07 EM-I	3ME4-07 MOS
Monday 02-Dec.-2019	I	3CE3-04 EM	3CS3-04 DE	3IT3-04 DE	3EC4-04 DSD	3EE4-05 ECA	3ME3-04 EM
	II	3CE1-02 TC (ACERC) ---------- 3CE1-03 MEFA (AIETM)	3CS1-03 MEFA	3IT1-03 MEFA	3EC1-02 TC	3EE1-02 TC (AIET/ ACERC) ---------- 3EE1-03 MEFA (AIETM)	3ME1-02 TC (AIET) ---------- 3ME1-03 MEFA (AIETM)
Tuesday 03-Dec.-2019	I	3CE4-05 SURVEYING	3CS4-05 DSA	3IT4-05 DSA	3EC4-05 S&S	3EE3-04 PGP	3ME4-05 ET
	II	3CE4-08 EG	---	---	---	3EE4-06 AE	---
Wednesday 04-Dec.-2019	I	3CE4-07 BMC	3CS4-06 OOP	3IT4-06 OOP	3EC4-06 NT	3EE4-08 EMF	3ME4-06 MSE

Shift Timings :- I - 9:30 -11:30 AM.
II - 01:00 -3:00 PM.

REGISTRAR 22/11/19

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Exam /2019/03.10/02 03-10-2019

TIME TABLE

I MID TERM EXAMINATION 2019-20

B. Tech I Year I Semester

Day/Date	Shift	Subject As Per Branch (CSE/IT/ME/EE/ECE/CE)	
Friday 11-Oct.-2019	I	1FY1-04 Communication Skills	1FY1-05 Human Values
Saturday 12-Oct.-2019	I	1FY2-02 Engineering Physics	1FY2-03 Engineering Chemistry
Monday 14-Oct.-2019	I	1FY2-01 Engineering Mathematics-I	
Tuesday 15-Oct.-2019	I	1FY3-06 Programming for Problem Solving	1FY3-07 Basic Mechanical Engineering
Wednesday 16-Oct.-2019	I	1FY3-08 Basic Electrical Engineering	1FY3-09 Basic Civil Engineering

Shift Timings :- I - 9:30 -11:30 AM.

REGISTRAR

PRINCIPAL

09-12-2019

ARYA INSITITUTE OF ENGINEERING & TECHNOLOGY, JAIPUR

TIME TABLE- RTU EXTERNAL PRACTICAL EXAMINATIONS - I B.Tech. (I Semester) ALL Branches 2018-19

Day/Date	Shift	Engg Physics Lab (1FY2-20)	Human Values Activities (1FY1-23)	CP Lab (1FY3-24)	BEE Lab (1FY3-26)	CAE Graphics (1FY3-28)		Engg Chemistry Lab (1FY2-21)	Language Lab (1FY1-22)	MP Workshop (1FY3-25)	BCE Lab (1FY3-27)
06.01.2020 (Monday)	I	A1	B1	C1	D1	E1	F1	***	***	***	***
	II	A2	B2	C2	D2	E2	F2	***	***	***	***
07.01.2020 (Tuesday)	I	***	A1	B1	C1	D1	***	E1	F1	***	***
	II	***	A2	B2	C2	D2	***	E2	F2	***	***
08.01.2020 (Wednesday)	I	D1	***	A1	B1	C1	***	***	E1	F1	***
	II	D2	***	A2	B2	C2	***	***	E2	F2	***
09.01.2020 (Thursday)	I	C1	D1	***	A1	B1	***	***	***	E1	F1
	II	C2	D2	***	A2	B2	***	***	***	E2	F2
10.01.2020 (Friday)	I	B1	C1	D1	***	A1	***	F1	***	***	E1
	II	B2	C2	D2	***	A2	***	F2	***	***	E2

NOTE: 1. Shifts Timings :- I - 9:30 am - 12:00 noon. and II - 1:00 - 3:30 pm.
2. Lab Batches will be as per RTU Roll Nos.

REGISTRAR

PRINCIPAL 12/12/19

ARYA INSITITUT OF ENGINEERING & TECHNOLOGY, JAIPUR

TIME TABLE- RTU EXTERNAL PRACTICAL EXAMINATIONS - II B.Tech. (III Semester) 2019-20

Day/Date	Shift	EE	ECE	ME	CS-A	CS-B	CS/IT- C
06.01.2020 Monday	I	3EE4-21 AE LAB (A1)	3EC4-23 SP LAB (A1)	3ME4-21 MDP LAB (A1)	3CS4-21 DSA LAB (A1)	3CS4-22 OOP LAB (B1)	3CS4-24 DE LAB (C1)
	II	3EE4-21 AE LAB (A2)	3EC4-23 SP LAB (A2)	3ME4-21 MDP LAB (A2)	3CS4-21 DSA LAB (A2)	3CS4-22 OOP LAB (B2)	3IT4-24 DE LAB (C2)
07.01.2020 Tuesday	I	3EE4-22 EM-I LAB (A1)	3EC4-22 DSD LAB (A1)	3ME4-22 MT LAB (A1)	3CS4-22 OOP LAB (A1)	3CS4-23 SE LAB (B1)	3CS4-21 DSA LAB (C1)
	II	3EE4-22 EM-I LAB (A2)	3EC4-22 DSD LAB (A2)	3ME4-22 MT LAB (A2)	3CS4-22 OOP LAB (A2)	3CS4-23 SE LAB (B2)	3IT4-21 DSA LAB (C2)
08.01.2020 Wednesday	I	3EE4-23 ECD LAB (A1)	3EC4-21 ED LAB (A1)	3ME4-23 BME LAB (A1)	3CS4-23 SE LAB (A1)	3CS4-24 DE LAB (B1)	3CS7-30 Industrial Training (C1)
	II	3EE4-23 ECD LAB (A2)	3EC4-21 ED LAB (A2)	3ME4-23 BME LAB (A2)	3CS4-23 SE LAB (A2)	3CS4-24 DE LAB (B2)	3IT7-30 Industrial Training (C2)
09.01.2020 Thursday	I	3EE7-30 Industrial Training (A1)	3EC4-24 CP-I LAB (A1)	3ME4-24 MATLAB (A1)	3CS4-24 DE LAB (A1)	3CS7-30 Industrial Training (B1)	3CS4-22 OOP LAB (C1)
	II	3EE7-30 Industrial Training (A2)	3EC4-24 CP-I LAB (A2)	3ME4-24 MATLAB (A2)	3CS4-24 DE LAB (A2)	3CS7-30 Industrial Training (B2)	3IT4-22 OOP LAB (C2)
10.01.2020 Friday	I	***	3EC7-30 Industrial Training (A1)	3ME7-30 Industrial Training (A1)	3CS7-30 Industrial Training (A1)	3CS4-21 DSA LAB (B1)	3CS4-23 SE LAB (C1)
	II	***	3EC7-30 Industrial Training (A2)	3ME7-30 Industrial Training (A2)	3CS7-30 Industrial Training (A2)	3CS4-21 DSA LAB (B2)	3IT4-23 SE LAB (C2)

NOTE: 1. Shifts Timings :- I - 9:30 am - 12:00 noon. and II - 1:00 - 3:30 pm.
2. Lab Batches will be as per RTU Roll Nos.

