

Modalities for conducting the Term End Practical Examinations (TEPE) VIRTUALLY for MCAOL, BCAOL, BCA_NEWOL, and CITOL of SOCIS:

The students eligible to appear for the practical examinations are those who fulfil the attendance requirements for practical counselling as mentioned below and also have applied for appearing in Term End Practical Examinations:

Programme-wise minimum attendance requirements (for practical counselling):

S.No.	Programmes	Practical Attendance %
1.	MCAOL	75%
2.	BCAOL	70%
3.	BCA_NEWOL	70%
5.	CITOL	70%

The following are the modalities to be adopted for conduct of Term End Practical Examinations (TEPE), virtually for MCAOL, BCAOL, BCA_NEWOL, and CITOL of SOCIS:

- (i) The term end practical examinations will be conducted purely in virtual mode through web conferencing/ video conferencing mode, without inviting any student physically to the Examination Centre.
- (ii) There is no necessity of asking the student to write code/program, however, their knowledge and skills, subject understanding may be evaluated **through viva-voce only**.
- (iii) The practical courses which consist of more than one section (for example BCSL-135, MCSL-216, MCSL-222, MCSL-223, MCSL-229 etc.), the student needs to appear in the section(s) in which s/he is not yet successful. Section-wise marks should be awarded as per programme guide of MCAOL / BCA_NEWOL.
- (iv) The viva-voce examination should be conducted virtually under the supervision of the Exam Centre Superintendent as per existing norms of the University conducting TEPE. The attendance and the award list should be filled by the respective examiners. The video conferencing meeting for the viva-voce for TEP examination should be hosted by the Exam Centre Superintendent.
- (v) All the web-conferencing / video conferencing sessions need to be recorded for future reference (if any).
- (vi) **Viva Voce Coverage:** Questions for the Viva-voce will be covering the syllabi of the practical course. The scope of the viva-voce questions should be around the current semester practical assignments.
- (vii) **Batch Size:** On an average, a practical examiner may conduct viva-voce of (maximum) 20 students in a batch.
- (viii) **Marks:** Passing criteria / Maximum marks etc., for each practical course will remain the same and there won't be any change.
- (ix) Examiners for the conduct of TEPE should be appointed from the existing panel of the examiners, and there is no change in procedures of appointing the external examiners.
- (x) Examiners will forward the award lists, attendance sheets, bill forms etc., to the Exam Superintendent (duly signed, scanned and converted to PDF) through email. These will be further transmitted to the RC / SED as per the existing practice by the Examination Centre Superintendent. There is no change in this process.
- (xi) The nodal RCs in consultation with the examiners and superintendents may decide the schedule of the TEPE examination and follow them to complete all the processes at the earliest so as to declare the result at the earliest by the University as decided by the Competent Authority.
- (xii) The viva-voce schedule should be communicated to Registrar, SED with a copy to Director (RSD) and Director (SOCIS).
- (xiii) The Honorarium should be paid to all the concerned as per the University norms.

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(xiv) Nodal RCs may have their own schedules as per their convenience. The TEP examinations may be started as early as possible and should be completed latest as suggested by Registrar (SED) for all the practical courses of MCAOL, BCAOL, BCA_NEWOL and CITOL.

The list of courses for which Term End Practical Examinations are to be conducted is attached as Annexure-A.

te Sudhansu ⁹ Pivak P.V.K. N.S.P. Wm

ANNEXURE-A

Practical/Lab Courses for MCAOL

- MCSL-216 DAA and Web Design Lab
- MCSL-217 Software Engineering Lab
- MCSL-222 OOAD and Web Technologies Lab
- MCSL-223 Computer Networks and Data Mining Lab
- MCSL-228 AI and Machine Learning Lab
- MCSL-229 Cloud and Data Science Lab

Practical/Lab Courses for BCAOL

- BCSL-013 Computer Basics and PC Software Lab
- BCSL-021 C Language Programming Lab
- BCSL-022 Assembly Language Programming Lab
- BCSL-032 C++ Programming Lab
- BCSL-033 Data and File Structures Lab
- BCSL-034 DBMS Lab
- MCSL-016 Internet Concepts and Web Design
- BCSL-043 Java Programming Lab
- BCSL-044 Statistical Techniques Lab
- BCSL-045 Algorithm Design Lab
- BCSL-056 Network Programming and Administration Lab
- BCSL-057 Web Programming Lab
- BCSL-058 Computer Oriented Numerical Techniques Lab
- BCSL-063 Operating System Concepts and Networking Management Lab

