

**Note:-“These are sample MCQs to indicate pattern, may or may not appear in examination”**

Program: BE Computer Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year SemesterVI

Course Code: CSC601and Course Name: Software Engineering

Time: 1 hour

Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

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|-----------|---|
| Q1.       | Perfective maintenance extends the software beyond its original.  |
| Option A: | Software requirements   |
| Option B: | Hardware requirements   |
| Option C: | Process requirements  |
| Option D: | Functional requirements   |
|           |   |
| Q2.       | Computer software deteriorates due to change, and because of this, preventive maintenance, often called |
| Option A: | Software reengineering  |
| Option B: | Software engineering  |
| Option C: | Hardware reengineering  |
| Option D: | Hardware engineering  |
|           |   |
| Q3.       | Which of the following diagram is time oriented?  |
| Option A: | Collaboration   |
| Option B: | Sequence  |
| Option C: | Activity  |
| Option D: | State chart   |
|           |   |
| Q4.       | The dynamic aspects related to a system are shown with the help of                                      |
| Option A: | Sequence diagram  |
| Option B: | Interaction diagram   |
| Option C: | Deployment diagram  |
| Option D: | Use case diagram  |
|           |   |
| Q5.       | Cost and Schedule are part of:  |
| Option A: | Product metric  |
| Option B: | Process metric  |
| Option C: | Project metric  |
| Option D: | People metric   |
|           |   |
| Q6.       | Management Spectrum has:  |
| Option A: | Only finish line  |
| Option B: | Start phase and finish line   |

|           |  |
|-----------|--|
| Option C: | No finish line   |
| Option D: | No change phase  |
|           |  |
| Q7.       | Which of the following is not the golden rule for user interface design?   |
| Option A: | Place the user in control  |
| Option B: | Reduce the user's memory load  |
| Option C: | Make the interface consistent  |
| Option D: | Risk identification  |
|           |  |
| Q8.       | When users are involved in complex tasks, the demand on _____ can be significant.  |
| Option A: | short-term memory  |
| Option B: | Shortcuts  |
| Option C: | Objects that appear on the screen  |
| Option D: | Menu options   |
|           |  |
| Q9.       | At the end of formal technical review all attendees can decide to  |
| Option A: | Accept the work product without modification   |
| Option B: | Modify the work product and continue the review  |
| Option C: | Reject the work product due to severe errors   |
| Option D: | A and C  |
|           |  |
| Q10.      | A summary report answers which three questions?  |
| Option A: | Terminate the project, replace producer, request a time extension  |
| Option B: | What was reviewed, who reviewed it and what were the findings  |
| Option C: | What defects were found ,what caused defects, who was responsible  |
| Option D: | None of the given  |
|           |  |
| Q11.      | In which of the following testing strategies, a smallest testable unit is encapsulated class or object?  |
| Option A: | Unit testing   |
| Option B: | Smoke testing  |
| Option C: | Integration testing  |
| Option D: | Black Box testing  |
|           |  |
| Q12.      | Cost of error correction is least at:  |
| Option A: | Design Stage   |
| Option B: | Requirements Analysis Stage  |
| Option C: | Development Stage  |
| Option D: | Implementation Stage   |
|           |  |
| Q13.      | The models which are iterative and are characterized in a manner that enables software engineers to develop increasingly more complete versions of the software. |
| Option A: | Prototype  |
| Option B: | Evolutionary   |
| Option C: | Incremental  |
| Option D: | Spiral   |