REGISTRAR

12/12/19
PRINCIPAL

RTU ROLL NO. .....

ARYA INSTITUTE OF ENGINEERING & TECHNOLOGY

I MID TERM EXAMINATION 2019-20 (I Sem.)

1FY2-01_Engineering Mathematics- I

BRANCH: Common to All

Max Marks:- 80 **Time:- 2 hrs.**

PART A (Attempt All)

Q.1

(a) Find the equation of tangent plane and normal line to the surface $f(x,y,z) = x^2 + y^2 + z^2 - 9 = 0$ *at the point* $p(1,2,4)$

(b) Find the value of a, *if* $\vec{F} = (2x - 5y)\hat{\imath} + (x + ay)\hat{\jmath} + (3x - z)\hat{k}$ *is Solinoidal.*

(c) Explain convergence properties of Fourier Series.

(d) Write the necessary & sufficient condition for maxima & minima a function of two variables.

(e) Evaluate the following limit $\lim_{\substack{x\to 2\\ y\to 3}} \frac{x^2+y^3}{2x^2y}$

5*4

PART B (Attempt any Four)

Q.2

(a) If $u = f\left(\frac{x}{y}, \frac{y}{z}, \frac{z}{x}\right)$; *showthat* $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} + z\frac{\partial u}{\partial z} = 0$

(b) Find the Fourier Half range cosine series of function f(x) = x , $0 \le x \le 2$

(c) Discuss maxima or minima of the function $x^2y^2 - 5x^2 - 8xy - 5y^2$

(d) If $f(x,y) = \begin{cases} \frac{x^3-y^3}{x^2+y^2}; & when\ x \neq 0, y \neq 0 \\ 0\ ; & when\ x = y = 0 \end{cases}$ then discuss the continuity of $f(x,y)$at the origin.

(e) Show that $\nabla^2 f(r) = f''(r) + \frac{2}{r}f'(r)$

(f) If $u = tan^{-1}\left[\frac{x^3+y^3}{x+y}\right]$ then show that

(i) $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} = sin2u$ (ii)$x^2\frac{\partial^2 u}{\partial x^2} + 2xy\frac{\partial^2 u}{\partial x \partial y} + y^2\frac{\partial^2 u}{\partial y^2} = sin2u(1 - 4sin^2 u)$

4*8

PART C (Attempt any Two)

Q.3

(a) Prove that$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = \frac{\partial^2 u}{\partial \xi^2} + \frac{\partial^2 u}{\partial \eta^2}$

where $x = \xi cos\alpha - \eta sin\alpha$, *and* $y = \xi sin\alpha + \eta cos\alpha$

(b) Find the Fourier series of $f(x) = x + x^2, -\pi < x < \pi$, show that $\frac{\pi^2}{6} = 1 + \frac{1}{2^2} + \frac{1}{3^2} + \cdots$

(c) A rectangular box open at the top is to have fixed volume 32 cubic meter. Find the dimensions of the box requiring least material for its construction.

2*14

RTU Roll No. .....

ARYA INSTITUTE OF ENGINEERING & TECHNOLOGY

I MID TERM EXAMINATION (III SEM) 2019-20

3CS4-06/3IT4-06: OBJECT ORIENTED PROGRAMMING

(BRANCH: CS/IT)

Max. Time: 2 hrs. **Max. Marks: 60**

NOTE:- **Part A: compulsory for all.**
Part B: attempt any four question
Part C: attempt any two question

PART A (ATTEMPT ALL) SHORT ANSWER

Q. 1	a)	List out the characteristics of OOP.	**5*3**
	b)	Write a program to explain this pointer.	
	c)	Write a program to pass a student structure to function display with which prints student's data.	
	d)	What is the difference between object based and object oriented programming language?	
	e)	What is an abstract class?	

PART B (ATTEMPT ANY FOUR) ANALYTICAL

Q. 2	a)	What is new and delete operators? Provide a sample program.	**4*6**
	b)	What do you understand by data member and member function in C++? Explain the member function inside the class and outside the class with suitable program code?	
	c)	What is virtual base class and how to create it? Give example and program.	
	d)	What is the Multilevel inheritance? Explain through a suitable program code?	
	e)	What happens to public, private and protected members of class A when class inherits them publically and privately?	
	f)	Explain Dynamic memory allocation. Write a program to find largest value from a variable sized array.	

PART C (ATTEMPT ANY TWO) DESCRPTIVE

Q. 3	a)	What do you mean by programming paradigms? Explain the various types of programming paradigms?	**2*10.5**
	b)	What is inline function? Why do we create inline function? Give restrictions and sample program.	
	c)	Explain constructors, its types, and destructors with example.	

RTU ROLL NO. .....

ARYA INSTITUTE OF ENGINEERING & TECHNOLOGY

I MID TERM EXAMINATION 2019-20 (V Sem.)

5EC 4-03 : Control system

BRANCH: Electronics & Communication Engg.

Max Marks:- 60 **Time:- 2 hrs.**

PART A (Attempt All)

Q.1

(a) Explain closed loop system Transfer Function in case of negative feedback.

(b) Define steady state stability in control system.

(c) Comment on the stability of the system whose characteristics equation is given by: $S^3 + 8S^2 + 14S + 16 = 0$

(d) Calculate the error content for three basic types of input of the following system, whose G(S) & H(S) are given below: $G(S) = \frac{k(S+3.15)}{S(S+1.5)(S+0.5)}$, $H(S) = 1$

4*2.5

PART B (Attempt any Four)

Q.2

(a) Explain the working of LVDT.

(b) A closed loop control system has an open loop transfer function of $G(S)H(S) = \frac{ke^{-s}}{S(S^2+2S+1)}$; Determine the maximum value of 'k' for the system to be stable.

(c) Show the effect on stability by the addition of zeros in the closed loop system.

(d) Show that for the peak time of the first order system to unit step input is given by: $t_p = \frac{n\pi}{\omega_n\sqrt{1-\delta^2}}$

(e) Explain Pneumatic Values and Pneumatic Actuators.

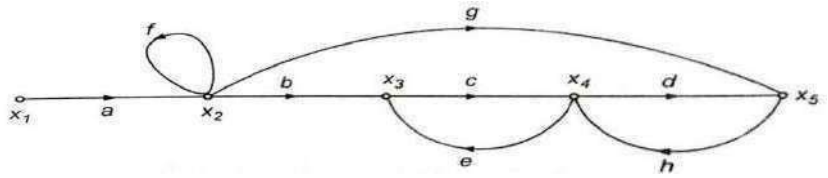
(f) Explain the effect of sensitivity on transfer function in case of:
(i) Open Loop T.F. (ii) Closed Loop T.F.