Practical/Lab Course for CITOL Programme

- CITL-001 Laboratory Course

Practical/Lab Courses for BCA_NEWOL

- BCSL-013 Computer Basics and PC Software Lab
- MCSL-204 WINDOWS and LINUX Lab
- MCSL-205 C and Python Lab
- MCSL-209 Data Structure and Algorithms Lab
- BCSL-135 DBMS and C++ Lab
- BCSL-146 Object Oriented Programming using Java Lab
- BCSL-147 Web Programming Lab

SOFTWARE REQUIREMENTS FOR MCA (NEW) / MCAOL PROGRAMME

Course Code		Proposed Software
Semester I		
MCSL-216	DAA and Web Design Lab	For DAA (1) Compilers of C/C++ for Windows or Linux. For Web Design (2) HTML (latest version), CSS (latest version), Java Script, Notepad++
MCSL-217	Software Engineering Lab	(1) Software Cost Estimation : EZEstimate (2) Project Planning : StarTeam (Borland or Micro Focus) / Microsoft Project (3) Analysis: Gatherspace / IBM Rational Requisite Pro / Caliber RM (4) Design: IBM Rational Software Modeler / Together (Borland or Micro Focus) (5) Testing: IBM Rational Functional Tester / Silk Test (Borland or Micro Focus) (6) Web Software Engineering : Microsoft Office Project Web access or IBM Rational Software Architect Designer (extensible UML, BPMN, sketching tools, and other graphical tools and notations for visualization, comprehension, modeling, design, development, and deployment of complex software solutions) Note: Any other software whose functionality is equal or more than the above prescribed software can also be used. Please ensure that terms and conditions governing the software license are strictly adhered to



Semester II		
MCSL-222	OOAD and Web Technologies Lab	For Web Technologies(J2EE Programming) : NetBeans IDE for Java EE Developers/ Eclipse IDE for Java EE Developers For OOAD(UML Diagrams) : AgroUML/StarUML/BOUML/Dia/Visual Paradigm/Edraw-Max/Smart Draw/MS- Visio/Rational UML/ IBM Rational Software Architect Designer
MCSL-223	Computer Networks and Data Mining Lab	For Computer Networks : Compilers of C/C++ for Windows or Linux; NS2 or any other open source network simulator. For Data Mining : RapidMiner/R/Python/IBM SPSS Models/WEKA/ Apache Mahout/Knime/ or any other popular open source tool for R programming/ Excel Miner
Semester III		
MCSL-228	AI and Machine Learning Lab	Anaconda (open source software for Python)/ R Studio/ Jupyter Notebooks/ Google Colabs
MCSL-229	Cloud and Data Science Lab	Cloud Computing : KVM in Linux based systems, Oracle VirtualBox in windows based systems, CloudSigma, Open stack, Cloudsim For Data Science : R-Studio or any other open source tool for R Programming

Note : Any other software whose functionality is equal or more than the above prescribed software can also be used. Please ensure that terms and conditions governing the software license are strictly adhered to. The LSC should use latest versions of the software as far as possible.

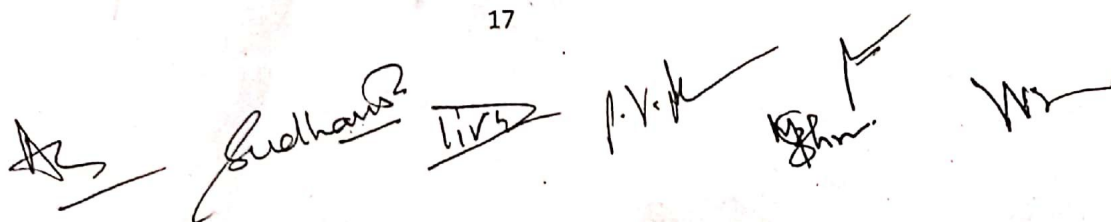
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SOFTWARE REQUIREMENTS FOR BCA (Revised) /BCAOL

