

Savitribai Phule Pune University



Dr. V. B. Gaikwad
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Director,
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Ref.BCUD/76

Dt. 18.03.2015

To,
The Principal/ Directors.
All Affiliated colleges
All Recognized institute
Savitribai Phule Pune University,
Pune

Subject: Guidelines regarding evaluation of Cyber security courses of 4 credits.

Dear Sir/Madam,

As per decision taken by the University authorised, Cyber Security courses of 4 credits has been incorporated in the syllabi of Post graduate courses. We hereby, would like to give the guidelines for the evaluation of these courses. We hereby, would like to give the guidelines for the evaluation of these courses attached herewith.

With regards,

Dr. V. B. Gaikwad
Director, BCUD

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Principal

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Deepika Chadda
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Course Coordinator

GUIDELINES FOR EVALUATION OF CYBER SECURITY COURSES OF 4 CREDITS

From the academic year 2014-15, the cyber security courses for 4 credits have been incorporated in the curriculum of Post-graduate degree programmes of Savitribai Phule Pune University.

- Cyber security courses has been divided into 4 modules namely :

| Name of Modules | No. Of credit | No. Of hours | No of Marks |
|--|---------------|--------------|-------------|
| Module : 1 Pre-requisites in Network and Information Security | One credit | 14 | 25 |
| Module : 2 Security Management | One credit | 13 | 25 |
| Module : 3 Information and Network Security | One credit | 13 | 25 |
| Module:4 System and Application Security | One credit | 20 | 25 |

- Evaluation comprises of the Internal Assessment of the aforesaid modules are on the basis of following components:

| Name of module | Examination pattern | | Marks | | |
|----------------|---|--|-------|-------|----|
| Module 1 | Written Examination | Objective questions, MCQs, define/answer in one sentence | 7 | 15 | |
| | | Two descriptive questions of short answers | 8 | | |
| | Hands on /Practical examination along with viva | | | | 10 |
| | | | | Total | 25 |
| Module 2 | Written Examination | Objective questions, MCQs, define/answer in one sentence | 7 | 15 | |
| | | Two descriptive questions of short answers | 8 | | |
| | Hands on /Practical examination along with viva | | | | 10 |
| | | | | Total | 25 |
| Module 3 | Written Examination | Objective questions, MCQs, | 7 | 15 | |
| | | | | | |

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Course Coordinator



Introduction to Cyber Security / Information Security

Syllabus for 'Introduction to Cyber Security / Information Security' program* for students of University of Pune is given below.

The program will be of 4 credits and it will be delivered in 60 clock hours**.

*: Course material for this program will be developed by CINS

** : These clock hours also includes practical sessions and demonstrations wherever required.

| SR. NO. | TOPIC | HOURS | MARKS |
|---------|---|-------|-------|
| 1 | Module 1: Pre-requisites in Information and Network Security | 14 | 25 |
| | Chapter 1: Overview of Networking Concepts | 3 | |
| | Chapter 2: Information Security Concepts | 3 | |
| | Chapter 3: Security Threats and Vulnerabilities | 5 | |
| | Chapter 4: Cryptography / Encryption | 3 | |
| 2 | Module 2: Security Management | 13 | 25 |
| | Chapter 1: Security Management Practices | 7 | |
| | Chapter 2: Security Laws and Standards | 6 | |
| 3 | Module 3: Information and Network Security | 13 | 25 |
| | Chapter 1: Access Control and Intrusion Detection | 3 | |
| | Chapter 2: Server Management and Firewalls | 4 | |
| | Chapter 3: Security for VPN and Next Generation Technologies | 6 | |
| 4 | Module 4: System and Application Security | 20 | 25 |
| | Chapter 1: Security Architectures and Models | 5 | |
| | Chapter 2: System Security | 5 | |
| | Chapter 3: OS Security | 5 | |
| | Chapter 4: Wireless Network and Security | 5 | |

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Detail Syllabus for Credit Course for University of Pune

Module 1: Pre-requisites in Information and Network Security

Chapter 1: Overview of Networking Concepts

1. Basics of Communication Systems
2. Transmission Media
3. Topology and Types of Networks
4. TCP/IP Protocol Stacks
5. Wireless Networks
6. The Internet