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| Q14.      | A college first starts with a building. It then elects the professors and forms the departments. Initially a department may contain no student. Students will be allocated to one department atleast but cannot be allocated to more than 3 departments. Identify the cardinality between Department and Student. |
| Option A: | Department: 1 and Student: 1..*   |
| Option B: | Department: * and Student: 1..*   |
| Option C: | Department: 1..3 and Student: *   |
| Option D: | Department: * and Student: *  |
|           |   |
| Q15.      | Which of the following devices are mainly responsible for the user interface?   |
| Option A: | Memory devices  |
| Option B: | Input and output devices  |
| Option C: | Processing devices  |
| Option D: | Network devices   |
|           |   |
| Q16.      | Which one of the following define the characteristic of a good user interface?  |
| Option A: | Error recovery, feedback and consistency  |
| Option B: | Keyboard data entry   |
| Option C: | Menu Options  |
| Option D: | Font size   |
|           |   |
| Q17.      | Degree to which design specifications are followed in manufacturing the product is called   |
| Option A: | Quality Control   |
| Option B: | Quality of Conformance  |
| Option C: | Quality Assurance   |
| Option D: | None of the mentioned   |
|           |   |
| Q18.      | Exhaustive testing is   |
| Option A: | Always Possible   |
| Option B: | Practically Possible  |
| Option C: | Impractical but Possible  |
| Option D: | Impractical but Impossible  |
|           |   |
| Q19.      | What is validating the completeness of a product?   |
| Option A: | Identification  |
| Option B: | Software Testing  |
| Option C: | Auditing and Reviewing  |
| Option D: | Status Accounting   |
|           |   |
| Q20.      | Which of the following is not regression test case?   |
| Option A: | A representative sample of tests that will exercise all software functions  |
| Option B: | Additional tests that focus on software functions that are likely to be affected by the change  |
| Option C: | Tests that focus on the software components that have been changed  |
| Option D: | Low-level components are combined into clusters that perform a specific software sub-function.  |

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| Q21.      | Purpose of Earned Value Analysis is:  |
| Option A: | Provide quantitative means of project progress  |
| Option B: | Provide qualitative means of project progress   |
| Option C: | Set price point for product   |
| Option D: | Determine developers productivity   |
| Q22.      | Activity Network consists of :  |
| Option A: | CPM and PERT  |
| Option B: | CPM and DRE   |
| Option C: | DRE and FP  |
| Option D: | CPM and FP  |
| Q23.      | Which of the following errors should not be tested when error handling is evaluated?  |
| Option A: | Error description is impossible to understand   |
| Option B: | Error noted does not correspond to error encountered  |
| Option C: | Error condition causes system intervention  |
| Option D: | Error description provide enough information to assist in the location of the cause of the error                              |
| Q24.      | Aggregation is which of the following   |
| Option A: | Expresses a part-of relationship and is a stronger form of an association relationship.                                       |
| Option B: | Expresses a part-of relationship and is a weaker form of an association relationship.   |
| Option C: | Expresses and is-a relationship and is a stronger form of an association relationship   |
| Option D: | Expresses and is-a relationship and is a weaker form of an association relationship   |
| Q25.      | In addition to the emphasis placed on early negotiation, the WINWIN spiral model introduces three process milestones, called. |
| Option A: | Corner points   |
| Option B: | Big points  |
| Option C: | Square points   |
| Option D: | Anchor points   |

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Program: BE Mechanical Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester VI

Course Code: MEC 601 and Course Name: Metrology & Quality Engineering

Time: 1 hour

Max. Marks: 50

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Note to the students: - All the Questions are compulsory and carry equal marks.

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| Q1.       | The systematic errors of an instrument can be reduced by making              |
| Option A: | The sensitivity of instrument to environmental input as low as possible      |
| Option B: | The sensitivity of instrument to environmental input as high as possible     |
| Option C: | Systematic errors does not depend on the sensitivity of instrument           |
| Option D: | Random errors does not depend on the sensitivity of instrument               |
|           |  |
| Q2.       | Imperial standard yard is made of  |
| Option A: | platinum alloy   |
| Option B: | platinum iridium alloy   |
| Option C: | bronze   |
| Option D: | steel  |
|           |  |
| Q3.       | The study of scientific metrology deals with                                 |
| Option A: | accuracy and methods of measurement  |
| Option B: | standard specifications  |
| Option C: | theories related to nature   |
| Option D: | precision and methods of measurement   |
|           |  |
| Q4.       | The measured size of the dimension of a component is called                  |
| Option A: | Basic Size   |
| Option B: | Normal Size  |
| Option C: | Allowed Size   |
| Option D: | Actual Size  |
|           |  |
| Q5.       | What is the advantage of mechanical comparator over others?                  |
| Option A: | Less moving parts  |
| Option B: | No need of external supply   |
| Option C: | No error due to parallax   |
| Option D: | Large range of instrument  |
|           |  |
| Q6.       | What is ten point height method?   |
| Option A: | It is the average sum of ten highest points measured within sampling length. |

