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| **IN SEMESTER (INDIVIDUAL) ASSIGNMENT** | |
| **Module Code: COMP 1007.1** | **Module Name: Visual Programming** |
| **Level**: **5** | **Max. Marks: 100** |

**Instructions to Student**

* **Answer *all* questions.**
* **Deadline of submission: 11/01/2022 23:59**
* **The marks received on the assignment will be scaled down to the actual weightage of the assignment which is 35% marks**
* **Formative feedback on the complete assignment draft will be provided if the draft is submitted at least 10 days before the final submission date.**
* **Feedback after final evaluation will be provided along with final results.**

**Module Learning Outcomes**

The following LOs are achieved by the student by completing the assignment successfully

1. Design and develop applications with the support of an integrated development environment
2. Build and deploy database applications using ADO.Net
3. Design reports using Crystal Reports

**Assignment Objective**

This is an individual assignment aimed to give students the experience to use visual programming language, create simple graphical user interfaces (GUI), and develop data connectivity using AD.Net and design crystal reports within an applications environment.

**Assignment Tasks**

**Task 1.** Submit a work proposal for this assignment or before 22/12/2021 (23:59) which must include:

* Understanding of deliverables – a detail description of deliverables.
* General overview of proposed plan - initial understanding of solution to task2.
* Timeline for completion of the given tasks
* References (APA 7th edition referencing style] and it should be MEC r-resources

The work proposal must be submitted in a word file through the link available in Moodle.

**(10 Marks)**

**Task 2.** VB.Net application **(80 Marks)**

You have to design your VB.Net Application appropriately and use different controls (like button, textbox, listbox, combo box, radio buttons, DataGridView, Dataset, Crystal report viewer and panel, etc.,) in your application. Your application should include the ALL requirements stated below.

**Important Note: The information system selected for assignment 1 shall also be applied assignment 2. In case other information system selected, the final marks for this assignment will be awarded as zero.**

**Requirements**

Create and Design a VB.Net application that will include the following:

1. Create and Design a database in MS Access or any other Relational database system that will include the following. : 10 marks

* At least one (1) table with minimum six (6) columns with proper data type with clear explanation.
* Insert at least 15 appropriate records

**Note: You need to briefly elaborate the steps for creating and designing a database in your own words.**

1. Maintenance form : 35 marks

* Appropriate use of components such as labels, buttons, text fields, panel and data grid to present the interface as per the scenario
* You are expected to use your own design layout, style and color scheme
* Trigger events for the different buttons
* ***AddRecord*** –adding elements based on the chosen information system and records must be stored in the database with explanation of methods involved.
* ***DeleteRecord*** –deleting elements based on the chosen information system and records must be deleted in the database with explanation of methods involved.
* ***UpdateRecord*** - Upon opening the form, all fields should not be enabled to do any changes and when updating a record, a form or an input box can be used to make the changes with explanation of methods involved. Records must be updated in the database
* ***View/Display*** –User view/display all the data with explanation of methods involved.
* ***Reset*** - remove all existing contents from the fields with explanation of methods involved.
* ***Close*** -existing the application with explanation of methods involved.
* At least 2 panels with appropriate layout to enhance the interface presentation
* Ensure to connect and access your database in doing the maintenance
* There should be a function/procedure to be called in this form while updating records are being done.

**Note: You need to briefly elaborate common controls used in Maintenance form, keywords, concept, and logic in your own words.**

1. Transaction form : 25 marks

* A form where users can use the records in the database to do some transactions.
* Appropriate use of components such as labels, fields and buttons to represent the interface as per the scenario
* You are expected to use your own design layout, style and color scheme
* Trigger events for the different buttons
* ***Calculate*** –A transaction activity needs to be implemented in this form such as calculations, error messages, (for example of Car Parking System, Total Amount = Number of Days\*2) etc. Make use of message boxes for displaying error messages with regard to your chosen application with explanation of methods involved.
* ***Clear*** – clearing all existing contents from the fields with explanation of methods involved
* ***Exit*** -existing the application with explanation of methods involved.
* At least 2 panels with appropriate layout to enhance the interface presentation
* Ensure to connect and access your database in doing the transaction.
* There should be a function/procedure to be called in this form while updating records are being done.

