From

Director Higher Education, Haryana,
Shiksha Sadan, Sector-5, Panchkula.

To

1.Registrars of all State & Private Universities in the State of Haryana
2.Principals of all Govt. Colleges in the State of Haryana.
3. Principals of all Govt. Aided Colleges in the State of Haryana.

Memo No. DHE-010009//104-2022 Co (1)
Dated, Panchkula, the 07-12-2022

Subject :   **Short Duration Certificate/Diploma Courses.**

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Kindly refer to the subject cited above.

I have been directed to forward a copy of U.O.letter No. 3/49-2021Adv./HSHEC dated 17.11.2022 received from Advisor, Haryana State Higher Education Council,Panchkula, for further consideration and necessary action.

Encl: As above.

Superintendent Coordination
for Director Higher Education, Haryana
Panchkula

Dated: Panchkula the, 07-12-2022

Endst:even

A copy is forwarded to Sh. K.K. Agnihotri, Advisor, Haryana State Higher Education Council Panchkula (HSHEC), Haryana with reference to their letter no. 3/49-2021Adv./HSHEC dated 17.11.2022 for information and necessary action.

Superintendent Coordination
for Director Higher Education, Haryana
Panchkula

1

407 NPE
21-11-22

हरियाणा सरकार
हरियाणा राज्य उच्च शिक्षा परिषद

Sub.:- Introduction of Short Term Certificate/Diploma courses which can be useful to the students to make them job worthy or entrepreneur

*****

The proposal on the subject cited above came up for discussion in a meeting with PSHE and Chairperson today the 17th November 2022.

A copy of the proposal alongwith orders of Hon'ble CM is placed below for kind perusal of PSHE.

K.K. Agnihotri
Advisor, HSHEC
K.K. AGNIHOTRI
Advisor
Haryana State Higher Education Council
Panchkula

U.O. No.:-
3/49-2021
Adv./HSHEC
Dated:-
17.11.2022

PSHE

Put up early.

DA/E

JD(Adv.)

DD-Coord.

S. NPE

PUC relates to more than one Br., so it relates to Coord. Br.

D.D.-NPE

S-Coord

RK

GOVERNMENT OF HARYANA
बेटी बचाओ—बेटी पढ़ाओ

हरियाणा सरकार

HARYANA STATE HIGHER EDUCATION COUNCIL

Sub.:- Short duration Certificate/Diploma courses

✶✶✶✶✶

Diary No.:- 184/HSHEC

Dated: - 15.11.2021

Haryana State Higher Education Council is facilitating and coordinating implementation of NEP-2020 which the State Govt. is committed to implement in letter and spirit and for that the Govt. has declared that the most of parameters oh which would be translated into action by 2025 as against National targets of 2030.

The respective Departments of State Govt. and the Universities have initiated various processes at their level by identifying deliverables and fixing the time frame.

A lot of emphasis has been laid in skilling the students along with education being imparted to them through various streams. These have been captioned as 'Equity and Inclusion in Higher Education-para 14' 'Reimagning Vocational Education- para 16' 'Professional Education -para 20' and so on.

The Council therefore constituted a committee comprising of the following:-

1. Dr. Desh Bandhu, Former Principal S.D. College, Ambala Cantt. – Chairman
2. Dr. Sushma Arya, Former Principal D.A.V. College for Girls, Yamunanagar
3. Dr. (Mrs.) Archana Mishra, Principal Govt. College , Sector-1, Panchkula
4. Dr. Rishi Pal, Former Principal Govt. College, Kaithal
5. Dr. Rajinder Singh, Principal, S.D. College, Ambala Cantt
6. Dr. (Mrs.) Rekha Sharma, Former Principal Govt. College, Karnal
7. Dr. S.K. Mishra, Former Principal Govt. College, Hisar

The committee has submitted a detailed report which is flagged as 'A' for kind perusal. The committee suggested short term courses which can be useful to the students to make them job worthy or entrepreneur. The salient feature is that these courses can be taken up by the students irrespective from any stream. Further these certificate/diploma courses with duration of six months/one year have been categorized in three categories viz job oriented, entrepreneurship and value added.

This is a good exercise carried out by the committee. Therefore after consideration of the matter the Council proposes as under:-

1. Department of Higher Education may share this report with Govt., Govt. Aided Colleges, and Universities for their consideration.
2. The Institutions/Universities be encouraged to introduce these courses along with regular stream. For this the Institutions may work out the details, implementation plan and share with the HSHEC and Department. No formal approval should be mandatory in such courses
3. The Institutions should be given the freedom to shortlist existing faculty who will impart instructions over and above their defined workload with additional remuneration to be worked out at Institutional level. If not possible, then contract faculty for a fixed duration or

GOVERNMENT OF HARYANA

बेटी बचाओ–बेटी पढ़ाओ

हरियाणा सरकार

modular approach and decide the mode of payment as per coverage of course content

4. The Institutions would be given the freedom to decide course fee with concessions to deserving students who are not n a position to pay

5. The entire income be kept in a separate account and the surplus be utilized for strengthening the facilities in the concerned courses

6. Preparation should start from the current academic session and the courses be introduced with all readiness from next academic session

If approved, the above proposals be submitted to Hon'ble CM for kind consideration/approval in principle and thereafter these will be shared with the Department accordingly for follow up action please.

for consideration & approval.

K. Agnihotri
24.XI.2021
K.K. Agnihotri
Advisor, HSHEC
K.K. AGNIHOTRI
Advisor
Haryana State Higher Education Council
Panchkula

Chairperson

30-11-2021
प्रो॰ बृज किशोर कठियाला
अध्यक्ष
हरियाणा राज्य उच्च शिक्षा परिषद

Hon./CM

U.O. No
3/49-2021
Adv/HSHEC
Dt. XII.2021

CM has been apprised. He has desired the report be shared with the deptts for further n/a

6/1/22
(Dr. Amit K. Agrawal)
Addl. PSCM

Chairperson

May share the report with PSHE and with DG HE & TE with a request that the Council may be kept informed about the actions taken

BKK

HSHEC 9.1.2022
No 3/49—2021 Adv/HSHEC dt 10·1·2022

Litter issued. Please link it with main file + Resubmit
K. Agnihotri
10·1·2022

No 3/49-2021 Adv/HSHEC dt 10·1·2022

Debashar Kumar
pl remind as per litter please have below

GOVERNMENT OF HARYANA
बेटी बचाओ–बेटी पढ़ाओ

10/2

REPORT ON SHORT DURATION CERTIFICATE/DIPLOMA COURSES FOR COLLEGES.

The Chairman,
Haryana State Higher Education Council,
Panchkula (Haryana)

Subject:- SHORT DURATION CERTIFICATE/DIPLOMA COURSES FOR COLLEGES.

Sir,

Reference to Memo No 3/49 – 2021 Adv./HSHEC dated 22.09.2021, a committee consisting of

1. Dr. Desh Bandhu, Former Principal S.D.College, Ambala Cantt.as Chairman
2. Dr. Sushma Arya, Former Principal D.A.V. College for Girls, Yamunanagar
3. Dr. (Mrs.) Archana Mishra, Principal Govt. College, Sector 1, Panchkula
4. Dr. Rishi Pal, Former Principal Govt. College, Kaithal
5. Dr. Rajinder Singh, Principal, S. D. College, Ambala Cantt.
6. Dr. (Mrs.) Rekha Sharma, Former Principal Govt. College, Karnal
7. Dr. S.K. Mishra, Former Principal Govt. College, Hisar
   Was constituted to recommend a few short duration courses for the colleges to make students job worthy.