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| Option B: | It is the average difference of five highest points and five deepest valleys measured within sampling length. |
| Option C: | It is the sum of ten highest points divided by sum of ten deepest valleys measured within sampling length.    |
| Option D: | It is the average sum of five highest points and five deepest valleys measured within sampling length.        |
|           |   |
| Q7.       | What do you mean by Geometrical Surface?  |
| Option A: | Surface prescribed by design without any errors of form or surface roughness                                  |
| Option B: | Surface limiting the body and separating it from surrounding  |
| Option C: | Close representation of real surface  |
| Option D: | Outer surface of the body   |
|           |   |
| Q8.       | ..... is equal to the differences of the two limits of size of the part                                       |
| Option A: | Tolerance   |
| Option B: | Low limit   |
| Option C: | High limit  |
| Option D: | Design size   |
|           |   |
| Q9.       | Tomlinson recorder is associated with measurement of  |
| Option A: | Surface flaws   |
| Option B: | Surface Perpendicularity  |
| Option C: | Surface Irregularity  |
| Option D: | Surface Curvature   |
|           |   |
| Q10.      | The secondary texture or waviness, or macro-error on surface results due to                                   |
| Option A: | Normal action of the tool in production process   |
| Option B: | Dominant direction of tool marks(Lay)   |
| Option C: | Flaws in material   |
| Option D: | Vibrations and non-uniformity in cutting tool   |
|           |   |
| Q11.      | In a two-wire method, the diameter of the best-size wire is given by.....                                     |
| Option A: | $d = (p/2) \sec (x/2)$  |
| Option B: | $d = (p/4) \sec (x/2)$  |
| Option C: | $d = (p/2) \operatorname{cosec} (x/2)$  |
| Option D: | $d = (p/2) \cot (x/2)$  |
|           |   |
| Q12.      | When face width of gear is too large  |
| Option A: | Gear will have poor capacity to absorb shock loads  |
| Option B: | There will be a possibility of concentration of load at one end of gear tooth                                 |
| Option C: | There will be problem in lubricating the gear   |
| Option D: | Staking of teeth will occur   |
|           |   |
| Q13.      | Least count of floating carriage micrometer is .....  |
| Option A: | 0.02 mm   |

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| Option B: | 0.01 mm   |
| Option C: | 0.05 mm   |
| Option D: | 0.001 mm  |
|           |   |
| Q14.      | Autocollimator is used for  |
| Option A: | Contactless angle measurement   |
| Option B: | Thread Measurement  |
| Option C: | Gear Measurement  |
| Option D: | Error Measurement   |
|           |   |
| Q15.      | Backlash is commonly experienced in gear sets used to convert between translational and rotational motion. Backlash is a typical cause of |
| Option A: | Hysteresis  |
| Option B: | Dead space  |
| Option C: | Zero drift  |
| Option D: | Sensitivity drift   |
|           |   |
| Q16.      | Which of the following option is true about an analytical method of inspection of gears?  |
| Option A: | Analytical method is widely used for industries   |
| Option B: | This method is fast   |
| Option C: | All individual elements of gear teeth are checked   |
| Option D: | More accurate   |
|           |   |
| Q17.      | Another name for Wobble _____   |
| Option A: | Axial run-out   |
| Option B: | Composite error   |
| Option C: | Eccentricity  |
| Option D: | Radial run-out  |
|           |   |
| Q18.      | “Quality is a predictable degree of uniformity and dependability at low cost and suited to the market” statement is given by?             |
| Option A: | Juran   |
| Option B: | Deming  |
| Option C: | Hoshin  |
| Option D: | Feigenbaum  |
|           |   |
| Q19.      | Which of the following is not a part of Juran Trilogy?  |
| Option A: | Planning  |
| Option B: | Control   |
| Option C: | Check   |
| Option D: | Improvement   |
|           |   |
| Q20.      | Which one from the following is a dimension of quality?   |
| Option A: | Performance   |