**Note: You need to briefly elaborate common controls used in transaction screen, keywords, concept, and logic in your own words.**

1. Crystal Report–Create simple report that can be generated from your database through your application with vb.net code or without vb.net code and export any of the reports to MS Word/MS Excel/pdf/Text format. : 10 marks

**Note: You need to briefly elaborate common controls used in crystal report, keywords, concept, and logic in your own words.**

**Task 3. Prepare a report to present the work done from task 2. The report should consist of the following. (10 marks)**

* A cover page to identify your work (Student ID, Student Name, Module Code, Module Name)
* Table of content for your report
* Clear label and introduction of each task followed by the coding, output screen of that task. Include comments wherever possible to enhance the clarity of your coding
* Ensure proper formatting of your report

**Rules & Regulations**:

* All resources should be cited using APA 7th edition referencing style.
* The final assignment must have a Title page, Table of Contents, References/ bibliography using APA 7th edition referencing style and page numbers.
* Title Page must have Assignment Name, Module name, Session, your name, ID, and the name of the faculty.
* Softcopy in word format is to be submitted through Turntin link on Moodle.
* Viva will be conducted after the assignment submission as per the dates informed earlier.

**Guidelines:**

* Assignment must be computer typed.
  + Font - Times New Roman
  + Font – Style - Regular
  + Font - Size - 12
  + Heading should be with Font Size 14, Bold, Capital and Underline.
* Each student has to do the assignment individually
* You can refer books in e-Library or use internet resource. But you should not cut and paste material from internet nor provide photocopied material from books. The assignment answers should be in your own words after understanding the matter from the above resources.
* The screen design with their proper source codes.
* Assignment documentation/report should be typed.
* Handwritten assignments will not be accepted

**Important Policies to be followed**

1. **Student Academic Integrity Policy\*:**

* MEC upholds the spirit of academic integrity in all forms of academic work and any form of violation of academic integrity shall invite severe penalty. Any benefit obtained by indulging in the act of violation of academic integrity shall be cancelled.
* MEC also reserves the right to notify the appropriate law enforcement authorities of any unlawful activity and to cooperate thereafter in any investigation of such activity.
* Faculty can conduct a viva to investigate and ascertain that the work submitted is student’s own work as per the guidelines for the same. **A student can be given a maximum of 2 chances to attend the viva in such cases. It is expected that the student attends the viva during the first chance itself unless due to extenuating circumstances. If the student does not attend the viva in spite of being given 2 chances and fails to submit valid reasons, he/she will be awarded a fail in the module and this shall be counted as a case of academic integrity violation.**

All cases of violation of academic integrity on the part of the student shall fall under any of the below mentioned categories:

* 1. Plagiarism
  2. Malpractice
  3. Ghost Writing
  4. Collusion
  5. Other cases

If the student fails a module and has a proven case of academic integrity violation in this module, the student is required to re-register the module. This is applicable to first and second offence of academic integrity violation of plagiarism type

* 1. **First Offence of Academic Integrity Violation:**
     1. **Plagiarism**
     2. If a student is caught first time in an act of academic integrity violation during his/her course of study in any assignment other than project work and if the type of violation is plagiarism, then the student will be allowed to re-submit the assignment once as per the period allowed for re submission However, a penalty of deduction of 25% of the marks obtained for the resubmitted work will be imposed.
     3. Period of re-submission: The student will have to re-submit the work within one week (5 working days) from the date he or she is advised to re-submit.
     4. Re-submission of the work beyond the allowed period of resubmission will not be accepted and the assessment will be awarded a zero mark.
     5. If the re-submitted work (within the allowed period of resubmission) is also found to be plagiarized, then that assessment component will be awarded a zero mark. It shall also contribute to the total count of academic integrity violation for that student.
     6. If plagiarism is detected in UG Project work (Project 1, Project Planning and Project Design and Implementation), the above clauses do not apply, and the work will be summarily rejected. In these cases the student will be awarded a fail (F) grade and is required to reregister the module.
     7. **Malpractice / Ghostwriting / Collusion**