4*5

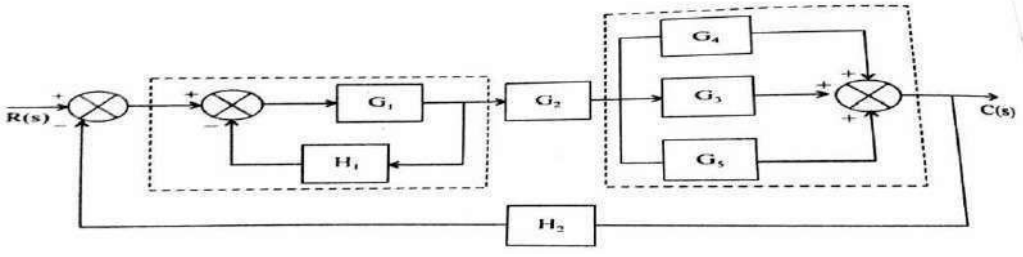
PART C (Attempt any Two)

Q.3

(a) (i) Determine the overall gain relating to the x_5 and x_1.



(ii) Determine the transfer function **C(s)/R(s)** of the following block diagram:



2*15

(b) Consider a unity feedback control system with the following forward transfer function as: G(s) = K / s (s+2)(s+3)
(i) Plot the root loci of the system (ii) Sketch the polar plot for the following function $G(s) = \frac{1}{(1+S)(1+2S)}$

(c) Sketch the bode plot for the open loop transfer function for the unity feedback system given as $G(s) = \frac{200(s+2)}{s(S^2+10S+100)}$

RTU Roll No. .....

ARYA INSTITUTE OF ENGINEERING & TECHNOLOGY

FIRST MIDTERM EXAMINATION (VIII SEM) 2019-20

8EE1A: EHV AC/DC TRANSMISSION

(BRANCH: EE)

Max. Time: 2 hrs. **Max. Marks: 40**

NOTE:- Attempt all questions.

UNIT I

Q. 1

(a)	Explain the need for bundled conductors in EHV AC lines.	**(5)**
(b)	Explain the electrostatic field of EHV lines and their effects.	**(5)**

OR

(a)	Explain the corona loss? Also, explain the factors which are affected the corona loss? Derive the mathematical formula of the corona loss?	**(5)**
(b)	Explain surge impedance loading.	**(5)**

UNIT II

Q. 2

(a)	Explain with a schematic diagram of a Turbine speed governing system.	**(5)**
(b)	Write a short note of automatic generation control with its block diagram?	**(5)**

OR

(a)	Explain line load bias control with the diagram.	**(5)**
(b)	Explain the control of active and reactive power flow.	**(5)**

UNIT III

Q. 3

(a)	Write a short note on the synchronous phase Modifier?	**(5)**
(b)	What do you mean by shunt compensation? How it is different from series compensation	**(5)**

OR

(a)	What is the necessity of a tap changing transformer? Describe its function in the power system.	**(5)**
(b)	What do you mean by Compensation in the transmission line? Why we need this?	**(5)**

UNIT I/II/III

Q. 4

(a)	A 3phase 220kv transmission line configured in equilateral triangle spacing with each side of 2m, the diameter of the conductor is 2cm the ambient temp is 30degree C, irregularity factor is 0.98. Find corona power loss?	**(5)**
(b)	Explain load sharing between parallel operating generators.	**(5)**

OR

(a)	Explain the voltage collapse problem in brief.	**(5)**
(b)	Write a short note on TCR and FC-TCR?	**(5)**

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ARYA INSTITUTE OF ENGINEERING & TECHNOLOGY

I MID TERM EXAMINATION 2019-20 (VIII Sem.)

8ME1A_Computer Integrated Manufacturing Systems

BRANCH: ME

Max Marks:- 40 **Time:- 2 hrs.**

UNIT- 1

Q.1	(a)	What do you understand by 'plant layout'? Explain the various types of plants layout with their advantages and limitations.	**(5)**
	(b)	Explain the principle of operation of closed loop CNC machine with figure.	**(5)**

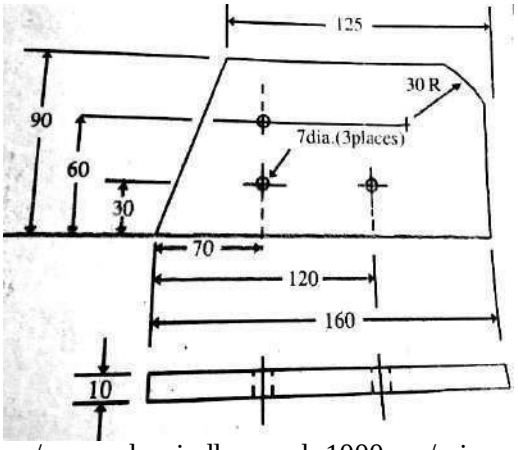
OR

	(a)	Explain various basic components of NC machine.	**(5)**
	(b)	What is NC system? Also discuss the different methods of listing the coordinate of points in NC system.	**(5)**

UNIT- 2

Q.2	(a)	What do you know adaptive control system? Discuss its types and advantages.	**(5)**
	(b)	Compare among NC, CNC and DNC System.	**(5)**

OR

	(a)	Write NC part program in word address format for drilling the three holes in sample part shown in figure.  Take feed rate=0.05mm/rev. and spindle speed=1000rev./min.	**(5)**
	(b)	Define DNC. Describe various types of DNC. Write about the function performed by central computer.	**(5)**

UNIT- 3

Q.3	(a)	Distinguish between a variant process planning system and a generative process planning system?	**(5)**
	(b)	Briefly describe the "Knowledge based Process Planning".	**(5)**

OR

	(a)	Explain The Machinability Data system?	**(5)**
	(b)	Define Group Technology? Write down the role of group technology in CAM Integration.	**(5)**

UNIT- 1/2/3

Q.4	(a)	Describe in brief the structure of a CAPP?	**(5)**
	(b)	Write short notes on: Coding Systems, Machining Cells and Part Families.	**(5)**

OR

	(a)	What is the difference between point to point and continuous path control in a motion control system?	**(5)**
	(b)	Explain the various types of statement in APT language.	**(5)**

ARYA INSTITUTE OF ENGINEERING & TECHNOLOGY

MBA II Sem (I Mid-Term, 2020)
Subject: Cost Accounting for Management (M- 202)

Max Time: 2 hrs **Max Marks: 30**

Attempt any 4 Questions from Section-A & Section – B is compulsory & each question carries equal marks.

Section – A

1. Write a note on "Cost Management Tools- A strategic view to cost management."

2. From the following data calculate various material variances:
   (i) Material Cost Variance
   (ii) Material Price Variance
   (iii) Material Usage Variance

Materials	Standard Quantity (units)	Standard Price per unit	Actual Quantity (units)	Actual Price per unit
A	80	8.00	90	7.50
B	70	3.00	80	4.00
	150		**170**	

3. Define Overhead- Allocation, Apportionment and Absorption.

4. The following particulars have been extracted from the books of J.K. Production Co. Ltd., for the year ended 31st March 2018.