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| Option B: | Hazard rate  |
| Option C: | Process Capability   |
| Option D: | Control limits   |
|           |  |
| Q21.      | Which of the following is the graphical representation of the total frequencies of occurrence of each type of defects type against the various defect types? |
| Option A: | Check sheet  |
| Option B: | Pareto chart   |
| Option C: | Histogram  |
| Option D: | Control charts   |
|           |  |
| Q22.      | Sequential sampling is an extension of _____   |
| Option A: | Single sampling plan   |
| Option B: | Double-sampling plan   |
| Option C: | Multiple-sampling plan   |
| Option D: | 0% sampling  |
|           |  |
| Q23.      | The producer's risk means the probability that the consumer will:  |
| Option A: | Reject a bad lot   |
| Option B: | Accept a bad lot   |
| Option C: | Accept a good lot  |
| Option D: | Reject a good lot  |
|           |  |
| Q24.      | In which type of test the capillary action principle is used?  |
| Option A: | Probe test   |
| Option B: | Bend liquid test   |
| Option C: | Dye penetrant test   |
| Option D: | Radiographic Test  |
|           |  |
| Q25.      | Which materials can be tested by Magnetic Particle Inspection?   |
| Option A: | Magnetic   |
| Option B: | Non-magnetic   |
| Option C: | Paramagnetic   |
| Option D: | Ferromagnetic  |

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**Examination 2020 under cluster 2 (FRCRCE)**

Program: BE Electronics and Telecommunication Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester VI

Course Code: ECC601    Course Name: Microcontrollers & Applications

Time: 1 hour

Max. Marks: 50

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Note to the students :- All Questions are compulsory and carry equal marks .

|           |   |
|-----------|---|
| Q1.       | In 8051 which interrupt has highest priority?   |
| Option A: | IE1   |
| Option B: | TF0   |
| Option C: | IE0   |
| Option D: | TF1   |
|           |   |
| Q2.       | What is the function of watchdog timer?   |
| Option A: | The watchdog Timer is an external timer that resets the system if the software fails to operate properly.   |
| Option B: | The watchdog Timer is an internal timer that sets the system if the software fails to operate properly.   |
| Option C: | The watchdog Timer is an internal timer that resets the system if the software fails to operate properly.   |
| Option D: | The watchdog Timer is an external timer that sets the system if the software fails to operate properly.   |
|           |   |
| Q3.       | Calculate the jump code for again and here if code starts at 0000H<br>MOV R1,#0<br>MOV A,#0<br>MOV R0,#25H<br>AGAIN:ADD A,#0ECH<br>JNC HERE<br>HERE: INC R1<br>DJNZ R0,AGAIN<br>MOV R0,A<br>END |
| Option A: | F3,02   |
| Option B: | F9,01   |
| Option C: | E9,01   |
| Option D: | E3,02   |
|           |   |
| Q4.       | Find the number of times the following loop will be executed<br>MOV R6,#200   |

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|-----------|--|
|           | BACK:MOV R5,#100<br>HERE:DJNZ R5, HERE<br>DJNZ R6,BACK<br>END                                  |
| Option A: | 100  |
| Option B: | 2000   |
| Option C: | 200  |
| Option D: | 20000  |
|           |  |
| Q5.       | Which of the following comes under the indexed addressing mode?                                |
| Option A: | MOVX A, @DPTR  |
| Option B: | MOVC @A+DPTR,A   |
| Option C: | MOV A,R0   |
| Option D: | MOV @R0,A  |
|           |  |
| Q6.       | The instruction to move the data from external memory to accumulator is _____                  |
| Option A: | MOV A, R0  |
| Option B: | MOV B, R0  |
| Option C: | MOVX A, @DPTR  |
| Option D: | MOVX A, R2   |
|           |  |
| Q7.       | The instruction MOV A, @R1 perform which operation _____                                       |
| Option A: | Copy R1 to accumulator   |
| Option B: | Copy accumulator to R1   |
| Option C: | Copy content of memory to accumulator address pointed by R1                                    |
| Option D: | Copy accumulator to memory address pointed by R1   |
|           |  |
| Q8.       | The content of accumulator after execution of instructions MOV A, #0BH and ANL A, #20H will be |
| Option A: | 11010111   |
| Option B: | 11011010   |
| Option C: | 00001000   |
| Option D: | 00000000   |
|           |  |
| Q9.       | On execution of the instructions MOV A, #2B and ORL A, #00H the content of accumulator will be |
| Option A: | 1BH  |
| Option B: | 2BH  |
| Option C: | 3BH  |
| Option D: | 4BH  |
|           |  |
| Q10.      | The timer and its mode used to set baud rate for serial communication is                       |
| Option A: | Timer 1 in mode 2  |