If a student is caught first time in an act academic integrity violation during his/her course of study for an assessment component irrespective of coursework or end semester and if the type of violation is Malpractice/Ghostwriting/Collusion, then the student shall fail the module.

* 1. **Second Offence of Academic Integrity Violation:**
     1. **Plagiarism**
     2. If any student is caught second time in an act of academic integrity violation during his/her course of study and if the type of violation is plagiarism, then the student will not be allowed to resubmit the work, and s/he will directly be awarded zero for the work in which plagiarism is detected.
     3. The student shall also receive a warning of suspension in such cases.
     4. **Malpractice/Ghostwriting/Collusion**
     5. If a student is caught a second time in an act academic integrity violation for an assessment component irrespective of coursework or end semester and if the type of violation is Malpractice/Ghostwriting/Collusion, then the student shall fail the module.
     6. The student shall also receive a warning of suspension in such cases.
  2. **Third Offence of Academic Integrity Violation:** 
     1. If a student is caught a third time in an act of academic integrity violation for an assessment component irrespective of coursework or end semester then the student shall fail the module and also shall be suspended for one semester from the College, once the academic integrity violation case is confirmed by Institutional Assessment Review Committee.
     2. The student shall be suspended for the immediate subsequent semester and can register for modules only after having served the suspension period fully. This is also applicable for semesters offered in block mode.
     3. During the suspension period, the student shall have to mandatorily complete a course on academic integrity/writing before s/he can register for any modules.
     4. During the period of suspension, the student shall be allowed to attempt supplementary examinations if s/he is eligible for the same. S/he shall also be allowed access to all college facilities permitted for a regular student except for registering the modules.
  3. **Fourth Offence of Academic Integrity Violation:** 
     1. If a student is caught a fourth time in an act of academic integrity violation for an assessment component irrespective of coursework or end semester, the student shall fail the module and also shall be expelled from the College, once the case is confirmed by Institutional Assessment Review Committee.
     2. The student shall be expelled from the college and all access to the college facilities and premises shall cease to exist. The documents shall be released only after getting the NOC (No Objection Certificate) from Registration Office.
     3. `On termination, the student shall not be refunded any fees paid for the academic semester in which academic integrity violation was observed.
  4. **Other cases**

If a student commits an act of academic integrity violation as per the definition of “other cases” mentioned in the previous section or of a different nature, student’s case shall be forwarded to an Institutional Assessment Review Committee, Chaired by the Associate Dean, Academic Affairs. The committee shall investigate the case by means of a viva and/or a hearing of the parties concerned if required and shall take appropriate decision. The penalty that can be granted to a proven case of academic integrity violation which falls in this category of “other cases” can be a warning/component zero/ module fail/suspension/expulsion depending on the nature and gravity of the offence.

* 1. **Types/Variations of cases of Plagiarism and associated actions**

**Type 1:** In case plagiarism is detected in any component or part submission (submitted at different times) of one assessment (assignment), the deduction in marks will be applicable for the whole assessment (assignment), even if only the component or part submission alone needs to be resubmitted.

**Type 2:** In case plagiarism is detected in a group assessment, all students of the group will be considered as having committed an act of plagiarism irrespective of whether plagiarism is on account of the act of all or a few or only one member. The policy will then be applied to all students.

If some students in the group are eligible to re-submit (first offence) and others are not eligible, only eligible students will be allowed to re-submit within a period of one week and the penalty will be applied as per the policy for each student according to his / her history of violations.