	Rs.
Stock of material as on 1st April 2017	47,000
Stock of material as on 31st March 2018	45,000
Material purchased	2,08,000
Factory salaries	9,600
Counting house salaries	14,000
Carriage inwards	8,200
Carriage outwards	5,100
Donation of relief fund	4,300
Sales	4,87,000
Bad debts written off	4,700
Repairs of plant, machinery & tools	8,600
Rent, rates, taxes and insurance(factory)	3,000
Rent, rates, taxes and insurance(office)	1,000
Travelling expenses	3,700
Travelling salaries and commission	7,800
Production wages	1,45,000
Depreciation written off on machinery, plant and tools	9,100
Depreciation written off on office furniture	600
Director's fees	6,000
Gas and water charges (factory)	1,000
Gas and water charges (office)	300
General charges	5,000
Manager's salary	18,000

Out of 48 working hours in a week, the time devoted by the manager to the factory and office was on an average 30 hours and 18 hours respectively throughout the accounting year. Prepare a cost sheet

showing different elements of cost.

5. The sales turnover and profit during two years are as follows:

Year	Sales	Profit
2019	1,40,000	15,000
2020	1,60,000	20,000

You are required to calculate:

i) P/V ratio
ii) Sales required to earn a profit of Rs. 40,000.
iii) Profit when sales are Rs. 1,20,000.

6. What do you mean by 'Break Even Analysis'? What are its uses?

Section – B

1. Krishna Co. is divided into four departments A, B and C are production and D is a service department. The actual expenses for a period are as follows:

	Rs
Rent	10,000
Repairs to plant	6,000
Depreciation of plant	4,500
Lighting expenses	1,000
Supervisory expenses	15,000
Fire insurance premium of stock	5,000
Power	9,000
Employee's liability insurance	1,500

The following information is available in respect of four departments:

Particulars	A	B	C	D
Area – sq. ft.	1,500	1,100	900	500
No. of lights	15	11	9	5
No. of workers	200	150	100	50
Total wages-Rs.	60,000	40,000	30,000	20,000
Value of plant-Rs.	2,40,000	1,80,000	1,20,000	60,000
Value of stock-Rs.	1,50,000	90,000	60,000	-

Or

Explain the standard costing? Discuss the difference between standard costing and budgetary control.

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MID TERM TEST I/II/III

M

Name of Student ..... Simmi Agrawal ..... RTU Roll No. 16EAICS154

Class / Sem/Branch ..... II year III Sem CS ..... Day & Date ..... Saturday, 20/11/19

Subject with code ..... Software Engg 3CS4-07 Invigilator's Signatures .....

Question No.	1 Part A					2 Part B						3 Part C				4		5		Total Marks	Sign. of Examiner
	a	b	c	d	e	a	b	c	d	e	f	a	b	c	d	a	b	a	b		
Marks Obtained	3	-	-	-	-	5½	6	-	-	6	5	10	9½	-	-					45	Dipanshi Agrawal 9/Dec/19
Max. Marks																				60	

→ All the questions are not attempted.

→ Remaining work is good.

Part-B

2. b) Coupling: Coupling is the important term in software engineering. It is the study of interdependability between the modules. It states that how modules are connected with each

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MID TERM TEST I/II/III

M

Name of Student ..... Priyal Gupta ..... RTU Roll No. ...18MAIXX636.....

Class / Sem/Branch ...MBA 4th sem..... Day & Date..Thursday & 05/03/20.....

Subject with code..employment laws (M-430)..... Invigilator's Signatures.....

Question No.	1		2		3		4		5		Total Marks	Sign. of Examiner
	a	b	a	b	a	b	a	b	a	b		
Marks Obtained	5½+½		5½		5½		5½+½		5½		28½ = 29	
Max. Marks	6		6		6		6		6		30	

(Start to write From here)

SECTION-A

Ans-2. **HISTORY OF LABOUR MOVEMENT IN INDIA :-**

According to Encyclopedia in Social Sciences :-

Labour movement is conceived as all of the organisation of wages earners to the better their own of the conditions in either to be immediately or in their less or of the more distant future as labour movement in India

→ **According to G.D.H. Cole :-**

Labour movement of a country, To some degree a community of outlook labour movement in a country emerges from a need to serve as the common interest.

The Indian labour movement is more than 150 years old with its the origin of 1850s and 1870s.

It can be the history labour movement in India.

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MID TERM TEST I/II/III

M

Name of Student ...MANISH...MEGHWAL..... RTU Roll No. ..18EAIMEO27.....

Class / Sem/Branch ..B.Tech./...4th/...M.E..... Day & Date....Friday.....06/03/2020.....

Subject with code..Fluid Mechanics..... Invigilator's Signatures.....

Question No.	1 Part A					2 Part B						3 Part C				4		5		Total Marks	Sign. of Examiner
	a	b	c	d	e	a	b	c	d	e	f	a	b	c	d	a	b	a	b		
Marks Obtained	4	3	0	2	2	2		8	3	7		13	14							63	19/3/20
Max. Marks																				80	

PART C

Q.3

(a) Bernoulli's theorem for steady flow of an incompressible fluid.

→ Bernoulli's theorem states that in pipe a fluid flow with steady flow will resisted by pressure force and weight force

→ Steady flow is a flow in which fluid properties like pressure, density and velocity do not changes with respect to time

We know that

Bernoulli equation :-

$$\frac{P}{\rho g} + \frac{V^2}{2g} + z = C$$

for two states

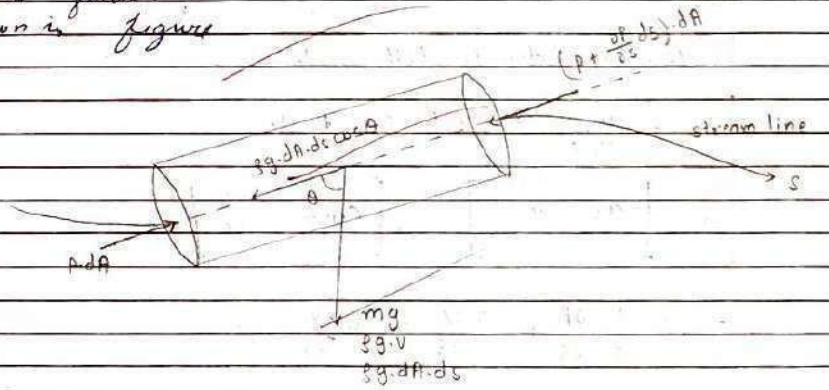
$$\frac{P_1}{\rho g} + \frac{V_1^2}{2g} + z_1 = \frac{P_2}{\rho g} + \frac{V_2^2}{2g} + z_2$$

⇒ Bernoulli's equation from Euler's equation

⇒ Derivation of Euler equation.

