

Programme Name/s

Programme Code

Semester

Course Title

Course Code

: Automobile Engineering./ Artificial Intelligence/ Cloud Computing and Big Data/ Computer Engineering/ Civil & Environmental Engineering/ Computer Science & Engineering/ Electronics & Tele-communication Engineering/ Electronics Engineering/ Computer Science & Information Technology/ Manufacturing Technology/ Metallurgical Engineering/ Electronics & Computer Engg.

: AE/ AI/ AN/ AO/ BD/ CE/ CH/ CI/ CP/ EP/ ET/ EX/ HA/ IE/ IF/ IH/ LE/ ME/ MTE/ N/ O/ P/ Q/ R/ S/ T/ U/ V/ W/ X/ Y/ Z/ AA/ AB/ AC/ AD/ AE/ AF/ AG/ AH/ AI/ AJ/ AK/ AL/ AM/ AN/ AO/ AP/ AQ/ AR/ AS/ AT/ AU/ AV/ AW/ AX/ AY/ AZ/ BA/ BB/ BC/ BD/ BE/ BF/ BG/ BH/ BI/ BJ/ BK/ BL/ BM/ BN/ BO/ BP/ BQ/ BR/ BS/ BT/ BU/ BV/ BW/ BX/ BY/ BZ/ CA/ CB/ CC/ CD/ CE/ CF/ CG/ CH/ CI/ CJ/ CK/ CL/ CM/ CN/ CO/ CP/ CQ/ CR/ CS/ CT/ CU/ CV/ CW/ CX/ CY/ CZ/ DA/ DB/ DC/ DD/ DE/ DF/ DG/ DH/ DI/ DJ/ DK/ DL/ DM/ DN/ DO/ DP/ DQ/ DR/ DS/ DT/ DU/ DV/ DW/ DX/ DY/ DZ/ EA/ EB/ EC/ ED/ EE/ EF/ EG/ EH/ EI/ EJ/ EK/ EL/ EM/ EN/ EO/ EP/ EQ/ ER/ ES/ ET/ EU/ EV/ EW/ EX/ EY/ EZ/ FA/ FB/ FC/ FD/ FE/ FF/ FG/ FH/ FI/ FJ/ FK/ FL/ FM/ FN/ FO/ FP/ FQ/ FR/ FS/ FT/ FU/ FV/ FW/ FX/ FY/ FZ/ GA/ GB/ GC/ GD/ GE/ GF/ GG/ GH/ GI/ GJ/ GK/ GL/ GM/ GN/ GO/ GP/ GQ/ GR/ GS/ GT/ GU/ GV/ GW/ GX/ GY/ GZ/ HA/ HB/ HC/ HD/ HE/ HF/ HG/ HH/ HI/ HJ/ HK/ HL/ HM/ HN/ HO/ HP/ HQ/ HR/ HS/ HT/ HU/ HV/ HW/ HX/ HY/ HZ/ IA/ IB/ IC/ ID/ IE/ IF/ IG/ IH/ II/ IJ/ IK/ IL/ IM/ IN/ IO/ IP/ IQ/ IR/ IS/ IT/ IU/ IV/ IW/ IX/ IY/ IZ/ JA/ JB/ JC/ JD/ JE/ JF/ JG/ JH/ JI/ JJ/ JK/ JL/ JM/ JN/ JO/ JP/ JQ/ JR/ JS/ JT/ JU/ JV/ JW/ JX/ JY/ JZ/ KA/ KB/ KC/ KD/ KE/ KF/ KG/ KH/ KI/ KJ/ KK/ KL/ KM/ KN/ KO/ KP/ KQ/ KR/ KS/ KT/ KU/ KV/ KW/ KX/ KY/ KZ/ LA/ LB/ LC/ LD/ LE/ LF/ LG/ LH/ LI/ LJ/ LK/ LL/ LM/ LN/ LO/ LP/ LQ/ LR/ LS/ LT/ LU/ LV/ LW/ LX/ LY/ LZ/ MA/ MB/ MC/ MD/ ME/ MF/ MG/ MH/ MI/ MJ/ MK/ ML/ MM/ MN/ MO/ MP/ MQ/ MR/ MS/ MT/ MU/ MV/ MW/ MX/ MY/ MZ/ NA/ NB/ NC/ ND/ NE/ NF/ NG/ NH/ NI/ NJ/ NK/ NL/ NM/ NO/ NP/ NQ/ NR/ NS/ NT/ NU/ NV/ NW/ NX/ NY/ NZ/ OA/ OB/ OC/ OD/ OE/ OF/ OG/ OH/ OI/ OJ/ OK/ OL/ OM/ ON/ OO/ OP/ OQ/ OR/ OS/ OT/ OU/ OV/ OW/ OX/ OY/ OZ/ PA/ PB/ PC/ PD/ PE/ PF/ PG/ PH/ PI/ PJ/ PK/ PL/ PM/ PN/ PO/ PP/ PQ/ PR/ PS/ PT/ PU/ PV/ PW/ PX/ PY/ PZ/ QA/ QB/ QC/ QD/ QE/ QF/ QG/ QH/ QI/ QJ/ QK/ QL/ QM/ QN/ QO/ QP/ QQ/ QR/ QS/ QT/ QU/ QV/ QW/ QX/ QY/ QZ/ RA/ RB/ RC/ RD/ RE/ RF/ RG/ RH/ RI/ RJ/ RK/ RL/ RM/ RN/ RO/ RP/ RQ/ RR/ RS/ RT/ RU/ RV/ RW/ RX/ RY/ RZ/ SA/ SB/ SC/ SD/ SE/ SF/ SG/ SH/ SI/ SJ/ SK/ SL/ SM/ SN/ SO/ SP/ SQ/ SR/ SS/ ST/ SU/ SV/ SW/ SX/ SY/ SZ/ TA/ TB/ TC/ TD/ TE/ TF/ TG/ TH/ TI/ TJ/ TK/ TL/ TM/ TN/ TO/ TP/ TQ/ TR/ TS/ TT/ TU/ TV/ TW/ TX/ TY/ TZ/ UA/ UB/ UC/ UD/ UE/ UF/ UG/ UH/ UI/ UJ/ UK/ UL/ UM/ UN/ UO/ UP/ UQ/ UR/ US/ UT/ UY/ UZ/ VA/ VB/ VC/ VD/ VE/ VF/ VG/ VH/ VI/ VJ/ VK/ VL/ VM/ VN/ VO/ VP/ VQ/ VR/ VS/ VT/ VU/ VV/ VW/ VX/ VY/ VZ/ WA/ WB/ WC/ WD/ WE/ WF/ WG/ WH/ WI/ WJ/ WK/ WL/ WM/ WN/ WO/ WP/ WQ/ WR/ WS/ WT/ WY/ WZ/ XA/ XB/ XC/ XD/ XE/ XF/ XG/ XH/ XI/ XJ/ XK/ XL/ XM/ XN/ XO/ XP/ XQ/ XR/ XS/ XT/ XU/ XV/ XW/ XX/ XY/ XZ/ YA/ YB/ YC/ YD/ YE/ YF/ YG/ YH/ YI/ YJ/ YK/ YL/ YM/ YN/ YO/ YP/ YQ/ YR/ YS/ YT/ YU/ YV/ YW/ YX/ YY/ YZ/ ZA/ ZB/ ZC/ ZD/ ZE/ ZF/ ZG/ ZH/ ZI/ ZJ/ ZK/ ZL/ ZM/ ZN/ ZO/ ZP/ ZQ/ ZR/ ZS/ ZT/ ZU/ ZV/ ZW/ ZX/ ZY/ ZZ/