**Type 3:** Combination of Type 1 and Type 2: In case plagiarism is detected in any component or part submission (submitted at different times) of a group assessment (assignment), the deduction in marks will be applicable for the whole assessment (assignment), even if only the component or part submission alone needs to be resubmitted. All students of the group would be considered as having committed an act of plagiarism irrespective of whether plagiarism is on account of the act of all or a few or only one member. The policy will then be applied to all the students of the group.

If some students in the group are eligible to re-submit (first offence) and others are not eligible, only eligible students will be allowed to re-submit within a period of one week and the penalty will be applied as per the policy for each student according to his / her history of violation.

**Type 4: Variation of Type 1 and Type 2:** In cases where the assessment consists of components or part submissions that could be a group assessment component (e.g. group assignment) and an individual assessment component (e.g. individual reflection), the following will be applicable:

1. If plagiarism is detected in the group assessment component, all students of the group will be considered as having committed an act of plagiarism, irrespective of whether plagiarism is on account of the act of all or a few or only one member. The policy will then be applied to all students of the group. In such cases the group assessment component will be resubmitted.

If some students in the group are eligible to re-submit (first offence) and others are not eligible, only eligible students will be allowed to re-submit within a period of one week and the penalty will be applied for each student according to his / her history of violation.

1. If plagiarism is detected in the individual assessment component, the individual assessment component will be resubmitted - if the student is eligible for resubmission-. The policy will then be applied to that student alone.
2. In both cases (a) and/or (b), the deduction in marks will be applicable for the whole assessment (assignment).
   1. **Types/Variation of Cases of Multiple Offences**

If student is caught with multiple violations of same or different nature in different modules of the same semester, they will be considered as one offence and student will be penalized for each violation according to the type of the offence.

If student is caught with multiple violations of same or different nature in the same module of the same semester, then they will be considered as different offences and each will contribute to the overall count of AIV. The student then shall be penalized for each violation according to the count and type of each offence.

*\* For further details Refer to MEC Student Academic Integrity Policy in Student Handbook.*

## Late Submission Regulations:

It is the students’ responsibility to check all relevant timelines related to assessments.

As per the Assessment Policy at MEC, late submissions are allowed for one week (5 working days) for all UG modules with a penalty. In such cases, a deduction of 5% of the marks obtained for the submitted work shall be imposed for each working day following the last date of submission till the date of actual submission. Assessment documents submitted beyond a period of one week (5 working days) after the last date of submission will not be accepted and will be awarded a zero for that assessment. In cases where the submission has been delayed due to extenuating circumstances, the student may be permitted to submit the work without imposing the late submission policy stated above. The extended period of submission will be one week from the original last date of submission. In such cases, the student is expected to submit the supporting certificates on or before the original last date of submission of the assessment and the decision of extension rests with faculty responsible for the assessment .The late submission policy shall be applied if the student fails to submit the work within one week of the original last date of submission.

Students may contact their teachers for clarification on specific details of the submission time if required.

## Research Ethics and Biosafety Policy

To protect and respect the rights, dignity, health, safety, and privacy of research subjects involved including the welfare of animals and the integrity of environment, all student projects are expected to be undertaken as per the MEC Research Ethics and Biosafety Policy. Accordingly the following shall apply.

* Research and other enterprise activities shall be conducted by maintaining the high ethical standards consistent with national and international standards and conventions.
* Any research at MEC that is categorized as high-risk research shall be subject to review and approval by the Research Ethics and Biosafety Committee.
* Research activities involving collection of human or animal tissues and manipulation of microbial, animal or plant cells shall be subject to review and approval by the Research Ethics and Biosafety Committee.
* Participants involved in research must be informed about the purpose of research and intended uses of research findings. Written consent must be obtained from people involved prior to the commencement of research.
* Data obtained from participants must be treated with high confidence and should be used only for the intended purpose of research.