→ Consider a fluid element of area dA in which flow of fluid through the stream line s

→ The fluid is face three force
1) pressure force through stream line
2) pressure force at opposite stream line
3) weight force
as shown in figure



ARYA Institute of Engg. & Technology

SP-40, RIICO INDUSTRIAL AREA, DELHI ROAD, KUKAS, JAIPUR

MID TERM TEST I/II/III

(D) (M)

Name of Student .... Daya Kumari Verma ..... RTU Roll No. .. 18EAIEE012 .....

Class / Sem/Branch ..... II year ., IV sem ., E E ..... Day & Date .. 5/03/2020 / Thursday .....

Subject with code. Electrical machine - II / 4EE4-05 .. Invigilator's Signatures .....

Question No.	1 Part A					2 Part B						3 Part C				4		5		Total Marks	Sign. of Examiner
	a	b	c	d	e	a	b	c	d	e	f	a	b	c	d	a	b	a	b		
Marks Obtained	1.5		2		0	5	4		3		6	10		10						41.5	dhy.
Max. Marks	3	(3)	3	(3)	3	6	6	(6)	6	(6)	6	10.5	(10.5)	10.5						60	

28/40

Part - C

a) Torque slip characteristics of an Induction motor :-

Torque in starting of induction motor is -

$$T_{st} \propto \frac{E_2^2 R_2}{R_2^2 + (X_2)^2}$$

torque in running condition of motor:-

$$T_f \propto \frac{S E_2^2 R_2}{R_2^2 + (S X_2)^2}$$

Where at running condition the torque is proportional to the slip when the Emf E_2 and resistance is constant.

In torque slip characteristics for calculate the torque slip characteristics of an induction motor there are two parts by regions i- by which we

1) low slip region
2) high slip region.

1) low slip region:- In this region there is a condition -

$$R_2^2 >>> S^2 \times (S X_2)^2$$

So the -

$$T \propto S$$

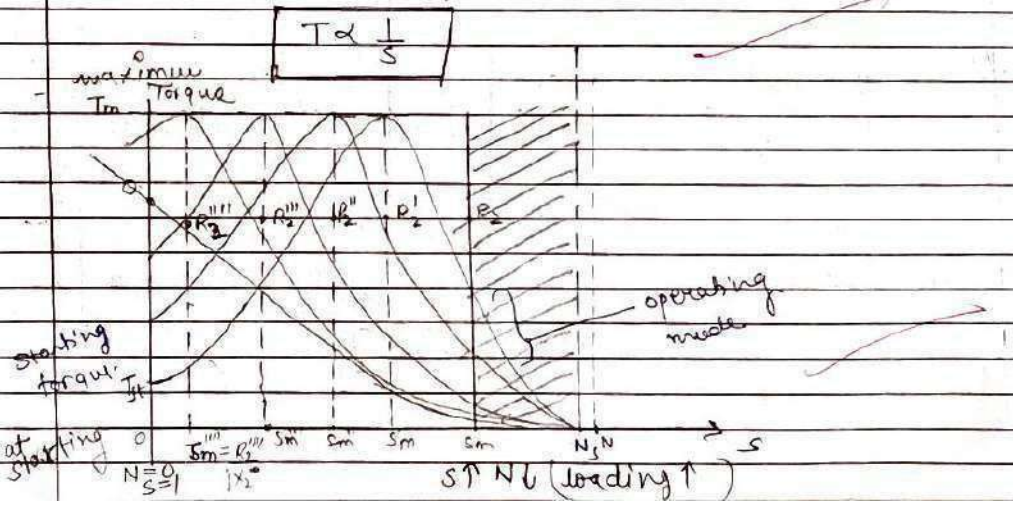
The torque is proportional to the slip when the Emf E_2 is constant.

High slip region:- In this region there is a condition - shown as below -

$$R_2^2 <<< (S X_2)^2$$

So the, Torque is proportional to the slip when the reactance ($S X_2$) is constant.

$$T \propto \frac{1}{S}$$



(D)

ARYA Institute of Engg. & Technology

SP-40, RIICO INDUSTRIAL AREA, DELHI ROAD, KUKAS, JAIPUR

(D) (M)

MID TERM TEST I/II/III

Name of Student Gaurav Kumar Srivastava RTU Roll No. 16EAIECD023

Class / Sem/Branch B.tech / VIIIth Sem / ECE Day & Date Thursday 05/03/2020

Subject with code IC Technology & EC 1A Invigilator's Signatures

Question No.	1 Part A					2 Part B						3 Part C				4		5		Total Marks	Sign. of Examiner
	a	b	c	d	e	a	b	c	d	e	f	a	b	c	d	a	b	a	b		
Marks Obtained	4	4				2	5					3	4			1	—			23	
Max. Marks	5	5				5	5					5	5			5	5			40	

Note → add Remaining Content in the answer sheet with slip & its explanation.

Unit - 1

Q1.

(a) Crystal defect :-

Crystal defect is an imperfection in the regular geometrical arrangement of the atom in a crystalline solid. In this defect the regular structure of the solid is defected by impurities. And impurities change the regular arrangement of atom. This impure material doesn't work as we require.