: Sixth

: CAPSTONE PROJECT

: 316004

I. RATIONALE

Capstone projects in engineering study are considered important as it allow students to integrate and apply the knowledge and skills acquired throughout their academic programme as an integral part of diploma curriculum. It helps learners to perform and demonstrate skills gained due to early courses of Diploma study independent. Therefore, this is considered

II. INDUSTRY / EMPLOYER EXPECTED OUTCOME

The aim of this course is to help the student to attain the following industry identified competency through various teaching learning experiences:

• Apply professional skills for solving , executing and demonstrating solutions to real-world problems

III. COURSE LEVEL LEARNING OUTCOMES (COS)

Students will be able to achieve & demonstrate the following COs on completion of course based learning

- CO1 - Elaborate the identified field problem from the perspective of project management
- CO2 - Conduct feasibility & viability analysis (using data collection, analysis and interpretation)
- CO3 - Apply the acquired knowledge and skills in providing solutions to real-world problems
- CO4 - Present Project and its output/ findings / achievements alongwith project report

IV. TEACHING-LEARNING & ASSESSMENT SCHEME

Course Code	
316004	CAPSTONE PROJECT

V. General guidelines for PROJECT WORK

- The Project- problems must be related to the programme or may be related to the industry.
- The individual students have different aptitudes and strengths. Project work should be assigned according to their aptitudes and strengths.

- Project titles are to be finalized in co-ordination/consultation with the development. Study type project is NOT advisable.
- Project must be assigned to a group of 3-4 students under the guidance
- Students are required to prepare a prototype/working model/software
- Students shall Submit One Hard copy and one Soft copy each of Project
- Students must maintain a project execution diary having the progress
- Project shall address National Thrust area such as Environment, Digital
- Student shall try to use the national and international standards which

VI. Project facilitation guidelines:

Once the Project statement has been finalized and allotted to the students, the Faculty Mentor role is very important as guide, motivator, catalyser to promote learning and

- 1. Project orientation cum -briefing:** the project should be relevant to the curriculum of the programme. The project
- 2. Information search and data collection:** the information and data should be realistic and relevant to the
- 3. Implementation and Monitoring:** The project must have important steps /milestones to achieve as per the time frame

VII. Criteria of Assessment /Evaluation of Project work

A. Formative Assessment (FA) criteria

The **Formative Assessment** (FA) of the students for 50 marks is to be done based on following criteria.

Appropriate RUBRICS may be used for assessment

Rubrics for Assessment of the team

Sr.No.	
1	Project Selection & Problem definition
2	Literature survey and data collection/ Gathering
3	Design / concept of project/ Working - Execution of Project
4	Stage wise progress as per Action plan/milestone
5	Quality Report Writing

Rubrics for Individual Assessment

Sr.No.	

1	Contribution as a team member
2	Depth of Knowledge
3	Presentation

B. Summative Assessment Criteria

- The summative assessment for 50 marks is to be done and based on following criteria

Sr.No.	
1	Capstone Project Completion as per plan
2	Project related Requirement Analysis & Designing
3	Developing a Solution with proper justifications, Teamwork
4	Project Report Writing
5	Project Presentation

NOTE : Team based and Individual performance based summative assessment may include Innovativeness , Technology used , user friendliness , cost effectiveness

SUGGESTED RUBRIC FOR SUMMATIVE ASSESSMENT OF CAPSTONE PROJECT

PROJECT ASSESSMENT	
Project Title: 	
Project Assessment Rubric	
Performance	
Criteria	
Capstone Project Completion	The project synopsis

<p>Project related Requirement Analysis & Designing</p>	<p>Effectiv design</p>
<p>Â Developing a Solution with proper justifications , Â Teamwork Â</p>	<p>Develo Innova well wi</p>
<p>Â Project Report Writing</p>	<p>Worke report</p>
<p>Project Presentation</p>	<p>Presen</p>
<p>Project Group Members</p>	
<p>ROLL NUMBER/Enrollment Number</p>	<p>Â</p>
<p>NAME</p>	<p>Â</p>
<p>Â</p>	<p>Â</p>
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<p>Â</p>	<p>Â</p>
<p>Comments (if any)</p>	

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NOTE : These are suggestive rubrics. Faculty mentor and external examiner may frame different rubrics as per Programme need and assigned Project work.