4. **Viva Regulations:**

* Faculty can conduct a viva as per the institutional guidelines to investigate and ascertain that the work submitted is student’s own work.
* It is expected that the student attends the viva during the first chance itself unless due to extenuating circumstances.
* If the student is not able to attend the first call for viva as per the date and time notified by faculty, s/he shall be given one more chance to attempt the viva within a week from the first call.

• If the student does not attend the viva in spite of being given two chances and fails to submit valid reasons for the absence in viva within three working days from the last call for the viva, he/she will be awarded a fail in the module. This shall also be counted as a case of academic integrity violation.

• If the student fails a module and has a proven case of academic integrity violation in the module, the student is required to re-register the module. This is also applicable in case the student fails and has a first or second offence of academic integrity violation of plagiarism type. The fee for the failed module for the semester in which academic integrity violation was observed shall not be re-funded.

**Assessment Evaluation Criteria**

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| Classification  And % Range <to be given as per requirement> | Reflection and critical analysis. | Knowledge and Understanding/  Application of Theory | Evidence of Reading | Referencing and Bibliography | Presentation, Grammar and Spelling |
| Outstanding | Highly competent analytical skills and reflective practice, demonstrating personal learning and growth, insight into required professional values and principles and professional development planning. | Extensive knowledge and depth of understanding of principles and concepts and /or outstanding application of theory in practice. | Evidence of reading an extensive range of educational literature/research and where applicable workplace strategies, policies and procedures. | Accurate referencing and bibliography correctly using appropriate referencing style | Excellent presentation, logically structured, using correct grammar and spelling, excellent cross-referencing and links to supporting evidence |
| Excellent | Strong analytical skills and reflective practice used, demonstrating personal learning and growth, insight into required professional values, principles and competencies and professional development planning. | Excellent knowledge and understanding of principles and concepts and /or excellent knowledge and understanding of the application of theory in practice | Evidence of reading a wide range of educational literature/research and where applicable, workplace strategies, policies and procedures. | Appropriate referencing and bibliography correctly using appropriate referencing style | Good presentation, competently structured, using correct grammar and spelling, clear and easy to use links to supporting evidence |
| Very Good Quality | Good use of analytical skills and reflective practice demonstrating personal learning and growth, insight into required professional values, principles and competencies and professional development planning. | Good knowledge or key principles and concepts and/or good knowledge of the application of theory in practice | Evidence of reading a good range of educational literature/research and where applicable workplace strategies, policies and procedures. | Generally well referenced with correct use of the appropriate referencing style | Reasonable presentation, completely structured, acceptable grammar and spelling, acceptable links to supporting evidence |
| Good (Acceptable) | Acceptable use of analytical skills and reflective practice demonstrating personal learning and growth, insight into required professional values, principles and competencies and professional development planning. | Acceptable knowledge of key principles and concepts and/or knowledge of the application of theory in practice | Evidence of reading an appropriate range of educational literature/research and where applicable, relevant workplace policies and procedures | Adequate referencing. Generally accurate use of appropriate referencing style | Adequate presentation and structure, acceptable grammar and spelling, adequate links to supporting evidence |
| Adequate/ Satisfactory | Adequate use of analytical skills and reflective practice demonstrating personal learning and growth, insight into required professional values, principles and competencies and professional development planning. | Adequate knowledge of key principles and concepts and/or satisfactory evidence of the application of theory in practice. | Evidence of minimal reading of educational literature/research and where applicable relevant workplace policies and procedures | Adequate referencing. Appropriate referencing style used but may contain some inaccuracies. | Weak presentation , satisfactory structure, grammar and spelling, links to supporting evidence |
| Weak /Poor  (all learning outcomes not adequately met) | Little use of analytical skills and reflective practice demonstrating personal learning and growth, insight into required competencies and/or professional development planning. Professional values and principles not reflected in the submission.  and/or  Insufficient/no use of analytical skills and reflective practice demonstrating personal learning and growth, insight into required competencies and professional development planning | Little evidence of knowledge of key principles or concepts and/or little evidence of the application of theory in practice  and/or  No evidence of knowledge of key principles or concepts and/or no evidence of application of theory in practice | Little or no evidence of reading outside of the course textbook and/or reference to relevant work place policies and procedures  and/or  No evidence of reading outside of the course textbook and/or reference to relevant workplace policies and procedures | Little or no referencing, incorrect style, or very inaccurate use of appropriate referencing style | Poor presentation, grammar and spelling, links to supporting evidence  and/or  Unacceptable presentation, grammar and spelling, structure is very poor, links to supporting evidence |