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| Option B: | Timer 0 in mode 2   |
| Option C: | Timer 1 in mode 1   |
| Option D: | Timer 0 in mode 0   |
|           |   |
| Q11.      | The Xtal frequency best suited to generate baud rates of serial communication compatible with PC is   |
| Option A: | 12 Mhz  |
| Option B: | 11.0592 MHz   |
| Option C: | 16 MHz  |
| Option D: | 1 Mhz   |
|           |   |
| Q12.      | Why do we need a ULN2803 in driving a relay?  |
| Option A: | for switching a motor   |
| Option B: | for decreasing the current limit in the relays  |
| Option C: | for increasing the power  |
| Option D: | for increasing the current limit in the relays  |
|           |   |
| Q13.      | A 2° step angle stepper motor is rotated in clockwise direction using full step sequence. The no. pulses required to achieve rotation of 80° is |
| Option A: | 40  |
| Option B: | 20  |
| Option C: | 10  |
| Option D: | 80  |
|           |   |
| Q14.      | What are the profiles for ARM architecture?   |
| Option A: | A,R   |
| Option B: | A,M   |
| Option C: | A,R,M   |
| Option D: | R,M   |
|           |   |
| Q15.      | ARM7 uses ___ stage pipeline  |
| Option A: | 2   |
| Option B: | 5   |
| Option C: | 3   |
| Option D: | 6   |
|           |   |
| Q16.      | In Von Neumann architecture, which among the following handles all the operations of the system that are inside and outside the processor       |
| Option A: | Input unit  |
| Option B: | Output unit   |
| Option C: | Control unit  |
| Option D: | Memory unit   |
|           |   |
| Q17.      | In the ARM, PC is implemented using _____   |

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| Option A: | Caches  |
| Option B: | Heaps   |
| Option C: | General purpose register  |
| Option D: | Stack   |
|           |   |
| Q18.      | The instructions which are used to load or store multiple operands are called as _____                            |
| Option A: | Banked instructions   |
| Option B: | Lump transfer instructions  |
| Option C: | Block transfer instructions   |
| Option D: | DMA instructions  |
|           |   |
| Q19.      | MRC, MCR are the _____  |
| Option A: | Co-processor register transfer instructions   |
| Option B: | Thumb instructions  |
| Option C: | Shift instructions  |
| Option D: | Logical Instructions  |
|           |   |
| Q20.      | Equivalent of $Rd = NOT(Rm)$ this operation is performed by which instruction                                     |
| Option A: | MVN   |
| Option B: | NEG   |
| Option C: | EOR   |
| Option D: | TST   |
|           |   |
| Q21.      | Status of Z flag after the execution of CMP instruction given below, when $R0 = 12$ ; $R9 = 12$ ; is $CMP R0, R9$ |
| Option A: | $Z = 1$   |
| Option B: | $Z = 0$   |
| Option C: | Same as previous value  |
| Option D: | $Z = \text{High Impedance}$   |
|           |   |
| Q22.      | TOTCR stands for _____  |
| Option A: | Timer 0 Timer count register  |
| Option B: | Timer 0 Timer control register  |
| Option C: | Timer 0 Timer cycle register  |
| Option D: | Timer 0 Timer current register  |
|           |   |
| Q23.      | LPC 2148 has _____ 32 bit timers/External events.   |
| Option A: | Two   |
| Option B: | Three   |
| Option C: | Four  |
| Option D: | Five  |
|           |   |

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| Q24.      | What is meaning of VPBDIV=0X00 ?                      |
| Option A: | It divides crystal frequency by 4                     |
| Option B: | It divides timer frequency by 32                      |
| Option C: | It divides Peripheral clock by 32                     |
| Option D: | It divides baud rate by 4                             |
|           |   |
| Q25.      | What is meaning of IOCLR1=0X0000000F ?                |
| Option A: | It clears the upper four bits P1.0 to P1.3 of Port 1  |
| Option B: | It clears the all bits of Port 1                      |
| Option C: | It clears the lowest four bits P1.0 to P1.3 of Port 1 |
| Option D: | It clears the all bits of Port 0                      |

**University of Mumbai**  
**Examination 2020 under cluster 2 (FRCRCE)**

Program: BE Information Technology

Curriculum Scheme: Revised 2016

Examination: Third Year Semester VI

Course Code: ITC601 and Course Name: Software Engineering with Project Management

