NAME:CHANDA HARINI ID:2403A510E1 BATCH:05

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| **SCHOOLOFCOMPUTERSCIENCEANDARTIFICIAL INTELLIGENCE** | | | | | **DEPARTMENTOFCOMPUTERSCIENCE ENGINEERING** | | | | |
| **ProgramName:**B.Tech | | | | **AssignmentType:Lab** | | | **AcademicYear:**2025-2026 | | |
| **CourseCoordinatorName STUDENT DETAILS:** | | | | VenkataramanaVeeramsetty.  CHANDA HARINI  Batch-05  2403a510E1 | | | | | |
| **Instructor(s)Name** | | | | Dr.V.Venkataramana(Co-Ordinator) | | | |  | |
| Dr.T.SampathKumar | | | |
| Dr.PramodaPatro | | | |
| Dr.BrijKishor Tiwari | | | |
| Dr.J.Ravichander | | | |
| Dr.MohammandAliShaik | | | |
| Dr.AnirodhKumar | | | |
| Mr.S.Naresh Kumar | | | |
| Dr.RAJESHVELPULA | | | |
| Mr.KundhanKumar | | | |
| Ms.Ch.Rajitha | | | |
| Mr.MPrakash | | | |
| Mr.B.Raju | | | |
| Intern1(Dharmateja) | | | |
| Intern2(Sai Prasad) | | | |
| Intern3(Sowmya) | | | |
| NS\_2( Mounika) | | | |
| **CourseCode** | | | 24CS002PC215 | **CourseTitle** | | AIAssistedCoding | | | |
| **Year/Sem** | | | II/I | **Regulation** | | R24 | | | |
| **DateandDay**  **of Assignment** | | | Week1- Monday | **Time(s)** | |  | | | |
| **Duration** | | | 2 Hours | **Applicableto Batches** | | 24CSBTB01To 24CSBTB39 | | | |
| **AssignmentNumber:2.1**(Presentassignmentnumber)/**24**(Totalnumberofassignments) | | | | | | | | | |
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|  | **Q.No.** | **Question** | | | | | | | ***Expected Time***  ***to***  ***complete*** |
|  | 1 | Lab2: ExploringAdditional AICoding Tools– Gemini(Colab) and | | | | | | | Week1- Monday |

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|  | CursorAI  **LabObjectives:**   * ToexploreandevaluatethefunctionalityofGoogleGeminifor AI-assisted coding within Google Colab. * TounderstandanduseCursorAIforcodegeneration, explanation, and refactoring. * TocompareoutputsandusabilitybetweenGemini,GitHub Copilot, and Cursor AI. * ToperformcodeoptimizationanddocumentationusingAI tools.   **LabOutcomes (LOs):**  Aftercompletingthislab,studentswillbeable to:   * GeneratePythoncodeusingGoogleGemini inGoogleColab. * Analyzetheeffectivenessofcodeexplanationsandsuggestions by Gemini. * SetupanduseCursorAI forAI-poweredcoding assistance. * EvaluateandrefactorcodeusingCursorAIfeatures. * CompareAItoolbehaviorandcodequalityacrossdifferent platforms. |  |
|  | TaskDescription#1   * Use Google Gemini in Colab to write a Python function that readsalistofnumbersandcalculatesthemean,minimum,and maximum values.   ExpectedOutput#1   * Functionalcodewithcorrectoutputandscreenshot. |  |

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|  | TaskDescription#2   * Compare Gemini and Copilot outputs for a Python function that checkswhetheranumberisanArmstrongnumber.Documentthe steps, prompts, and outputs.   ExpectedOutput#2   * Side-by-sidecomparisontablewithobservationsand screenshots. |  |

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|  | **Feature** | **GeminiCode** | **CopilotCode** |  |
| **FunctionName** | is\_armstrong\_number(numb er) | is\_armstrong(number) |
| **LogicStyle** | Stringconversion+forloop | Arithmeticwith%andwhileloop |
| **Docstring** | ⬛Detailedwith Args&Returns | .ıMinimalornone |
| **Readability** | High–commentedandwell-structured | Moderate–morecompact,sometimesnocomments |
| **TestCases** | ⬛Shown(153, 123) | ⬛Usuallyincludes153;othersneedprompting |
| **OutputExample** | 153isanArmstrong number.123  isnotanArmstrong number. | Sameoutput |
|  | TaskDescription#3 | | |  |

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|  | * AskGeminitoexplainaPythonfunction(e.g.,is\_prime(n)or is\_palindrome(s)) line by line. * Chooseeitheraprime-checkingorpalindrome-checkingfunction and document the explanation provided by Gemini.   ExpectedOutput#3   * Detailedexplanationwiththecodesnippetand Gemini’s   response. |  |
|  | TaskDescription#4   * Install and configure Cursor AI. Use it to generate a Python function(e.g.,sumofthefirstNnaturalnumbers)andtestits |  |

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|  | output.   * Optionally,compareCursorAI’sgeneratedcode withGemini’s   output.  ExpectedOutput#4   * ScreenshotsofCursorAIsetup,promptsused,andgenerated code with output. |  |
|  | TaskDescription#5   * StudentsneedtowriteaPythonprogramtocalculatethesumof odd numbers and even numbers in a given tuple. * Refactorthe codeto improvelogicand readability.   ExpectedOutput#5 |  |

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|  | * Student-writtenrefactoredcodewithexplanationsandoutput screenshots |  |
|  | **Note:**   * StudentsmustsubmitasingleWorddocument including:   + PromptsusedforAItools |  |

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|  | * Copilot/Gemini/Cursoroutputs * Codeexplanations * Screenshotsofoutputsand environments   **EvaluationCriteria:** | | | |  |
|  | **Criteria** | **MaxMarks** |  |
| SuccessfulUseofGemini in Colab  (Task#1&#2) | 1.0 |
| CodeExplanationAccuracy(Gemini)  (Task#3) | 0.5 |
| CursorAISetup and Usage(Task#4) | 0.5 |
| Refactoringand Improvement  Analysis(Task#5) | 0.5 |
| **Total** | **2.5 Marks** |
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| **Total** | **2.5 Marks** |