**Visual Programming (COMP 1007.1)**

**Fall 2021**

**Student ID: Student Name:**

**Case Study with Presentation Evaluation Grid**

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| **Deliverables** | **0-1** | **2-3** | **4-5** | **6-8** | **9-10** | **Marks** |
| Work Proposal | No or Poor Submission | Poor explanation of tasks and timelines given. Few Resources identified. | Average explanation of tasks and timelines given. Few Resources identified. | Good explanation of tasks and timelines given. Few Resources identified. | Proper explanation of tasks and timelines given. Resources identified. |  |
| **Deliverables** | **0-1** | **2-3** | **4-5** | **6-8** | **9-10** | **Marks** |
| Database | Poor implementation or no attempt | Attempted development but have errors on data type, and limited records inserted with poor explanation | Attempted development but have errors on data types and few records inserted with average explanation | Attempted development but few errors on data types and few columns with good explanation | All of the functionality implemented well and explained clearly |  |
| **Deliverables** | **0-2** | **3-5** | **5-8** | **9-13** | **14-15** | **Marks** |
| Maintenance form | Poor implementation or no attempt | Attempted development but have errors on common controls with poor explanation | Attempted development but have errors on common controls, input field code with average explanation | Attempted development but few errors on common controls, input field code with good explanation | All of the functionality implemented well and explained clearly |  |
| **0-5** | **6-10** | **11-16** | **16-18** | **19-20** |  |
| Poor implementation or no attempt | Attempted development but have errors from inserting, deleting and updating a records with poor explanation | Attempted development but have errors from inserting, deleting and updating a records with average explanation | Attempted development but inserting, deleting and updating a records with good explanation | All of the functionality implemented well and explained clearly |  |
| **Deliverables** | **0-1** | **2-3** | **4-5** | **6-8** | **9-10** | **Marks** |
| Transaction form | Poor implementation or no attempt | Attempted development but have errors on common controls with poor explanation | Attempted development but have errors on common controls, input field code with average explanation | Attempted development but few errors on common controls, input field code with good explanation | All of the functionality implemented well and explained clearly |  |
| **0-2** | **3-5** | **5-8** | **9-13** | **14-15** |  |
| Poor implementation or no attempt | Attempted development but have errors from calculations and not updating in the database with poor explanation | Attempted development but have errors from calculations and updating partially in the database with average explanation | Attempted development but few errors from calculations and updating the records in the database with good explanation | All of the functionality implemented well and explained clearly |  |
| **Deliverables** | **0-1** | **2-3** | **4-5** | **6-8** | **9-10** |  |
| Crystal Report | Poor implementation or no attempt | Attempted development but have errors on simple and export report with poor explanation | Attempted development but have errors from simple and export report with average explanation | Attempted development but few errors from simple and export report with good explanation | All of the functionality implemented well and explained clearly |  |
| **Deliverables** | **0-5** | | | **6-8** | **9-10** |  |
| Documentation | Report layout is not well formatted, consist only of the coding while the table of content and referencing and comments and explanation of code are missing | | | Report layout is well formatted with the coding but either the table of content or referencing or comments are missing or explanation are missing | Report layout is well formatted with the coding, the table of content, referencing comments included with detail explanation |  |

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| **Total Marks** |  |
| **Penalty** |  |
| **Final marks** |  |

**Signature of Teacher**