The first meeting of the committee was held on 28th September 2021 at S. D. College, Ambala Cantt to discuss the modalities to look for the short term courses which can be useful to the students to make them job worthy or entrepreneur and also value added course4which will help them in their job or business carrier.

After large rounds of virtual interaction among team mates a good number of such courses were worked out, many of which are being successfully being run in a few colleges. These courses were categorized in three categories viz. Job Oriented, Entrepreneurship and value added courses. The courses were further grouped in various streams/subjects.

While framing the course and syllabi care was taken that the students from any faculty can study any of these courses.

The committee members are of the opinion that duration of certificate courses will be six months/one semester and that of Diploma will be one year/one academic session. Ultimately the duration and any addition/subtraction is left to the wisdom of various board of studies of different Universities.

List of proposed Certificate/Diploma courses along with the syllabi is enclosed for kind consideration of the Hon'ble commission.
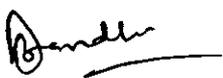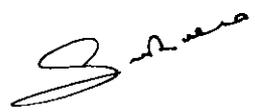
Dr. Desh Bandhu	Dr. Sushma Arya	Dr. (Mrs.) Archana Mishra
Dr. Rishi Pal	Dr. Rajinder Singh	Dr. (Mrs.) Rekha Sharma,

Dr. S.K.Mishra

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List of short duration Certificate/Diploma Courses

No.	Subject	
16	Office automation and Tally	3
17	Computer application and Information Technology	3
18	Information Technology & Retail Management	3
19	Networking & Mobile Applications	3
20	Graphic Desiging	3
21	Digital Marketing	3
21A	Digital Marketing	51-52
22	Web Designing	4
23	3 D Animation	4
24	Data Science	4
	Bio farming	4
25	Programming with Phyton	4
25A	Programming with Phyton	53
26	Data Entry operator	4
27	Artificial Intelligence in Health Care & Bio Technology	4
28	Hardware & Technology	4
29	Office automation and E - Governance	4
29A	Web Designing using HTML	55-57
29B	Open Source Software	59-61
COMMERCE		
30	Digital Marketing	5
31	Export, import & Logistic Mgt	5
32	E. Return Filling (Direct Taxation and law)	5
33	GST	5
34	E - Business	5
35	Typing & Short Hand English	5
35A	Typing & Short Hand English	63-64
36	Typing & Short Hand Hindi	5

BIOLOGY

E-Code	Subject	
E-16	Soil Mangement & Vermi - composting	92
E-16A	Vermicomposting	107
E-17	Landscaping	92
E-18	Rain Water Harvesting	92
E-19	Ornamental Fish Culture	92
E-20	Mushroom Cultivation	92
E-20A	Mushroom Cultivation	109
E-21	Bio farming	92
E-21A	Bio farming	111
E-22	Horticulture and Nursery Management	93
E-22A	Horticulture and Nursery Management	113
E-23	Landscape Gardening & Management	93
E-24	Green House Technology	93

MUSIC/THEATRE

E-Code	Subject	
E-25	Theater and stage craft	93
E-26	Western Contemporary Dance	93

PHYSICAL EDUCATION

E-Code	Subject	
E-27	Panchkarma	93

CHEMISTRY

VA-Code	Subject	
VA-16	Chemistry in day today life	116

SCIENCE/HUMANITIES

VA-Code	Subject	
VA-17	Research Methodology	116
VA-17A	Research Methodology	131

MUSIC

VA-Code	Subject	
VA-18	Rhythm: Course on Music Instruments	117
VA-18A	Rhythm: Course on Music Instruments	133-134
VA-19	Sound Design & Music Voval	117
VA-19A	Sound Design & Music Voval	135-136

COMPUTER

VA-Code	Subject	
VA-20	Power Point Presentation	117
VA-20A	Power Point Presentation	137-13.

General

VA-Code	Subject	
VA-21	Creative skills: Art & Craft	139
VA-22	Impromptu Speaking & Stage Management	141
VA-23	Personality Development and Professional Groming	143
VA-24	Circuit Design on PCB	145
VA-25	First Aid & Home Nursing	147

No.	Subject	Page
37	Taxation	5
37A	Taxation	65
38	Advertising & Marketing Communications	5
38A	Advertising & Marketing Communications	67
39	Business Management	5
39A	Business Management	69
40	Banking and Finance	5
41	Store Operation in Retail Marketing	5
42	Banking and Financial Sevices	5
PHYSICAL EDUCATION		
43	Yoga and Meditation	5
44	Self defence skills	5
45	Aerobatics and Fitness	5
46	Course on sports coaching	5
47	Course on sports technology	5
48	Course on sports fitness	6
49	First aid training	6
HOME SCIENCE		
50	Food Science and nutrition	6
51	Interior Desiging	6
52	Hospitality Management	6
53	Food Security	6
53A	Food Security	71
CHEMISTRY		
54	Soil & Water testing assistant	6
PHYSICS		
55	Refrigiration & Airconditioning	6
56	Photograpy	6
BIOLOGY/ ENVIORNMENT SCIENCE		
57	Enviornment Security	6
58	Waste Management	6
58A	Waste Management	73-75
58B	Waste Management	77
59	Energy Security	6
59A	Energy Security	79
59B	Environmental Impact Assessment	81

Job Oriented Courses

Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv. Dip.	Credits	Broad outline of the Syllabus
1	Computer	Comp. Aided Accountancy (Tally)	Diploma	60	Accounting Concepts, Computer Fundamentals, Operating System Fundamentals, Communicative English & PD
2	Computer	Comp. Appl. In Commerce/Management/Business	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, Practicals on PC Software & Internet, Personality Development, Multimedia, RDBMS, Internet Applications Web Designing, Flash Fundamentals
3	Computer	System Applications & Product in Data Processing-SAP	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, Practicals on PC Software & Internet, Personality Development, Multimedia, RDBMS, Internet Applications
4	Computer	Software and Application Development	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, Practicals on PC Software & Internet, Personality Development, Multimedia, RDBMS, Internet Applications Web Designing, Flash Fundamentals
5	Computer	Cyber Security	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, Practicals on PC Software & Internet, Different Antiviruses
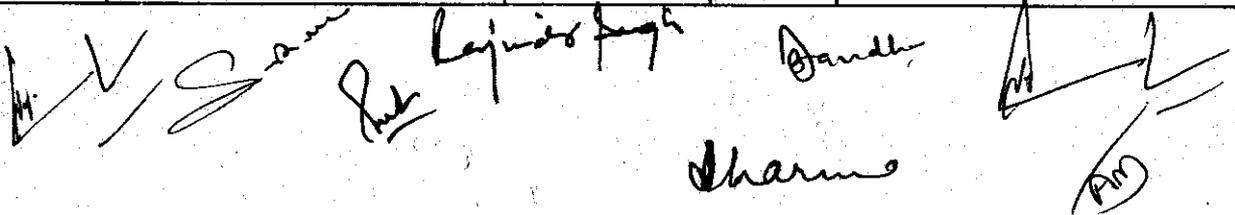
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Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv. Dip.	Credits	Broad outline of the Syllabus
6	Computer	Ethical hacking	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, Practicals on PC Software & Internet. Ethical hacking
7	Computer	Microsoft Certification	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, Microsoft Certification
8	Computer	Computer networking	Advanced Diploma	120	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, Practicals on PC Software & Internet
9	Computer	Desktop Publishing	Advanced Diploma	120	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, Practicals on PC Software & Internet, Desktop Publishing
10	Computer	System Administration with Linux	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, LINUX
11	Computer	Network Administration	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, Administration
12	Computer	Database Administration	Diploma	60	Computer Fundamentals, Operating System Fundamentals, Data Administration and Its Analysis
13	Computer	Oracle SQL & PLSQL	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, SQL, PLSQL