C. Self Learning Assessment

Self Learning Assessment Â Â Â Â Â Â Â Â Â Â Â Â Â Â Â Â Â Â Â Â Â Â

Sr.No.	
1	À Project Selection & Problem definition
2	À Literature survey and data collection/ Gathering
3	À Design / concept of project/ Working - Execution of ProjectÀ À
4	À Stage wise progress as per Action plan/milestone/ psychomotor motor
5	À Quality Report Writing

VIII. CO-PO Mapping

À À CO-PO mapping will vary project wise and shall be prepared by concerned faculty for the given project

IX. Typographical instructions/guidelines for Project report writing

Following is the suggestive format for preparing the Project report.À Actual report may differ slightly depending upon the nature of industry. The training report may contain

- a. The PROJECT report shall be computer typed (English- British) and printed on A4 size paper.
- b. Text Font -Times New Roman (TNR), Size-12 point
- c. Subsection heading TNR- 12 point bold normal
- d. Section heading TNR- 12 capital bold
- e. Chapter Name/ Topic Name " TNR- 14 Capital
- f. All text should be justified. (Settings in the Paragraph)
- g. The report must be typed on one side only with double space with a margin 3.5 cm on the left, 2.5 cm on the top, and 1.25 cm on the right and at bottom.
- h. The training report must be hardbound/ Spiralbound À with cover page in black colour. The name of the candidate, diploma (department), year of submission, name of
- i. The training report, the title page [Refer sample sheet (inner cover)] should be given first then the Certificate followed by the acknowledgment and then contents with p

X. Project Report

On completion of the project work, every student will submit a project report which should contain the following:

1. Cover Page (as per annexure 1)
2. Title page (as per annexure 2)
3. Certificate by the GuideÀ (as per annexure 3)
4. Acknowledgment (The candidate may thank all those who helped in the execution of the project.)
5. Abstract (It should be in one page and include the purpose of the study; the methodology used.)
6. Table of Contents (as per general guidelines): Detailed description of the project (This should be split in various chapters/sections with each chapter/section describing
 - Chapter"1 Introduction (background of the Industry or User based Problem/Task)
 - Chapter"2 Literature Survey (to finalize and define the Problem Statement)
 - Chapter"3 Scope of the project
 - Chapter"4 Methodology/Approach,À if anyÀ
 - Chapter-5 Details of designs, working and processes
 - Chapter-6 Results and Applications
7. ConclusionÀ
8. References (The listing of references should be typed 2 spaces below the heading "REFERENCES" in alphabetical order in single spacing left " justified.À It s

NOTE:

1. Project report must contain only a relevant and short mention of technology or platform or tools used. It must be more focussed on project work.

2. Students can add/remove/edit chapter names as per the discussion with their guide

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Formats

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Table of Contents

À	À
À	À Title Page

À	À Certificate of the GuideÀ
À	À Acknowledgement
À	À Index
À	À Abstract
À	À List of Figures
À	À List of Tables (optional)

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Sr.No.	
1.	À Chapterâ€“1 Introduction (background of the Project Problem)
2.	À Chapterâ€“2 Literature Survey (to finalize and define the Problem Statement)À
3.	À Chapterâ€“3 Scope of the project
4	À Chapterâ€“4 Methodology/Approach, if anyÀ À
5	À Chapter-5 Details of designs, working and processes
6.	À Chapter-6 Results and Applications
7.	À REFERENCES

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Note:

À À À À *Students can add/remove/edit chapter names as per the di

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Mr./Ms. À À À À À À À À À À À À À À À À

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Faculty À Name and Signature (Internal)

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Date and TimeÀ