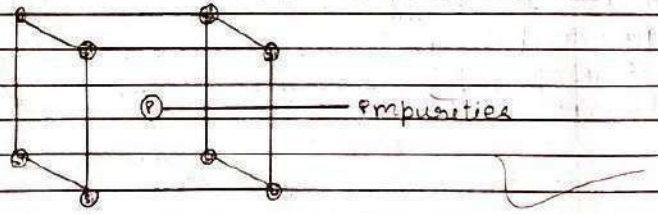


fig :- Impurities introduced in Silicon structure

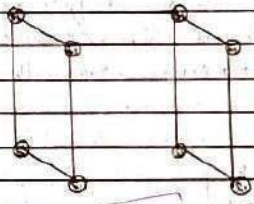


fig :- Si geometric structure

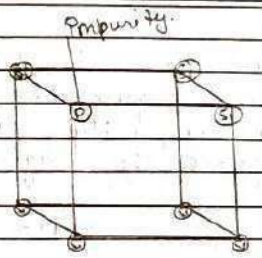


fig :- Impure Si geometric structure

There are three types of crystal defect :-

1. Point defect
2. Line defect
3. Surface defect

1. Point defect :-

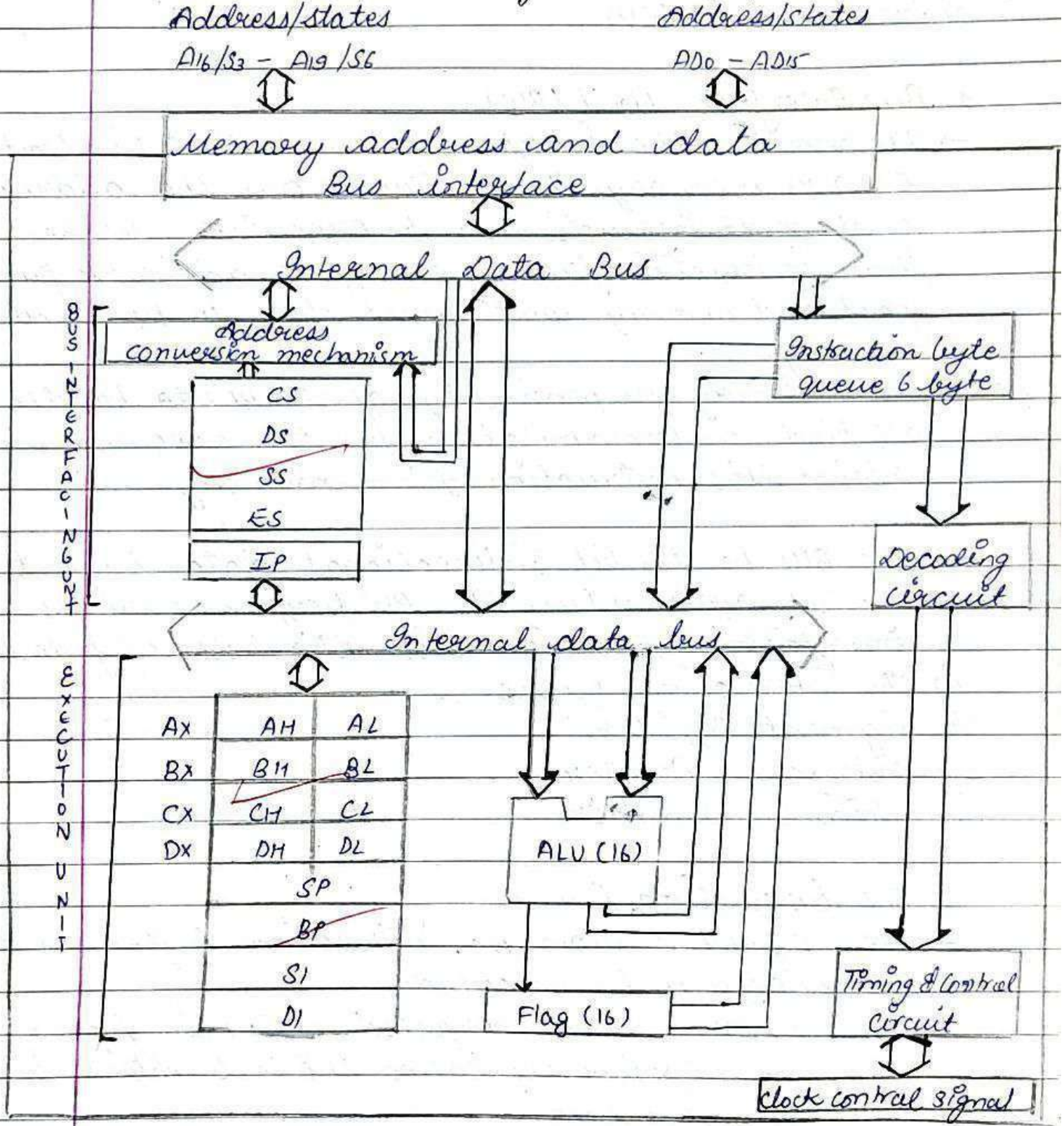
In point defect the impurities are combine at a point only. Rest whole

15-2-20

UNIT-1

ASSIGNMENT-1

Q1 Draw architecture of 8086 microprocessor in detail



The architecture of 8086 microprocessor is divided into two independent functional parts. These two parts are named as follows:

1) Bus Interface Unit (BIU)
2) Execution Unit (EU)

1. Bus Interface Unit (BIU)

→ BIU provides the interface between Execution Unit (EU) and memory. The BIU sends out the address of the next instruction to be executed, fetches that instruction from memory, reads data from port and memory, and write data to port and memory.

→ The primary responsibility of the BIU to handle all kind of communication for the execution, fetches that instruction from memory

The BIU has 16-bit bidirectional data bus and 20-bit address bus. The BIU perform various interfacing operation with the help of following

(i) The Interuction Queue.
(ii) Segment Register.
(iii) Instruction Pointer.
(iv) Address Summer.

(i) The Instruction Queue -

→ The BIU fetches, upto six instruction bytes for the instructions to be executed.

→ The BIU stores these perfected bytes in first-in-first-out register set called the instruction queue.

→ It is six bytes long.

→ The instruction from the queue are taken for decoding sequentially. Once a byte is decoded, the queue is rearranged by pushing it out & the queue status is checked for the possibility of next opcode fetch.

→ fetching the next instruction while the current instruction executes is called pipelining.

(ii) Segment Register -

→ The 8086 microprocessor has 20-bit address bus. So it can address any of 20^{20} (1M) byte memory.

→ There are four segment register which store the address of the respective segment. These segment register are named as:

a) Code segment register
b) Data segment register
c) Stack segment register
d) Extra Segment register

(iii) Instruction pointer -

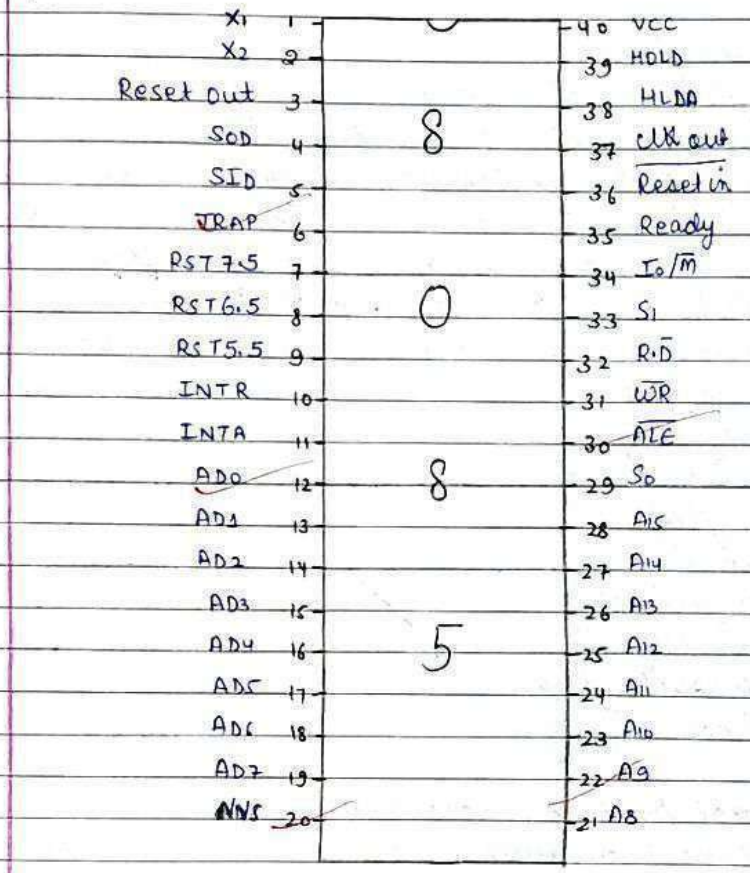
→ The instruction pointer hold the 16 bit address of the next instruction code byte within the code segment. The code segment register points to the base of code segment.