Sl. No.	Department	Name of the Course	Certificate/ Dip./Adv. Dip.	Credits	Broad outline of the Syllabus
14	Computer	PCP Design and Assembly	Diploma	60	Contents and Overview In this course you will learn how to design your own PCB using Proteus and learn how to make the PCB
15	Computer	PC Maintenance & Networking	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, PC Software, Introduction to Networking and Internet, Its Maintenance
16	Computer	Office Automation and Tally	Diploma	60	Accounting Concepts, Computer Fundamentals, Operating System Fundamentals, Communicative English & PD
17	Computer	Computer Application and Information technology	Diploma	60	Accounting Concepts, Computer Fundamentals, Operating System Fundamentals, Communicative English & PD
18	Computer	Information Technology and Retail Management	Advanced Diploma	120	Business Organization, Retail Management, Computer Fundamentals, Business Mathematics, Communication Skills and PD, PC Softwares, Enterpreneurship Development, Supply Chain Management, Networking Fundamentals, Financial Accounting Business Communication, Internet Fundamentals, Tax, Advertising
19	Computer	Networking & Mobile Application	Certificate	30	Programming Different Languages, Mobile user Interface Designs, MYSQL, Wireless Networks, LINUX.
20	Computer	Graphic Designing	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, Graphic Designing
21	Computer	Digital Marketing	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, Digital Marketing

2481715/2022/Coordination

Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv. Dip.	Credits	Broad outline of the Syllabus
22	Computer	Web Designing	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, Web Designing
23	Computer	3D Animation	Diploma	60	Computer Fundamentals, 3D Animation and VFX, Production
24	Computer	Data Science	Certificate	30	Computer Fundamentals, Computer organization, Data Structure and Types, Analysis
25	Computer	Programming with Python	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, Programme
26	Computer	Data Entry Operator	Advanced Diploma	120	Computer Fundamentals, Computer organization, Operating System Fundamentals
27	Computer	Artificial Intelligence in Health Care & Bio-technology	Advanced Diploma	120	Biological Intelligence Vs Artificial Intelligence Basics: concepts, terminologies and workflow, ML, DL, Applications of AI in the Pharmaceutical Industry, AI-driven applications for drug design, lead optimization, and clinical trials, Artificial Intelligence for Biomarker Discovery, AI in Precision Medicine, AI in shaping the future of Bioinformatics, AI in health diagnostics / Confluence of AI and Smart Devices for Monitoring Health and Disease AI in medical imaging Artificial Intelligence and Synthetic Biology, AI in biology: Risks involved and ethical concerns, Future Prospects of AI in health care and research
28	Computer	Hardware and Technology	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, Hardware and Its Maintainenace
29	Computer	Office Automation and E-Governance	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, Softwares

Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv. Dip.	Credits	Broad outline of the Syllabus
30	Commerce	Digital Marketing	Diploma	60	Computer Fundamentals, Computer organization, Operating System Fundamentals, Digital Marketing
31	Commerce	Export, Import & Logistic Management	Diploma	60	Introduction, Case Studies and training
32	Commerce	E-Return Filling (Direct Taxation & Law)	Diploma	60	Computer Fundamentals, Accounting Concepts, E-return Filing
33	Commerce	GST	Certificate	30	Computer Fundamentals, Accounting Concepts, GST
34	Commerce	E-Business	Certificate	30	Computer Fundamentals, Business Concepts, E-Business
35	Commerce	Typing & Shorthand English	Diploma	60	Computer Fundamentals, Softwares and Shorthand
36	Commerce	Typing & Shorthand Hindi	Diploma	60	Computer Fundamentals, Softwares and Shorthand
37	Commerce	Taxation	Certificate	30	Computer Fundamentals, Accounting Concepts, E-return, GST, various softwares
38	Commerce	Advertising & Marketing Communications	Diploma	60	Computer Fundamentals, Marketing Concepts, Advertising Concepts, Communications
39	Commerce	Business Management	Diploma	60	Computer Fundamentals, Business Concepts, Planning and Management
40	Commerce	Banking and Finance	Diploma	60	Computer Fundamentals, Introduction to Banking and Finance. Planning and Management
41	Commerce	Store Operation in Retail Marketing	Diploma	60	Business Organization, Retail Management, Computer Fundamentals, Business Mathematics, Communication Skills and PD, PC Softwares
42	Commerce	Banking and Financial Services	Diploma	60	Computer Fundamentals, Introduction to Banking and Finance. Planning and Management
43	Physical Education	Yoga and Medication	Diploma	60	Yoga, Naturopathy, Common Problem and Solutions
44	Physical Education	Self Defence Skills	Certificate	30	Introduction, Need, techniques and topics
45	Physical Education	Aerobatics and Fitness	Certificate	30	History, Organisation, Diseases and its prevention
46	Physical Education	Course on Sports Coaching	Advanced Diploma	120	History, Organisation, Games
47	Physical Education	Course on Sports Technology	Advanced Diploma	120	History, Organisation, Softwares

Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv. Dip.	Credits	Broad outline of the Syllabus
48	Physical Education	Course on Sports Fitness	Certificate	30	History, Organisation, Diseases and its prevention
49	Physical Education	First Aid Training	Certificate	30	Introduction, Basic Treatments
50	Home Science	Food Science and Nutrition	Advanced Diploma	120	Food Production Module, Food and Beverage, Hygiene And Sanitation, Nutrition and Food Sciences, Personality Development
51	Home Science	Interior Designing	Advanced Diploma	120	Material and Construction, Architecture, Costing and Estimates
52	Home Science	Hospitality Management	Advanced Diploma	120	Food and Beverages, Front Office, Culinary Art, Management Skills, House Keeping
53	Home Science	Food Security	Certificate	30	Introduction, Need and different methods
54	Chemistry	Soil & Water Testing Assistant	Certificate	30	Introduction, Types, tests and analysis
55	Physics	Refrigiration & Airconditioning	Certificate	30	refrigeration cycles and understanding of psychrometry and psychrometric processes
56	Physics	Photography	Certificate	30	History and Origion, Types and Practical Work
57	Biology/Enviro nment Sci.	Environment Security	Certificate	30	Introduction, Need and different methods
58	Biology/Enviro nment Sci.	Waste Management	Certificate	30	Introduction, Need and different methods
59	Biology/Enviro nment Sci.	Energy Security	Certificate	30	Introduction, Need and different methods
60	Languages	Journalism & Mass Communication	Diploma	60	Introduction, History & Origion, Need
61	Languages	Patrachar	Diploma	60	Introduction, Writing and Reporting
62	Languages	Newsreading & Anchoring	Diploma	60	Writing and Reporting, Anchoring, Radio Jockey
63	Library Science	Library Automation	Diploma	60	Introdution, Need and Library Automation Softwares, KOHA, etc.
64	Library Science	Library Management	Diploma	60	Need & Classification, Planning and Management.
65	Humanities	Resource Security	Certificate	30	Resource Security Introduction, Need and different methods
66	Humanities	Social Security	Certificate	30	Social Security Introduction, Need and different methods
67	Humanities	Human Security	Certificate	30	Human Security Introduction, Need and different methods

Sl. No.	Department	Name of the Course	Certificate/ Dip./Adv. Dip.	Credits	Broad outline of the Syllabus
68	Humanities	Cultural Security	Certificate	30	Cultural Security Introduction, Need and different methods
69	Humanities	Fire Security	Certificate	30	Introduction, Need and different methods
70	Humanities	Disaster Management	Certificate	30	Introduction, Need and different methods
71	Humanities	Psychology	Advanced Diploma	120	General Psychology, Mental Health & Counseling