Time: 1 hour

Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

|           |   |
|-----------|---|
| Q1.       | Which of the following uses empirically derived formulas to predict effort as a function of LOC or FP?  |
| Option A: | FP-Based Estimation   |
| Option B: | Process-Based Estimation  |
| Option C: | COCOMO  |
| Option D: | Both FP-Based Estimation and COCOMO   |
|           |   |
| Q2.       | Which of the following is included in SRS?  |
| Option A: | Cost  |
| Option B: | Design Constraints  |
| Option C: | Staffing  |
| Option D: | Delivery Schedule   |
|           |   |
| Q3.       | Which of the following property of SRS is depicted by the statement:<br>"Conformity to a standard is maintained" ?  |
| Option A: | Correct   |
| Option B: | Complete  |
| Option C: | Consistent  |
| Option D: | Modifiable  |
|           |   |
| Q4.       | In AON network diagrams, activities are shown on  |
| Option A: | Node  |
| Option B: | Arrow   |
| Option C: | Either node or arrow  |
| Option D: | Transition  |
|           |   |
| Q5.       | Arrange the tasks involved in requirements elicitation in an appropriate manner.<br>i. Consolidation<br>ii. Prioritization<br>iii. Requirements Gathering<br>iv. Evaluation |
| Option A: | iii, i, ii, iv  |
| Option B: | iii, iv, ii, i  |
| Option C: | iii, ii, iv, i  |

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| Option D: | ii, iii, iv, i  |
| Q6.       | In the context of object oriented software engineering, a component contains _____  |
| Option A: | Attributes and operations   |
| Option B: | Set of collaborating classes  |
| Option C: | Instances of each class   |
| Option D: | Roles for each actor  |
| Q7.       | _____ implements the lower-level business abstractions that are required to fully manage the business domain classes.                       |
| Option A: | User interface classes  |
| Option B: | Process classes   |
| Option C: | System classes  |
| Option D: | Business domain classes   |
| Q8.       | Which of the property of software modularity is incorrect with respect to benefits software modularity?                                     |
| Option A: | Modules are mostly dependent  |
| Option B: | Modules are robust  |
| Option C: | Module can use other modules  |
| Option D: | Modules Can be separately compiled and stored in a library  |
| Q9.       | A _____ is a graphical representation that depicts information flow and the transforms that are applied as data moves from input to output. |
| Option A: | Flow Chart  |
| Option B: | Workflow Diagram  |
| Option C: | Control Specification   |
| Option D: | State Transition Diagram  |
| Q10.      | Calculate activity estimate for PERT analysis if Optimistic Estimate (a) = 2 ,Most likely Estimate (b) = 4 and Pessimistic Estimate (c) = 6 |
| Option A: | 2   |
| Option B: | 6   |
| Option C: | 4   |
| Option D: | 8   |
| Q11.      | The Product of Risk Probability and Risk impact is known as   |
| Option A: | Risk Estimation   |
| Option B: | Risk Analysis   |
| Option C: | Risk Mitigation   |
| Option D: | Risk Exposure   |
| Q12.      | Work Breakdown Structures (WBS) should be   |
| Option A: | Task-oriented   |



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|-----------|---|
| Option B: | Deliverable-oriented  |
| Option C: | Time-oriented   |
| Option D: | Process-oriented  |
|           |   |
| Q13.      | In PERT, Activity Estimate does not depend upon                                   |
| Option A: | Optimistic Estimate   |
| Option B: | Most likely Estimate  |
| Option C: | Predecessor Estimate  |
| Option D: | Pessimistic Estimate  |
|           |   |
| Q14.      | Total number of PMBOK Knowledge Areas are:  |
| Option A: | 8   |
| Option B: | 10  |
| Option C: | 9   |
| Option D: | 12  |
|           |   |
| Q15.      | Which one is not the part of PMBOK Knowledge Area ?                               |
| Option A: | Project Integration Management  |
| Option B: | Project Scope Management  |
| Option C: | Project Evaluation Management   |
| Option D: | Project Procurement Management  |
|           |   |
| Q16.      | Which one is not generally a step in constructing a business case analysis?       |
| Option A: | Analyze Alternatives  |
| Option B: | Define Total Benefit of Ownership   |
| Option C: | Define MOV  |
| Option D: | Define Scope  |
|           |   |
| Q17.      | MOV defines   |
| Option A: | The Project's Goal  |
| Option B: | The Project's Feasibility   |
| Option C: | The Project's Scope   |
| Option D: | The Project's Budget  |
|           |   |
| Q18.      | The Incremental Model is a result of combination of elements of which two models? |
| Option A: | Spiral & Waterfall Model  |
| Option B: | Linear Model & RAD Model  |
| Option C: | Waterfall Model & Prototyping Model   |
| Option D: | Waterfall Model & RAD Model   |
|           |   |
| Q19.      | Agile Software Development is based on  |
| Option A: | Incremental Development   |
| Option B: | Iterative Development   |
| Option C: | Linear Development  |