Chapter 2: Information Security Concepts

1. Information Security Overview: Background and Current Scenario
2. Types of Attacks
3. Goals for Security
4. E-commerce Security
5. Computer Forensics
6. Steganography

Chapter 3: Security Threats and Vulnerabilities

1. Overview of Security threats
2. Weak / Strong Passwords and Password Cracking
3. Insecure Network connections
4. Malicious Code
5. Programming Bugs

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6. Cyber crime and Cyber terrorism
7. Information Warfare and Surveillance

Chapter 4: Cryptography / Encryption

1. Introduction to Cryptography / Encryption
2. Digital Signatures
3. Public Key infrastructure
4. Applications of Cryptography
5. Tools and techniques of Cryptography

Module 2: Security Management

Chapter 1: Security Management Practices

1. Overview of Security Management
2. Information Classification Process
3. Security Policy
4. Risk Management
5. Security Procedures and Guidelines
6. Business Continuity and Disaster Recovery
7. Ethics and Best Practices

Chapter 2: Security Laws and Standards

1. Security Assurance
2. Security Laws
3. IPR

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4. International Standards
5. Security Audit
6. SSE-CMM / COBIT etc

Module 3: Information and Network Security

Chapter 1: Access Control and Intrusion Detection

1. Overview of Identification and Authorization
2. Overview of IDS
3. Intrusion Detection Systems and Intrusion Prevention Systems

Chapter 2: Server Management and Firewalls

1. User Management
2. Overview of Firewalls
3. Types of Firewalls
4. DMZ and firewall features

Chapter 3: Security for VPN and Next Generation Technologies

1. VPN Security
2. Security in Multimedia Networks
3. Various Computing Platforms: HPC, Cluster and Computing Grids
4. Virtualization and Cloud Technology and Security

Module 4: System and Application Security



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Chapter 1: Security Architectures and Models

1. Designing Secure Operating Systems
2. Controls to enforce security services
3. Information Security Models

Chapter 2: System Security

1. Desktop Security
2. email security: PGP and SMIME
3. Web Security: web authentication, SSL and SET
4. Database Security

Chapter 3: OS Security

1. OS Security Vulnerabilities, updates and patches
2. OS integrity checks
3. Anti-virus software
4. Configuring the OS for security
5. OS Security Vulnerabilities, updates and patches

Chapter 4: Wireless Networks and Security

1. Components of wireless networks
2. Security issues in wireless

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With regards,


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GUIDELINES FOR EVALUATION OF CYBER SECURITY COURSES OF 4 CREDITS

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- Cyber security courses has been divided into 4 modules namely :

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| Module : 2 Security Management | One credit | 13 | 25 |
| Module : 3 Information and Network Security | One credit | 13 | 25 |
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- Evaluation comprises of the Internal Assessment of the aforesaid modules are on the basis of following components:

| Name of module | Examination pattern | | Marks | | |
|----------------|---|--|-------|-------|----|
| Module 1 | Written Examination | Objective questions, MCQs, define/answer in one sentence | 7 | 15 | |
| | | Two descriptive questions of short answers | 8 | | |
| | Hands on /Practical examination along with viva | | | | 10 |
| | | | | Total | 25 |
| Module 2 | Written Examination | Objective questions, MCQs, define/answer in one sentence | 7 | 15 | |
| | | Two descriptive questions of short answers | 8 | | |
| | Hands on /Practical examination along with viva | | | | 10 |
| | | | | Total | 25 |
| Module 3 | Written Examination | Objective questions, MCQs, | 7 | 15 | |

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To,
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Savitribai Phule Pune University,
Pune

**Subject: Guidelines regarding evaluation of Human Rights Education Programme
(2 credits)**

Dear Sir/Madam,

As per decision taken by the University authorised, Human Education Programme of 2 credits has been incorporated in the syllabi of Post graduate courses. We hereby, would like to give the guidelines for the evaluation of these courses attached herewith.