⑨ 5A

Certificate Course in Cyber Security (VCS-106)

Course Duration: 60 hours

Scheme of Course

Paper No.	Title of Paper	Maximum Marks	Passing Marks	Duration of Exam
VCS-106 (i)	Cyber Security(Theory)	50	20	3 hours
VCS-106 (ii)	Cyber Security(Practical)	50	20	3 hours

Program Outcome

At the end of programme students will be able:

- To gain a good understanding of the concepts and foundation of computer security.
- To identify vulnerabilities of IT system.
- To Implement technical strategies ,tools, and techniques to secure data and information for any organisation
- To describe how cyber attacks against an organisation can be monitored and investigated for actionable intelligence
- Apply skills and knowledge to create new responses to emerging cyber security problems so that they can respond to new attacks as they evolve

Job Roles

- Security analyst
- Security Engineer
- Security Consultant
- Security Administrator
- Security Software Developer
- Cryptanalyst
- Security Architect

Objective

The objective of this course is to train candidates from the multiple disciplines instilling in them the necessary knowledge of ethics, management, and policy related to cyber security and the threat related to the field.

Paper Code: VCS-106 (i)
Nomenclature: Cyber Security(Theory)

Maximum Marks: 50
Minimum Marks: 20
Time: 3 hour

Course Learning Outcome:

The student will learn to
- Apply master hacking concepts to manage information security efficiently
- Design security architecture and framework for a secure IT operation
- Frame data security strategies, and utilize them to analyze risks
- Protect data movement, perform disaster recovery, access network security and manage client databases

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of four (short-answer type) questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory Question No. 1. All questions will carry equal marks.

Unit 1

Introduction to Cyber Security Overview of Cyber Security, Cyber Threats:- Cyber Warfare-Cyber Crime-Cyber terrorism- Types of Attacks, Digital Privacy, Online Tracking, Privacy Laws, Types of Computer Security risks (Malware, Hacking, Pharming, Phishing, Ransomware, Adware and Spyware, Trojan, Virus, Worms, WIFI Eavesdropping, Scareware,), Antivirus and Other Security solution, Password, Secure online browsing, Email Security, Cloud storage security, IOT security

Unit 2

Security Threats and vulnerabilities
Overview of Security threats, Hacking Techniques, Password Cracking, Insecure Network connections, Malicious Code, Programming Bug, Cyber crime and Cyber terrorism, Information Warfare and Surveillance

Unit 3

OS Security
OS Security Vulnerabilities, updates and patches, OS integrity checks, Anti-virus software, Design of secure OS and OS hardening, Configuring the OS for security, Trusted OS

Unit 4

Cryptography and Secure Communication

The Difference Between Encryption and Cryptography, Cryptographic Function, Cryptographic Types, Digital Signature, The Difference Between Digital Signatures and Electronic Signatures, Intrusion, Physical Theft, Abuse of Privileges, Unauthorized Access by Outsider, Malware infection, Intrusion detection and Prevention Techniques

Books Recommended:

1. Nandan Kamath Technology	:	A Guide to Cyber Laws and the Information Act, 2000 with Rules and Notifications.
2. Rodney, D. Ryder	:	Guide to Cyber Laws.
3. Yogesh Barua& Denzyl	:	Cyber Crimes
4. Sharma, Vakul	:	Information Technology: Law and Practice
5. Justice Yathindra Singh	:	Cyber Laws
6. Bakshi, R.M.	:	Cyber & E- Commerce Laws
7. Farooq Ahmad	:	Cyber Law in India (Law of Internet)

Text Books:
1. Nelson Phillips and Enfinger Steuart, "Computer Forensics and Investigations", Cengage Learning, New Delhi, 2009.
2. Sunit Belapure and Nina Godbole, "Cyber Security: Understanding Cyber Crimes, Computer Forensics and Legal Perspectives", Wiley India Pvt. Ltd.

Paper Code: VCS-106 (ii)
Nomenclature: Cyber Security(Practical)

Maximum Marks: 50
Minimum Marks: 20
Time: 3 hour

Course outcomes:
After successful completion of this course, students will be able to:
- Install, configure and deploy public key infrastructure and network components while accessing and troubleshooting issues to support organizational security
- Understand the concepts of cyber security in today's environment.
- Obtain the understanding of how cyber security is changing the concepts and expectations of IT fields.I
- Have an understanding of basic cyber security tools to enhance system security and can develop basic security enhancement in stand alone applications.

List of Experiments:

➤ **Operating system security**
  - **Securing User accounts**
  - **Account polices**
  - **File system**
  - **Network services**
  - **Logging and Monitoring**
  - **System Integrity**

➤ **Packet sniffing**

➤ **Cryptography Tool**
  - **Ciphers**
  - **Cryptanalysis**
➤ **Networking Security Monitoring Tools**

Certificate Course in Ethical Hacking

Program Duration: 60 hours

Scheme of Course

Paper No.	Title of Paper	Maximum Marks	Passing Marks	Duration of Exam
	Ethical Hacking(Theory)	50	20	3 hours
	Lab based on Ethical Hacking	50	20	3 hours
	Project based on Ethical Hacking	50	20	3 hours

Program Outcome:

At the end of the program student will be able to:

- Learn various aspects of Ethical Hacking like network security, web security, OS and Database Security.
- Applyadvanced techniques which are used by both black and white hats.
- Understand methodologies and provide better security and defend severe data breaches.
- Develop theart of identifying and securing potential threats to digital assets like websites, server, networks, operating system and more of an organization.

Job Roles in Government Sector, IT Firm & Private Organizations:

- Network Security Administrator
- Chief Information Security Officer
- Application Security Tester
- Chief Application Security Officer
- Network Security System Manager
- Security Investigator
- Network Security Engineer
- Systems/Applications Security Executive
- Web security Administrator/Manager
- Security Auditor
- Ethical Hacker
- Data security specialist
- Chief Information Security Officer
- Computer Forensics Investigator
- IT Security Administrator/Consultant/ Manager
- Security Certified Programmer
- Forensics Investigator
- Security consultant

Objectives:

1. To understand and analyze Information security threats &counter measures.
2. To perform security auditing & testing
3. To understand issues relating to ethical hacking
4. To study & employ network defense measures
5. To understand penetration and security testing issues

Paper Code:
Nomenclature: Ethical Hacking (Theory)

Maximum Marks: 50
Minimum Marks: 20
Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of four (short-answer type) questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory Question No. 1. All questions will carry equal marks.

UNIT I

Ethical Hacking Overview & Footprinting:
Understanding the importance of security, Concept of ethical hacking. Threat, Attack, Vulnerabilities, Exploit. Phases involved in hacking
Footprinting - Introduction to foot printing, Understanding the information gathering methodology of the hackers,Tools used for the reconnaissance phase.

UNIT II

Port Scanning & System Hacking:
Port Scanning - Introduction, using port scanning tools, ping sweeps, Scripting Enumeration-Introduction, Enumerating windows OS & Linux OS
Aspect of remote password guessing, Role of eavesdropping ,Various methods of password cracking, Keystroke Loggers, Understanding Sniffers ,Comprehending Active and Passive Sniffing, ARP Spoofing and Redirection, DNS and IP Sniffing, HTTPS Sniffing.