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| Option D: | Both Incremental and Iterative Development   |
|           |  |
| Q20.      | It is not the Agility principles   |
| Option A: | Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.  |
| Option B: | Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.  |
| Option C: | Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.   |
| Option D: | Business people and developers must not work together daily throughout the project.  |
|           |  |
| Q21.      | In XP Increments are delivered to customers every _____ weeks  |
| Option A: | One  |
| Option B: | Two  |
| Option C: | Three  |
| Option D: | Four   |
|           |  |
| Q22.      | Which two of the following models will not be able to give the desired outcome if user's participation is not involved?  |
| Option A: | Waterfall & Spiral   |
| Option B: | RAD & Spiral   |
| Option C: | RAD & Waterfall  |
| Option D: | RAD & Prototyping  |
|           |  |
| Q23.      | Which four framework activities are found in the Extreme Programming(XP)   |
| Option A: | Analysis, Design, Coding, Testing  |
| Option B: | Planning, Analysis, Design, Coding   |
| Option C: | Planning, Design, Coding, Testing  |
| Option D: | Planning, Analysis, Coding, Testing  |
|           |  |
| Q24.      | User requirements are expressed as _____ in Extreme Programming.   |
| Option A: | implementation tasks   |
| Option B: | Functionalities  |
| Option C: | Scenarios- user stories  |
| Option D: | Milestones   |
|           |  |
| Q25.      | If you were a lead developer of a software company and you are asked to submit a project/product within a stipulated time-frame with no cost barriers, which model would you select? |
| Option A: | Waterfall  |
| Option B: | Spiral   |
| Option C: | RAD  |
| Option D: | Incremental  |

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**Examination 2020 under cluster 2 (FRCRCE)**  
**Inter Cluster**

Program: BE Instrumentation Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester VI

Course Code: ISC601 and Course Name: Process Instrumentation System

Time: 1hour

Max. Marks: 50

Note to the students:- All Questions are compulsory and carry equal marks .

|           |  |
|-----------|--|
| Q1.       | The variable which is adjusted for making process variable equal to the desired value is-  |
| Option A: | Set point  |
| Option B: | Measured variable  |
| Option C: | Controlled variable  |
| Option D: | Manipulated variable   |
| Q2.       | The time for the process-control loop to make necessary adjustments to the final control element   |
| Option A: | Dead time  |
| Option B: | Control lag  |
| Option C: | Process lag  |
| Option D: | Settling time  |
| Q3.       | If a controller outputs a 4- to 20-mA current signal to the final control element and has a $p=25\%$ , then what is the corresponding current? |
| Option A: | 19 mA  |
| Option B: | 10 mA  |
| Option C: | 8 mA   |
| Option D: | 6 mA   |
| Q4.       | The optimum process performance can be judged by ----- criteria  |
| Option A: | Decay ratio  |
| Option B: | Subsidence ration  |
| Option C: | Integral absolute error  |
| Option D: | Any one of the above   |
| Q5.       | The proportional bias (Po) is added to proportional action for -----   |
| Option A: | Making error zero  |
| Option B: | To minimize reset windup   |
| Option C: | To handle positive as well as negative errors  |
| Option D: | Making the action proportional   |
| Q6.       | If the error is zero, the output stays fixed at a value equal to what it was when the error went to zero.                                      |