With regards,


Dr. V. B. Gaikwad
Director, BCUD



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Course Coordinator

| | | | | |
|--------------------|---|--|---|------------|
| | | define/answer in one sentence | | |
| | | Two descriptive questions of short answers | 8 | |
| | Hands on /Practical examination along with viva | | | 10 |
| | Total | | | 25 |
| Module 4 | Written Examination | Objective questions, MCQs, define/answer in one sentence | 7 | 15 |
| | | Two descriptive questions of short answers | 8 | |
| | Hands on /Practical examination along with viva | | | 10 |
| | Total | | | 25 |
| GRAND TOTAL | | | | 100 |

- Course- related skill-based practical work will be entirely based on the skills to be developed in the students. It may include the topics as has been prescribed in the syllabi of every module.
- Practical components may be based on laboratory work, on job industrial training, working with NGO or similar organizations, project, group discussion, presentation etc. unless otherwise clearly specified in the given syllabi of all the courses.
- College is supposed to maintain the record of marks allotted to the practical work carried out by the students.
- There shall be combine passing (written exam + practical, viva) of 40%.



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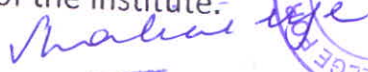
 Course Coordinator

GUIDELINES FOR EVALUATION OF HUMAN RIGHTS EDUCATION PROGRAMME FOR 2 CREDITS

- Students of all the Post graduate programmes have to undergo the Human Rights Education programme
- The Courses under the programme will have no affect on the credit/grade of the students of their regular course of study. The grades earned in the papers of this programme will reflect separately in the mark statement of each student.
- In the HRE Programme there will be three courses.

| Paper code | Course Name | Credits | Marks |
|------------|--|---------|-------|
| HRE 101 | Introduction to Human Rights and Duties. (Mandatory) | 1 | 25 |
| HRE 102 | Human Rights of Vulnerable and Disadvantaged Groups (Optional) | 1 | 25 |
| HRE: 103 | Human Rights and Duties in India: Law, Policy, Society and Enforcement mechanism. (Optional) | 1 | 25 |

- In the three courses, students have to opt for only two courses during their entire Post Graduate Programme Among the three papers, **(HRE 101 Introduction to Human Rights and Duties)** is a compulsory course. In the other two papers (**HRE 102 Human Rights of Vulnerable and Disadvantaged Groups** and **HRE 103 Human Rights and Duties in India: Law, Policy, Society and Enforcement Mechanism**) the students are free to select any one paper as per the decision of the head of the institute.
- At no point of time any two courses should be taken together. (This rule is applicable for the students in part I or from the new academic year).
- The Coordinators of each institute appointed by the Directors/Principal shall monitor the programme under the Supervision of the Head of the institute.


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- It would be a self-study programme. The students will have to study the materials of each paper, based on the materials uploaded on the University Website. Apart from the materials available on the website, students are free to refer to any reference book of their choice stated in the bibliography. Apart from the reading materials, a video of Lectures delivered by some of the eminent professors will also be available on the University Web Site.
- For evaluation of the papers, any of the models prescribed in the credit pattern for Internal Assessment regulations may please be adopted depending on the Models suitable to the institute.
- Individual faculty member shall have the flexibility to design the concurrent evaluation components in a manner so as to give a balanced assessment of student capabilities across Knowledge, Skills and Abilities based on following assessment tools:
 1. Case Study/ Caselet/ Situation Analysis
 2. Class Test
 3. Open book test
 4. Study tour/ Field visit and report of the same.
 5. Small group Project
 6. Group Discussion
 7. Role Play/ Story telling
 8. Thematic Presentation
 9. Industry Analysis
 10. In depth viva
 11. Quiz
 12. Model Development / Simulation exercises
- A pass in the two papers is compulsory.
- Each Paper carries only One Credit. This means a credit is equal to 25 marks. Hence, the minimum applicable per credit as per the credit system rules need to be adopted as the passing minimum. Based on the marks that are secured by each student the grade may be decided depending on the mark obtained in each paper.
- If any student fails to secure the minimum passing grade of E in any of the two papers, such student may have to repeat such paper and has to pass the paper compulsorily otherwise they won't be conferred the degree.
- The Coordinators of each institute need to maintain a record of the evaluation methods adopted by the respective institute.



Mahesh
 Course Coordinator