UNIT III

Hacking Web Services & Session Hijacking:
Web application vulnerabilities, application coding errors, SQL injection into Back-end Databases, cross-site scripting, cross-site request forging, authentication bypass, web services and related flaws, protective http headers Understanding Session Hijacking, Phases involved in Session Hijacking,Types of Session Hijackingand Session Hijacking Tools

UNIT IV

Hacking Wireless Networks & Cryptography:
Introduction to 802.11,Role of WEP, Cracking WEP Keys, Sniffing Traffic, and Wireless DOS attacks,WLANScanners.WLANSniffers,HackingTools, and Securing Wireless Networks. Cryptography and its types.

Text books:
1. Patrick Engebretson, The Basics of Hacking and Penetration Testing, Elsevier, 2013.
2. Network Security and Ethical Hacking, RajatKhare, Luniver Press, 2006.

REFERENCES:
1. Kimberly Graves, "Certified Ethical Hacker", Wiley India Pvt Ltd, 2010
2. Michael T. Simpson. "Hands-on Ethical Hacking & Network Defense", Course Technology, 2010
3. Ramachandran V, BackTrack
4. Wireless Penetration Testing Beginner's Guide (3rd ed.). Packt Publishing, 2011 5. Thomas Mathew, "Ethical Hacking", OSB publishers, 2003

Paper Code:
Nomenclature: Lab based on Ethical Hacking (Practical)

M.M: 50
Time: 3 hours

Distribution of Marks
Experiment: 25
Practical Work Book: 15
Viva Voce: 10

Course Outcome:

After learning the course the students should be able to:
i. Understand the basics of the ethical hacking.
ii. Perform the foot printing and scanning.
iii. Perform the techniques for system hacking.
iv. Characterize the malware and their attacks, detect and prevent them.
v. Determine the signature of different attacks and prevent them.
vi. Detect and prevent the security attacks in different environments

List of Experiments:
1. List the tools for Ethical Hacking.
2. Implement Footprinting and Reconnaissance using tools 3d Traceroute, Alchemy Eye, DNS Tools and Network Solution Whois.
3. Implement Network scanning using tools Advanced Port Scanner, Colasoft Ping Tool, Hide Your IP Address, Nessus and Nmap.
4. Implement Enumeration using tools Default Password List, Default Password List, OpUtil Network Monitoring Tool and OpUtil Network Monitoring Tool.
5. Implement system hacking using tools Actual spy, Alchemy Remote Executor, Armor Tool and FSecureBlackLight.
6. Implement Trojan and Backdoors using tools Absolute Startup Manager, Absolute Startup Manager, Netwirx Services Monitor and StartEd Lite.
7. Implement Viruses and Worms using tools Anubis Analyzing UnknownBinaries, Filterbit, Sunbelt CWSandbox and ThreatExpert.
8. Implement sniffers using tools ColasoftCapsa Network Analyzer, EffeTech HTTP Sniffer, Packet Sniffer and PRTG Network Monitor.

Major Equipment's: - Latest PCs with related software

List of Open Source Software/learning website:
- https://hackaday.com/
- https://breakthesecurity.cysecurity.org/
- https://www.eccouncil.org/programs/certified-ethical-hacker-ceh/
- https://www.hackthissite.org/

2481/15/2022/Coordination

Paper Code:
Nomenclature: Project based on Ethical Hacking (Viva)

M.M: 50
Time: 3 hrs

<u>Distribution of Marks</u>
Viva Voce: 50

Course Outcomes:

After learning the course the students should be able to:
1. Evaluate the countermeasures of advanced hacking techniques.
2. Perform techniques used to break into an insecure web application and identify relevant countermeasures.
3. Demonstrate an advanced security topic with an independent project.

Note:

Each student shall be required to undertake a real life project problem under the supervision of a faculty. The project may be development assignment in a real environment on below given areas or any other area related to ethical hacking.

List of Projects:
i. Web Server Fingerprinting tool
ii. IP Spoofing attack demonstration
iii. ARP Spoofing attack and demonstration
iv. ICMP Flood attack simulation
v. Mac flooding attack demonstration and mitigation
vi. ARP cache poisoning and man in the middle attack
vii. Syn flood tool
viii. Web Exploitation and Privilege Escalation
ix. Wireless Exploitation
x. Web/Network Sniffing
xi. Network Spoofing Attacks
xii. Web Back-doors
xiii. Unauthorized Access to Resources etc.

Report-on Project work will consist of the following:

1. Index
2. A duly signed certificate from supervisor certifying that the candidate has done the project under his supervision and the work done in the project is the result of candidate's own effort.
3. A certificate from college principal certifying that the candidate is the student of this college and he has attended the college IT Labs for required no of days.
4. Acknowledgement duly signed by student.
5. Introduction of Topic.
6. Objective of the project.
7. Definition of the problem.
8. System documentation and flowchart.
9. Listing of the software development along with sample inputs inputs and output.
10. Conclusions.
11. Advantages and disadvantages of the software developed.

12. Future scope of the project.
13. References.

Certificate Course in Computer Networking

Course Duration: 60 hours

Scheme of Course

Paper No.	Title of Paper	Maximum Marks	Passing Marks	Duration of Exam
	Computer Networking(Theory)	50	20	3 hours
	Lab based on Computer Networking	50	20	3 hours

Program Outcome:

At the end of the program , student will be able to :

- Analyze, design, diagnose and document computer network specifications to meet client needs.
- Install and troubleshoot system hardware.
- Install, configure and troubleshoot client operating system.
- Disassemble, troubleshoot/debug, upgrade, replace basic components, and reassemble servers and client systems.
- Use proper computer system and networking terminology.
- Perform help desk functions to answer user questions and provide user training on application software and fundamental operating systems functions.

Job Roles in Government Sector, IT Firm & Private Organizations:

- Network Engineer/ Junior Engineer
- Network Administrator
- Network System Manager
- Network Consultant
- Web Administrator
- Computer Network Technician
- System Engineer

Objectives:

1. Build an understanding of the fundamental concepts of computer networking.
2. Resource sharing
3. Increase system performance as the work load increases (load balancing).
4. To understand issues relating to networking.
5. To study & employ network defense measures.
6. User Authorization to access resource in a computer network
7. Describe the general principles of data communication.
8. Describe how computer networks are organized with the concept of layered approach.
9. Describe how signals are used to transfer data between nodes.
10. Implement a simple LAN with hubs, bridges and switches.
11. Describe how packets in the Internet are delivered.

Paper Code:
Nomenclature: Computer Networking (Theory)

Maximum Marks: 50
Minimum Marks: 20
Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit. All questions will carry equal marks.

Unit I

Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks and their Topologies; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways;

Uses of computer networks ; Networks for companies, Networks for people, Social Issues: Classification of networks; Based on transmission technology, Based on the their scale,

Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model; TCP/IP Model; Comparison of the OSI & the TCP/IP Reference Models;

Networking Models: Distributed Systems, Client/Server Model, Peer-to-Peer Model, Web-Based Model and Emerging File-Sharing Model;

UNIT – II

Analog and Digital Communications, data and signals Concepts: Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate; Guided and Wireless Transmission Media; Communication Satellites; Switching and Multiplexing; Modems and modulation techniques; ADSL and Cable Modems;

Data transmission modes: Serial & Parallel, Simplex, Half duplex & full duplex; Synchronous & Asynchronous transmission;
Network topologies: Linear Bus Topology, Ring Topology, Star Topology, Hierarchical or Tree Topology, Topology Comparison, Considerations when choosing a Topology;

UNIT - III

Data Link Layer Design issues; Error Detection and Correction; Sliding Window Protocols: One-bit, Go Back N and Selective Repeat; Media Access Control: ALOHA, Slotted ALOHA, CSMA, Collision free protocols; Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring; Introduction to Wireless LANs and Bluetooth; VLANs

UNIT – IV

Routing Algorithms: Flooding, Shortest Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing; Congestion Control; Traffic shaping; Choke packets; Load shedding; Elements of Transport Protocols; Application Layer: Introduction to DNS, E-Mail and WWW services;

Network Security Issues: Security attacks; Encryption methods; Digital Signature; Digital Certificate;

TEXT BOOKS:

- Andrew S. Tanenbaum, "Computer Networks", Pearson Education.