→ The instruction pointer contain the distance or offset from this base address to the next instruction byte to be fetched.

(iv) Address Summer -

→ The BIU of 8086 micro processor has 20 bit address bus. It means the actual bus must contain 20 bit But the bus address of segments (stored in segment register) and offset address (stored in instruction

Q9. Draw the pin diagram 8085 and explain the following
(i) Higher Order address Bus (ii) Control Signal



(i) Higher Order address Bus-

→ Bus is defined as the collection of wires are used to communicated the address, data or other information.

→ The 8085 microprocessor has 16 bit address lines which are denoted by (A0-A15). These address lines are divided as higher order address bus A8-A15 and lower order address bus A0-A7.

→ High order address bus (A8-A15) are unidirectional signal lines.

→ These lines are exclusively used to send the high order address (most significant 8-bits of 16-bits address) to the peripheral or memory.

→ In 8085 microprocessor higher order address bus is available pin 21 to pin 28.

(ii) Control Signals-

Control signals are commonly known as control bus although they are individual signals.
The control signals are as follows.

• Read ($\overline{RD}$):

→ The read control signal is used to control the reading operation of microprocessor.

→ This is an active low signal, meaning that after the $\overline{RD}$ signal goes low, the external device place the data on the data bus and microprocessor reads this data.

→ It is important to note that if the data is not placed on the data bus and $\overline{RD}$ is low, microprocessor will read whatever is available which may be garbage.

• Write ($\overline{WR}$):

→ The write control signal is similar to the read control signal ($\overline{RD}$).

→ It is also an active low signal.

→ The microprocessor places the data on the data bus and makes $\overline{WR}$ signal low.

→ This is the responsibility of external devices that when

Date
9

DATE : / /
PAGE NO. :

ASSIGNMENT : 01
Unit : 01

Q1. A source ~~with~~ ~~units~~ ~~are~~ one of four possible message. m_1, m_2, m_3, m_4 with the possibility 1/2, 1/4, 1/8, 1/8 resp. Calculate Info. content of each message & average content message.

Ans Information contain is-

$$I = \log_2 (1/P_k)$$

So $m_1 = 1/2$

then,

$$I_1 = \log_2 (2) = 1 \text{ bit}$$

$m_2 = 1/4$
$I_2 = 2 \text{ bit}$

$m_3 = 1/8$ $I_3 = 3 \text{ bit}$

$m_4 = 1/8$ $I_4 = 3 \text{ bit}$

Avg. content of message is-

$$H(x) = \sum_{k=1}^{n} P_k \log_2 (1/P_k)$$

$$H(x) = \frac{1}{2} \log_2 2 + \frac{1}{4} \log_2 4 + \frac{1}{8} \log_2 8 + \frac{1}{8} \log_2 8$$

$$H(x) = \frac{1}{2} + \frac{1}{4} \times 2 + \frac{1}{8} \times 3 + \frac{1}{8} \times 3$$

$$= \frac{14}{8} = \frac{7}{4}$$

$$H(x) = 1.75 \text{ bit.}$$

Q2. Explain discrete memoryless channel & its type with example?

Ans A communication channel is a path or medium through which the symbols flow to the receiver. A discrete memoryless channel (DMC) is a statistical model with an input x & output y.

$$\left.\begin{matrix} x_1 \\ x_2 \\ x_i \\ x_j \end{matrix}\right\} x \longrightarrow P(y_i/x_i) - y \left\{\begin{matrix} y_1 \\ y_2 \\ y_i \\ y_j \end{matrix}\right.$$

During each unit of time, the channel accept's i/p symbol from x & in response generates an o/p symbol from y. The channel is discrete when alphabets of x & y are both finite.

It is memoryless when the current o/p depends on only the current i/p & on any of the previous i/p.

Types:-

(i) Lossless Channel:-

$$P(y/x) = \begin{bmatrix} 3/4 & 1/4 & 0 & 0 & 0 \\ 0 & 0 & 1/3 & 2/3 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$

(ii) Deterministic Channel:-

$$P(y/x) = \begin{bmatrix} 1 & 0 & 0 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

(iii) Noiseless Channel:-

$x_1 \longrightarrow y_1$

$x_2 \longrightarrow y_2$

$\vdots$

$x_m \longrightarrow y_m$

(iv) Binary Symmetric Channel:-

$$P(y/x) = \begin{bmatrix} 1-p & p \\ p & 1-p \end{bmatrix}$$

write theory also of different channel.

Q3. A binary channel matrix given by

$$i/p = \begin{matrix} \\ x_1 \\ x_2 \end{matrix} \begin{matrix} \begin{matrix} y_1 & y_2 \end{matrix} \\ \begin{bmatrix} 2/3 & 1/3 \\ 1/10 & 9/10 \end{bmatrix} \end{matrix}$$

This means $P(y/x)(y_1/x_1) = 2$, $P(y/x)(y_2/x_2) = \frac{1}{3}$, $P(x_1) = \frac{1}{3}$ & $P(x_2) = 2/3$. Determine $H(x)$, $H(x/y)$, $H(y)$, $H(y/x)$ & $H(x,y)$

Ans $P(y_1) = P(y_1/x_1) \cdot P(x_1) + P(y_1/x_2) \cdot P(x_2)$

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INDEX & EVALUATION REPORT

Student Name:- Priyal Agarwal Group No.:- - Name of lab with code:- FPGA Lab - 8CS6A

S. No.	Turn No.	Name of Experiment	Page No.	Sched. Date of Expt.	Date of Perf. Expt.	Marks Awarded by Lab Faculty/Incharge									
						Attendance (6)		Preparation (10)	Performance (10)	Record (10)		Viva (10)	Extra work (4)	Total (50)	Teacher's Initial with Date
						+	-			+	-				
1	1	Plotting various signal line.	2-6	28/1	28/1	6		8	8	7		6	3	38	25/2/19
2	2	verification of sampling theorem	7-9	28/1	28/1	6		8	8	7		7	3	39	25/2/19
3	3	Derive impulse response of given s/m	10-11	4/2	4/2	6		8	9	7		6	3	39	25/2/19
4	4	Perform linear convolution of given sequence	12-13	4/2	4/2	6		8	9	7		6	3	39	25/2/19
5	5	N-Point DFT of sequence	15-16	25/2	25/2	6		9	9	8		7	3	42	11/3/19
6	6	Circular convolution	17-18	25/2	25/2	6		9	9	8		7	3	42	11/3/19
7	7	Linear convolution using DFT & IDFT.	19-20	25/2	25/2	6		9	9	8		7	3	42	11/3/19

Cont. .....