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| Option A: | Integral-Control Mode   |
| Option B: | Proportional-Control Mode   |
| Option C: | Derivative-Control Mode   |
| Option D: | On off-Control Mode   |
|           |   |
| Q7.       | ..... action is not preferred when noise is present on the process that is to be controlled                                       |
| Option A: | Derivative  |
| Option B: | Integral  |
| Option C: | Proportional  |
| Option D: | On/off  |
|           |   |
| Q8.       | Setting the PID controller parameters for optimum process performance is-   |
| Option A: | Tuning  |
| Option B: | Correction  |
| Option C: | Optimizing  |
| Option D: | Performance Setting   |
|           |   |
| Q9.       | It changes from normal control action and attempt to prevent a process variable from exceeding an allowable upper or lower limit. |
| Option A: | Cascade control   |
| Option B: | Ratio control   |
| Option C: | Split range control   |
| Option D: | Override control  |
|           |   |
| Q10.      | In which control scheme the secondary loop should be at least 3 times faster than the primary loop.                               |
| Option A: | Auctioneering Control   |
| Option B: | Feedforward control   |
| Option C: | Cascade control   |
| Option D: | Ratio control   |
|           |   |
| Q11.      | If process is not known well, we need to evaluate the objective function online using the values of the controlled output.        |
| Option A: | Self-adaptive control   |
| Option B: | Split range control   |
| Option C: | Override control  |
| Option D: | Selective control scheme  |
|           |   |
| Q12.      | A control scheme select among several similar measurements the one with the highest value and feed it to the controller.          |
| Option A: | Ratio control   |
| Option B: | Auctioneering Control   |
| Option C: | adaptive control  |
| Option D: | Override control  |
|           |   |
| Q13.      | ..... controller is a special type of feedforward controller  |
| Option A: | Model Reference Adaptive  |

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| Option B: | Cascade   |
| Option C: | Ratio   |
| Option D: | Split Range   |
|           |   |
| Q14.      | Which control scheme involves two controlled variables, but only one valve ?  |
| Option A: | Feedforward control   |
| Option B: | Cascade control   |
| Option C: | Ratio control   |
| Option D: | Feedback control  |
|           |   |
| Q15.      | A discrete-state process is one for which the process variables can take on only ..... states   |
| Option A: | Four  |
| Option B: | Two   |
| Option C: | one   |
| Option D: | six   |
|           |   |
| Q16.      | It can be used as an energy-level translator  |
| Option A: | Solenoids   |
| Option B: | Relays  |
| Option C: | limit switches  |
| Option D: | coils   |
|           |   |
| Q17.      | When the coil is energized, the contacts are not energized until the time delay has lapsed.it is-   |
| Option A: | off-delay timer relay   |
| Option B: | on-delay timer relay  |
| Option C: | Control relay   |
| Option D: | Internal relay  |
|           |   |
| Q18.      | If there are three input variables and three output variables then there is a total of ..... possible states                                  |
| Option A: | 36  |
| Option B: | 64  |
| Option C: | 06  |
| Option D: | 09  |
|           |   |
| Q19.      | A schematic way of describing the sequence of events of a discrete state control system.  |
| Option A: | event   |
| Option B: | schematic diagram   |
| Option C: | process diagram   |
| Option D: | ladder diagram  |
|           |   |
| Q20.      | For two non-interacting first order systems connected in series, the overall transfer function is the.....of the individual transfer function |
| Option A: | Ratio   |
| Option B: | Product   |

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| Option C: | Sum  |
| Option D: | Difference   |
|           |  |
| Q21.      | For MIMO systems   |
| Option A: | Control loops are isolated   |
| Option B: | Each controlled variable is only manipulated by one variable                                   |
| Option C: | Decoupling the system makes it more complicated  |
| Option D: | Manipulated variables may affect several controlled variables                                  |
|           |  |
| Q22.      | RGA is useful for process engineers because it allows us to determine:                         |
| Option A: | Which matrix size to use.  |
| Option B: | What eigenvalues and eigenvectors are paired   |
| Option C: | What input and output pairs to use   |
| Option D: | When feed forward control is preferred over feedback control.                                  |
|           |  |
| Q23.      | Which of the following is not an advantage of cascade control?                                 |
| Option A: | The system reacts to disturbances more quickly   |
| Option B: | More efficient control of the primary variable   |
| Option C: | It is a cheap control scheme to implement  |
| Option D: | The effects of dead time and phase lag time are reduced in the system                          |
|           |  |
| Q24.      | The open loop transfer function of control system is $KR/(1+TS)$ . This represents-            |
| Option A: | A first order system   |
| Option B: | Dead time system   |
| Option C: | A first order time lag   |
| Option D: | A second order system  |
|           |  |
| Q25.      | The number of operational amplifiers require for designing of an electronic PID controller is- |
| Option A: | 5  |
| Option B: | 6  |
| Option C: | 2  |
| Option D: | 4  |