•Michael A. Gallo, William M. Hancock, "Computer Communications and Networking• Technologies", CENGAGE Learning.

REFERENCE BOOKS:

- Behrouz A Forouzan, "Data Communications and Networking", McGraw Hill.

•Bhushan Trivedi, "Computer Networks", Oxford• BCA-355: Programming Using Visual Basic
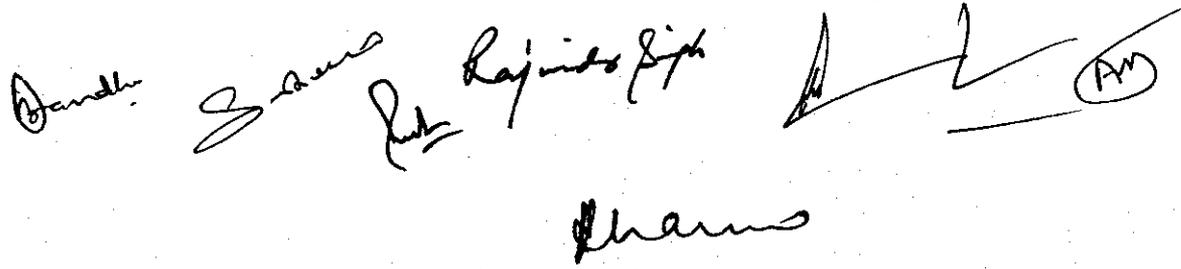
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Paper Code:
Nomenclature: Lab based on Computer Networking (Practical)

M.M: 50
MarksTime: 3 hours

<u>Distribution of</u>
Experiment: 25
Practical Work Book: 15
Viva Voce: 10

Course Outcome:

After learning the course the students will be able to:

- Demonstrate a basic understanding of components of computer netwo ks.
- Present conclusions effectively, orally and in writing.
- Identify the different types of network devices and their functions wit in a network
- Install LAN and WAN Connections.
- Installation and configure of Server and Clients.
- Administer and maintain a Computer Network.

List of Experiments

S.No	Experiment
1	Overview of Networks and layered communications, understanding of Network equipment, wiring in details 5 2 CAT6 UTP EIA/TIA 568 A/B straight and cross-over wiring
2	Study of different types of Network cables and Practically implement the cross-wired cable and straight through cable using clamping tool.
3	Study of Network Devices in Detail.
4	Study of network IP.
5	Exploring Different LAN Switch Options
6	Creating of a LAN and Connect the computers in Local Area Ne work.
7	Installation of LAN cards(Wired / Wi-Fi)
8	Installation of CAT5 cable and RJ 45 connectors
9	Study of basic Network command and Network configuration commands.
10	Installation and connection of switches
11	Installation of Server(Windows and Linux)
12	Installationof Client

13	Creation of users and policies
14	Assigning permissions
15	Sharing of resources(Printer, Drives, Scanner)
16	Configuring and Troubleshooting a switched network
17	Introduction to Packet Tracer
18	Configure a Network topology using packet tracer software.
19	Firewall Implementation, Router Access Control List (ACL)
20	Planning Network-based Firewalls

Hardware and Software Requirement

Hardware Requirement

RJ-45 connector, Climping Tool, Twisted pair Cable

Software Requirement
Command Prompt And Packet Tracer.

Certificate Courses In Desktop Publishing

Duration of Course: 60 Hours

Scheme of the Course:.

Paper No.	Title of Paper	Maximum Marks	Passing Marks	Duration of Exam
	Desktop publishing(Theory)	50	20	3 hours
	Lab based on Desktop publishing	50	20	3 hours

Program Outcome: Upon successful completion of this course, students will be able to:

1. Develop proficiency in image editing with the help of Adobe Photoshop- a powerful and popular image editing software that helps to apply various effects easily and get consistent results.

2. Develop Proficiency in Designing using Corel draw-one of the most popular graphics designing software.

3. Work effectively with publications using Page maker- a software application that enables individuals and groups to create and edit publications

Job Roles in Government Sector, IT Firm & Private Organizations:

- Newsletter Designer
- Font Designer
- Graphic Designer
- Web Designer
- DTP operators
- Desktop publishing specialists
- Electronic console display operators
- Electronic imagers
- Electronic pagination system operators
- Electronic publishers
- Electronic publishing specialists

Objectives:

1. To train skilled manpower for Designing and publication market.
2. To learn Adobe PageMaker -a software application that enables individuals and groups to create and edit publications
3. To learn CorelDraw- one of the most popular graphics designing software available in market. This amazing designing Software meet the day-to-day demands of working designers.
4. To learn Photoshop- a powerful and popular image editing software that helps you to apply various effects easily and get consistent results.

Organising Department/Association DEPARTMENT OF COMPUTER SCIENCE AND APPLICATIONS

- **Eligibility:**
    o Students of all streams can enroll for the course.

- **Structure of the Course:**
    o Paper I: Theory Paper
    o Paper II: Practical

Paper Code:
Nomenclature: Desktop publishing (Theory)

Maximum Marks: 50
Minimum Marks: 20
Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of four (short-answer type) questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory Question No. 1. All questions will carry equal marks.

UNIT 1

INTRODUCTION TO COMPUTER :booting process , history of computer , types of computers - , applications of computers , advantages of computers , basic computer organization - input devices - memory - processor - output devices , types of memory, difference between data and information , need of information types of programming languages, data organization , what are data files , what are program files , what are batch files multi-media technology & d.t.p 6 , types of software - system software - application software - custom software ,introduction to windows.

UNIT 2

INTRODUCTION TO PAGEMAKER 6.5 : hardware requirements for pagemaker 6.5, how to install pagemaker 6.5 , starting pagemaker 6.5, opening screen ,menu bar introduction · file menu · edit menu · layout menu · type menu · element menu · utilities menu · view menu · window menu

tool box introduction · pointer tool · text tool · rotate tool · cropping tool · line tool · constrained line tool · rectangle tool · rectangle frame tool · ellipse tool · ellipse frame tool · polygon tool · polygon frame tool · hand tool · zoom tool,Control palette introduction · character view · paragraph view · object view working with palettes · color palette · styles palette · layers palette · master pages palette · hyperlink palette · library palette multi-media technology &d.t.p 8 · scripts palette uses of guides ,