ARYA Institute of Engineering & Technology

INDEX & EVALUATION REPORT

Student Name:- Prityal Agarwal Group No.:- - Name of lab with code:- FPGA - 8CS6A

S. No.	Turn No.	Name of Experiment	Page No.	Sched. Date of Expt.	Date of Perf. Expt.	Marks Awarded by Lab Faculty/Incharge									
						Attendance (6) +	Attendance (6) -	Preparation (10)	Performance (10)	Record (10) +	Record (10) -	Viva (10)	Extra work (4)	Total (50)	Teacher's Initial with Date
8	8	Draw sampling/decimation of sum of 2 sinusoids.	21-22	11/3	11/3	6		9	9	8		8	3	43	11/3/19
9	9	To simulate receiver & transmitter for BPSK	23	11/3	11/3	6		9	9	8		7	3	42	11/3/19
10	10	Evaluate second order differential eqn.	24	11/3	11/3	6		9	9	8		8	3	43	11/3/19
11	*	Viva-Voce	25-27	11/3	11/3										
12	*	Viva-Voce	28-30	11/3	11/3										
13															

Max. Marks:- 500 Marks Obtained:- 409 Percentage:- 81.8%

Note:- (1) If a student is absent on any turn, he/she is to be awarded minus 20 marks for that turn.
(2) If a student is present on a turn but not brought his Lab record he/she is to be awarded minus 10 marks.

ARYA Institute of Engineering & Technology

INDEX & EVALUATION REPORT

Student Name:- Lavatishtha Sharma **Group No.:-** — **Name of lab with code:-** EPDA (BCS6A)

S. No.	Turn No.	Name of Experiment	Page No.	Sched. Date of Expt.	Date of Perf. Expt.	Marks Awarded by Lab Faculty/Incharge									
						Attendance (6)		Preparation (10)	Performance (10)	Record (10)		Viva (10)	Extra work (4)	Total (50)	Teacher's Initial with Date
						+	-			+	-				
1		Plotting of various elementary sig like impulse fun, unit step, ramp, quadratic, sinewave, a general sinusoidal func	2-5	28/1 feb	28/1 feb	6		7	8	7		6	3	37	अनि मा 25/2/19
2		Verifying of Sampling theorem	6-8	28/1 feb	28/1 feb	6		7	8	7		6	3	37	
3		Impulse response of given system	9-10	4 feb	4 feb	6		7	8	7		6	3	37	अनि मा 25/2/19
4		linear convolution of 2 given sequence	11-12	4 feb	4 feb	6		8	8	7		6	3	36	अनि मा 25/2/19
5		To find N-point DFT of given sequence	13-14	25 feb	25 feb	6		8	8	9		7	3	41	अनि मा 12/3/19
6		Perform Circular Convolution of two given sequence	15	25 feb	25 feb	6		8	8	9		7	3	41	अनि मा 12/3/19
7		Perform linear convolution of two given sequence	16	25 feb	25 feb	6		8	8	9		7	3	41	अनि मा 12/3/19

Cont. .....

ARYA Institute of Engineering & Technology

INDEX & EVALUATION REPORT

Student Name:- Pratishtha Sharma **Group No.:-** — **Name of lab with code:-** FPGA (BCS 6A)

S. No.	Turn No.	Name of Experiment	Page No.	Sched. Date of Expt.	Date of Perf. Expt.	Marks Awarded by Lab Faculty/Incharge									
						Attendance (6)		Preparation (10)	Performance (10)	Record (10)		Viva (10)	Extra work (4)	Total (50)	Teacher's Initial with Date
						+	-			+	-				
8		Linear Convolution DFT & IDFT	20-21	11/3	11/3	6		8	8	9		6	3	40	12/3/19
9		To simulate BPSK	22-23	11/3	11/3	6		8	9	8		7	3	41	12/3/19
10		Evaluate the 2nd order	24-27	11/3	11/3.	6		8	9	8		7	3	41	12/3/19
11															
12															
13															

Max. Marks:- ..... **Marks Obtained:-** ..... **Percentage:-** .....

Note:- (1) If a student is absent on any turn, he/she is to be awarded minus 20 marks for that turn.
(2) If a student is present on a turn but not brought his Lab record he/she is to be awarded minus 10 marks.
(3) If student comes to lab without preparation of experiment, he/she is to be awarded zero marks under preparation head.

ARYA Institute of Engineering & Technology

INDEX & EVALUATION REPORT

Student Name:- ..... Group No.:- ..... Name of lab with code:- .....

S. No.	Turn No.	Name of Experiment	Page No.	Sched. Date of Expt.	Date of Perf. Expt.	Marks Awarded by Lab Faculty/Incharge									
						Attendance (6)		Preparation (10)	Performance (10)	Record (10)		Viva (10)	Extra work (4)	Total (50)	Teacher's Initial with Date
						+	-			+	-				
1		w.a.p to draw line inc w.a.p. to draw circle	2 to 7	13-8-19	13-8-19		-06	-05	06	04		06	00	03	20/08/19
2		w.a.p. to draw planes	8 to 3	13-8-19	13-8-19	06		07	08	02		06	01	30	4/09/19
3		w.a.p. to implement DDA algorithm	11 to 14	31-8-19	31-8-19	06		07	08	01		05	02	29	20/09/19
4		w.a.p. to implement mid point circle	5 to 19	4-9-19	4-9-19	06		06	07	02		06	02	29	23/09/19
5		w.a.p. to implement mid point Ellipse algo.	20 to 25	7-9-19	7-9-19	06		06	06	06		07	03	34	
6		wap to implement 2-D transformation	26 to 36	21-9-19	21-9-19	06		07	06	06		06	02	33	
7		w.a.p. for cohen cutherland line clipping algorithm	37 to 42	21-9-19	21-9-19	06		06	07	07		06	02	35	23/10/19

Cont. .....

ARYA Institute of Engineering & Technology

INDEX & EVALUATION REPORT

Student Name:- Aditya Kumar Hsodiya Group No.:- C2 Name of lab with code:- CGM 5-IT4-21

S. No.	Turn No.	Name of Experiment	Page No.	Sched. Date of Expt.	Date of Perf. Expt.	Marks Awarded by Lab Faculty/Incharge									
						Attendance (6) +	Attendance (6) -	Preparation (10)	Performance (10)	Record (10) +	Record (10) -	Viva (10)	Extra work (4)	Total (50)	Teacher's Initial with Date
8		W.a.p. to implement 2-D transformation	43 to 47	27-9-19	27-9-19	06		07	06	07		06	03	35	
9		W.a.p. to draw a 3D bargraph using graphics.	48 to 50	27-9-19	27-9-19	06		07	06	06		07	02	34	
10		W.a.p. to implement fractal image in C.	51 to 54	27-9-19	27-9-19	06		06	07	07		06	03	35	23/10/19
11															
12															
13															

Max. Marks:- ..... Marks Obtained:- ..... Percentage:- .....

Note:- (1) If a student is absent on any turn, he/she is to be awarded minus 20 marks for that turn.

Student Support: Model/ Guess Paper & Their Solution available on College Website : Student Corner