Course Code	Course Title	Type of Software	Recommended Software and reasons
BCSL-013	Computer Basics and PC Software Lab	Latest Windows OS (XP onwards) and Office 2005 onwards	Latest Windows OS (XP onwards) and Office 2005 onwards
BCSL-021	C Language Programming Lab	Any of the 'C' compiler that support ANSI C specification	Making C++, VC++, Visual Studio GNUC, etc.
BCSL-022	Assembly Language Programming Lab	Software is needed that support at least combinational circuit creation and any Assembler that support 16 bit DOS applications and also support assembler directives as given in the block	Making logic diagrams-logic freely downloadable from http://www.pontybrn.in.freemove.co.uk/logic and MASM/Turbo Assembler/Flat Assembler/NASM or any other assembler for 16 bit DOS based applications (in case any assembler has different directives than available in the block, then, you are also advised to make available to help file of the assembler on these directives to the students.) OR EMU-8086 – A visual emulator and assembler, it provides a very good user interface and can demonstrate step-by-step execution of an assembly program showing its effect on registers, flags, etc. Thus it is a very useful learning tool for 8086 assembly language programming.
BCSL-032	C++ Programming Lab	Any of the 'C++' compiler	Borland C++, VC++, Visual Studio etc.
BCSL-033	Data and File Structure Lab	Any of the 'C' compiler that supports ANSI C specifications.	Borland C/ Borland C++/Visual studio (VC++).
BCSL-034	DBMS Lab	It requires a simple DBMS having SQL support and basic user interface	Two alternatives that can be used are: (a) MS Access- this is a common and cheaply available software along with the MS Office Professional. It is very useful for making small data bases OR (b) SQL with PHP interface. These are open source software that can be used to write SQL commands, PHP can be used to support interface.



BCSL-044	Java Programming Lab	Any Java development tool kit.	JDK latest version.
BCSL-045	Statistical Techniques Lab	Any 'C' compiler that supports ANSI C specifications. And MS-Excel/Any SpreadSheet	Borland C/ Borland C++/Visual Studio (VC++) and MS-Excel/Any Spread Sheet
BCSL-046	Algorithm Design Lab	Any 'C' compiler that supports ANSI C specifications.	Borland C/ Borland C++ /Visual studio (VC++)
BCSL-056	Network Programming Lab	Linux Latest Version	Linux Latest Version
BCSL-057	Web Programming Lab	Java/J2EE and Tomcat Webserver, MySQL	Borland C/Borland C++/Visual studio (VC++). And MS -Excel
BSCL-063	Operating Systems concepts and Networking Management Lab	Networking Operating Systems	Linux- Windows 2000 server. Two most used Networking Operating Systems are Linux and Windows 2000 server. This course covers aspects relating to both thesesoftware.
MCSL-016	Internet Concepts and Web Design	Needs HTML and JAVA Script editor, Browser and Web Page Design tool	Notepad for HTML and JAVA Script, Internet Explorer or any other Browser and Dream Weaver as a web page design tool. Dream Weaver is one of the most used software for Static web page design. It has a very good user-friendly interface.

SOFTWARE REQUIREMENTS FOR BCA_NEW / BCA_NEWOL PROGRAMME

Course Code	Course Title	Type of Software	Recommended Software and reasons
BCSL-013	Computer Basics and PC Software Lab	Latest Windows OS (XP onwards) and Office 2005 onwards	Latest Windows OS (XP onwards) and Office 2005 onwards
MCSL-204	WINDOWS and LINUX Lab	Windows Operating System Linux Operating System	Windows Operating System Linux Operating System
MCSL-205	C and Python Lab	For C: Compilers of C/C++ for Windows or Unix. For PYTHON Anaconda (open source software for Python), Google Colabs	For C: Compilers of C/C++ for Windows or Unix. For PYTHON Anaconda (open source software for Python), Google Colabs
MCSL-209	Data Structure and Algorithms Lab	Compilers of C & C++ for Windows or Linux	Compilers for C & C++
BCSL-135	DBMS and C++ Lab	DBMS Lab: My SQL, PostgreSQL C++ Lab: Any of the C++ Compiler	My SQL, PostgreSQL Any of the C++ Compiler
BCSL-146	Object Oriented Programming using Java Lab	Java Lab: Oracle JDK 8 onwards	Oracle JDK 8 onwards
BCSL-147	Web Programming Lab	Web Programming Lab: Java / J2EE, My SQL and Tomcat Webserver	Java / J2EE, My SQL and Tomcat Webserver

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SOFTWARE REQUIREMENTS FOR CIT/ CITOL

CITL-001 (Laboratory Course):

Microsoft Windows XP or Higher versions, Linux, Any C Compiler, Microsoft Office, Java Development Kit, Microsoft Expression Web

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