UNIT 3

INTRODUCTION TO CORELDRAW 9.0: hardware requirement ,starting , opening screen , introduction of tool box :file menu · new · new from template · open · close · save · save as · revert · acquire image · import · export · send · print · print preview · print setup · document info · version control multi-media technology , edit menu · undo paste · redo · repeat · cut · copy · paste · paste special · delete · duplicate · clone · select all · properties · copy properties from · find and replace · insert new object · insert bar code , view menu · simple wire frame · wire frame · draft · normal · enhance · full screen preview · preview selected only · color palette · scrapbook · roll ups · dockers · toolbars · property bar · status bar · rulers · grid · guide lines · printable area · overprinted objects · text frames ,layout menu · insert page · delete page · rename page · goto page · page setup · object manager · graphic and text styles · color styles multi-media technology · guide line setup · snap to grid · snap to guidelines · snap to objects , arrange menu · transform · clear transformations · align and distribute · order · group · ungroup · ungroup all · combine · break apart · lock object · unlock object · intersection · trim · weld · separate · convert to curves , effect menu · color adjustment · transform · artistic media · lens · add perspective · power click · clear effect · copy effect · clone effect , bitmap menu · convert to bitmap · edit bitmap · crop bitmap · trace bitmap · resample · inflate

bitmap · bitmap color mask · resolve link · update from link · 3d effects · art strokes · blur · color transform · contour · creative · distort multi-media technology · noise · sharpen · plug-ins , text menu · format text · edit text · fit text to path · fit text to frame · align to baseline · straighten text · writing tool · change case · make text html compatible · convert · text statistics · show non printing characters , tools menu · options · object manager · color management · palette editor color styles · graphic and text styles · create · color scripts , window menu · new window · cascade tile horizontally · tile vertically · arrange icon · color palettes · toolbars · close close all · refresh window

UNIT 4

INTRODUCTION TO PHOTOSHOP 5.5: hardware requirements , install photoshop ,multi-media technology , opening screen · menu bar · title bar · toolbox · status bar · pal ets different menus in photoshop 5.5 file menu · new · open · open as · close · save · save as · save a copy · revert · place · import · export · automate · file info · page setup · print · jump to · preference color setting · adobe online · exit , edit menu · undo · cut · copy · copy merged · paste · paste info · clear · fill · stroke · free transform · transform · purge , image menu · mode · adjust · duplicate · apply image · calculation · image size · canvas size multi-media technology · crop · rotate canvas · histogram · trap layer menu · new · duplicate layer · delete layer · layer option · adjustment option · effects type · add layer mask · enable layer mask · disable layer mask · group with previous · ungroup · arrange · align linked · distribute linked · merge layer · merge visible · flatten image , select menu · all · deselect · reselect · inverse · color range · feather · modify · grow · similar · transform selection · load selection · save selection filter menu · artistic · blur · brush strokes · distort · noise · pixelate · render · sharpen · sketch · stylize · texture multi-media technology · video · other view menu · new view · preview · gamut warning · zoom in · zoom out · fit on screen · actual pixel · print size show/hide path · show/hide edges · show/hide guides · lock guide · clear grid · show/hide grid · snap to grid window menu · cascade · title · arrange icon · close all · show tools · show navigator · show info · show options · show color · show channels · show paths · show history · show status bar introduction to photoshop toolbars · marquee tool & its subtools · move tool & its subtools · lasso tool & its subtools · stamp tool & its subtools · history brush tool & its subtools · pencil tool & its subtools · blur tool & its subtools · dodge tool & its subtools · pen tool & its subtools · type tool & its subtools · gradient tool & its subtools · magic tool · airbrush tool · paint brush tool · eraser tool multi-media technology · measure tool · paint bucket tool · eye dropper tool · hand tool · zoom tool working with pallets · navigator pallet · info pallet options pallet · color pallet · swatches pallet · brushes pallet · layer pallet · channels pallet · paths pallet · history pallet · actions pallet

Text books:

1. Design Principles for Desktop Publishers by Tom Lichty
2. D.T.P (Desktop Publishing) Hand Book Paperback (2012) by M. Kalpesh Patel

REFERENCES:

1. "Qlik Sense (R) Cookbook" by Philip Hand and Neeraj Kharpate
2. "Adobe InDesign CC Classroom in a Book (2017 release)" by Kelly Korces Anton and John Cruise
3. Inside Adobe Photoshop 4by Gary David Bouton
4. Adobe in design cs5 bible by Galen_Gruman
5. Desktop Publishing: Practical Guide To Publish Anything on Your Desktop by Bittu Kumar

Paper Code:
Nomenclature: Lab based on Desktop publishing(Practical)

M.M: 50
Time: 3 hours

Distribution of Marks
Experiment: 25

Practical Work Book: 15
Viva Voce: 10

Course Outcome:

After learning the course the students should be able to:

i.   Understand the basics concepts of designing and editing.
ii.   Alter an image to fix the faults
iii. Give a professional look to a photograph
iv.   Create and edit New artwork images
v.   Working with Layers
vi.   Working with Bitmaps

List of Practical

1. WINDOWS BASICS

    ✓ EDITING APPEARANCE OF DESKTOP

    ✓ ADDING AND REMOVING PROGRAMS THROUGH CONTROL PANEL

    ✓ FONT MANAGEMENT

2. PAGEMAKER

✓ EDITING & HANDLING TEXT

✓ GRAPHICS HANDLING

✓ WORKING WITH PALLETTES

✓ WORKING WITH MULTIPLE OPEN PUBLICATIONS

3. COREL DRAW

✓ DRAW SHAPES AND ADD COLOR TO OBJECTS

✓ DUPLICATE AND ROTATE OBEJCTS

✓ MIRROR OBJECTS

✓ IMPORT FILES

✓ USE SMART DRAWING TOOLS

4. PHOTOSHOP

✓ This exercise can be solved using the following functions:

Selection Tools, Copy, Cut, Paste, Move Tool

✓ This exercise can be solved using the following functions:

Lasso- and Polygonal Lasso Selection Tools, Copy, Paste Into, Move Tool, Zcom Tool, Transform

✓ This exercise can be solved using the following functions:

Quick Select Tool (or Magic Wand Tool), Invert Selection, Copy, Paste

✓ This exercise can be solved using the following functions:

Paint Bucket Tool, Color Picker, Brush Tool

Major Equipment's: - Latest PCs with related software

List of Open Source Software/learning website:

- Corel Draw X7 Graphic Designing From Scratch with Projects!
- Corel Draw Tutorials
- learning resources on the Adobe site.
- Tuts+ network of learning sites.
- https://download.cnet.com/Web-Page-Maker/3000-10247_4-10213459.html

**Job Oriented Certificate Courses –
Department of Computer Science & Applications
DESKTOP PUBLISHING**

MODULE – I (MS Paint) (Photoshop)		• Knowledge of available file types (JPG, TIFF, ICO, PNG, GIF...) • Display options (zoom, miniature, grid, resizing etc.) • Drawing tools overview, Colors selection with right click/left click in the palette • Copy/Paste from selection with or without transparency • Insert an external image in a composition Colors number selection and color inversion • Getting Acquainted with Photoshop • Color Basics Painting Tools, Brush Settings, Making Selections, Filling & stroking Layers • Basic Photo Corrections Retouching and Repairing, • Creating Links within an image • Animating GIF images for the web
MODULE - II (PageMaker)		• Getting Started with PageMaker, PageMaker Interface, Creating & Editing Text, Managing Text as an Object. • Working with Text and Graphics, Using Graphics, Applying Colors to Graphics, Framing, Cropping and Masking Graphics, Working with Master pages, Creating a PDF Document in PageMaker, Working with Data Merger, Using Scripts, Using Object Linking and Embedding.
MODULE - III (CorelDraw)		• Getting started with Corel Draw, Introduction to Corel Draw, Features of Corel Draw, Corel Draw Interface, Tool Box, • Drawing and Coloring, Selecting Objects, Creating Basic Shapes, Reshaping Objects, Organizing objects, Applying color fills and Outlines • Mastering with Text, Text Tool Artistic and paragraph text, Formatting Text, Embedding Objects into text, Wrapping Text around Object, Linking Text to Colours; Frame Creation and Layouts; Working with Forms and Menus; Working with Buttons like Radio, Check Box • Objects Applying Effects, Power of Blends Distortion, Contour Effects, Envelopes, Lens effects, Transparency, Creating Depth Effects, Power Clips • Working with Bitmap Commands, Working with Bitmaps, Editing Bitmaps, Applying effects on Bitmaps, Printing • Corel Draw- Web resources, Internet Tool bar, Setting your webpage, Exporting files.
MODULE – IV		PROJECT WORK

Certificate course in System Administration with LINUX

Course Duration:60 hours

Scheme of Course

Paper No.	Title of Paper	Maximum Marks	Passing Marks	Duration of Exam
VCS 108(i)	System Administration with LINUX	50	20	3 Hours
VCS 108(ii)	Lab Based on System Administration with LINUX	50	20	3 Hours

Program Outcome:

After completing this course, students will be able to:

- Install and configure the Linux operating system
- Manage the resources and security of a computer running Linux at a basic level
- Make effective use of Linux utilities, **and scripting languages**
- Configure and manage simple TCP/IP network services on a Linux system
- Carry the duties of a Linux System Administrator

Outline of Course

1. Commands
2. Shell & AWK Programming
3. User administration
4. File system administration
5. Disk Quota administration
6. Network administration
7. Introduction to mail and file server.

Job Roles in Government Sector,IT Firm & Private Organization:

- Linux Administrator
- Linux Engineer
- Junior System Administrator
- Senior System Administrator

Objectives:

On completion of this course learner will be able to:

• Understand the role and responsibilities of a Unix system administrator

- Troubleshoot Linux problems
- Perform user administration
- Apply user-level security
- Manage logging
- Manage kernel services and configure the kernel
- Manage devices

Paper Code: VCS 108(i)

Nomenclature: System Administration with LINUX

Maximum Marks: 50
Minimum Marks: 20
Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of four (short-answer type) questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory Question No. 1. All questions will carry equal marks.

Unit I

Linux basic concepts & installations:Installation in Standalone Machine, Installation through NFS,Installation through FTP, Installation through HTTP, Installation through KICKSTART. File System Management:Creation of File Systems, Understanding EXT2, EXT3& EXT4 File Systems, Converting Ext2 to Ext3 file systems, Reverting back from Ext3 to Ext2 files systems, Understanding fdisk,e2label, mount, umount commands. Linux basic concepts & installations: Installation in Standalone Machine,Installation through NFS, Installation through FTP, Installation through HTTP, Installation through KICKSTART. File System Management:Creation of File Systems, Understanding EXT2, EXT3& EXT4 File Systems, Converting Ext2 to Ext3 file systems, Reverting back from Ext3 to Ext2 files systems, Understanding fdisk,e2label, mount, umount commands, Understanding fstab and mtab files ,TROUBLESHOOTING.
User management:Understanding different types of groups and creation of groups,Creation of users in different groups,Understanding Passwd, Shadow Files, Understanding passwd aging,Creation of quotas for users, groups and file systems, Understanding users security files ,The different commands for Monitoring the users, TROUBLESHOOTING.Run levels:Understanding the different types of run-levels, Understanding different types of shutdown commands, Understanding run control scripts, Understanding the different types,

Unit 2

Network file system (NFS):Understanding NFS server and NFS clients, Understanding daemons and files in NFS of boot phases, Configuring NFS server and different NFS clients, Configuration of autofs, NFS securityFile transfer protocol:Understanding the features and advantages of FTP server, Configuring FTP server and FTP clients, Configuring FTP server for anonymous and real users with download and upload permissions, Configuring FTP user access, FTP security, Understanding FTP Basic Commands, Configuring of anonymous FTP Server. XINETD:Understanding xinetd based and non xinetd based services, Configuring xinetd based services, Xinetdsecurity.TCP WRAPPER:Understanding TCP WRAPPER, Configuring TCP WRAPPER for services.Domain naming service:Understanding DNS service and different types of DNS servers, Configuring DNS (master) DNS (Slave), Understanding & Configuring forward (DNS) and cache (DNS) of boot phases, Understanding different types of files when the system is booting, TROUBLESHOOTING.

Unit 3

Logical volume manager (LVM):Creation of file systems and converting into LVM, Creation of physical partitions, Creation of volume groups, Creation of logical partitions, Extending the volume group, Extending the logical partitions.Package Manager (RPM):Understanding the features ,and advantages of RPM,

Installation of RPM packages, Upgradation of RPM, Verification of RPM, Q u e r y i n g , T R O U B L E SHOOTING.Backup and recovery:Understanding different types of file system backup, Understanding different types of files backups, Understanding different types of file system backups, Understanding different types of dump levels, Understanding monthly/ weekly/ daily backups, Different types of backup strategies.Automation of jobs:At Jobs .Cron JobsNetwork information service:Understanding NIS and daemons at NIS (Server, Slave and Clients), Configuring NIS (master), NIS (slave) and NIS clients in heterogeneous environments, Integrating NIS (master and slave) with NFS Server.

Unit 4

Dynamic host configuration protocol:Understanding DHCP, Configuring DHCP server for different DHCP clientsAPACHE:Understanding APACHE, Configuring APACHE web server with virtual hosting, Configuring APACHE web server with IP BASED, HOST BASED and PORT BASED, Configuring member logins for APACHE web server.SAMBA:Understanding the features and advantages of SAMBA server, Configuring SAMBA for heterogeneous environment, Sharing the resources between unix to unix using SAMBA, Sharing the resources between windows to unix (vice-versa), SAMBA security.SQUID:Understanding SQUID proxy, Configuring SQUID proxy with ACL.Raid levels:Understanding RAID LEVELS, Configuring different types of RAID LEVELS (0,1and5).

Paper Code: VCS 108(i)

Nomenclature: System Administration with LINUX

M.M: 50
Time: 3 hours

Distribution of Marks

Experiment: 25
Practical Work Book: 15
Viva Voce: 10

Course Outcome:

At the end of the course, student will be able to:

- Install and administer Linux Operating System.
- Apply file processing, process management, IO management, queues management, networking, storage backup, account management, proper system start-up and shutting down, as well as other tasks.
- Understand and administer file permissions on directories and regular files
- Planning and creating disk partitions and file systems
- Performing maintenance on file systems
- Identifying and managing Linux processes
- Performing backups and restoration of files
- Working with system log files
- Troubleshooting system problems
- Analyzing and taking measures to increase system performance

List of Experiments:

1. Installation of LINUX operating system
2. Installation of office productivity software (MS Office/ Open Office)
3. User Management
4. Directory Management commands
5. Startup & Shutdown scripts
6. Process management commands and their execution.
7. Firewall configuration in Linux
8. Study of Important LINUX Services
9. Superusers and the Root Login, Sharing Superuser Privileges with Others (su and sudo Commands)
10. TCP/IP Networking Fundamentals
11. Partitions,Logical Volume Manager - LVM
12. File System Overview
13. Swap Partition Considerations
14. Other Partition Considerations
15. The Linux Boot Loader: grub
16. Software Package Selection
17. Adding and Configuring Peripherals,Printers,Graphics Controllers
18. Basic Networking Configuration: File Permissions,Directory Permissions,Octal Representation

Changing Permissions,Setting Default Permissions
19. Access Control Lists (ACLs)
20. Filesystem Types
21. Conventional Directory Structure
22. Mounting a File System, The /etc/fstab File
23. Special Files (Device Files),Inodes
24. Hard File Links,Soft File Links
25. Creating New File Systems with mkfs
26. Repairing File Systems with fsck
27. File and Disk Management Tools
28. Characteristics of Processes,Parent-Child Relationship,Examining Running Processes
    Background Processes,Controlling Processes,Signaling Processes,Killing Processes
    Automating Processes
29. System Processes (Daemons)
30. Backup Concepts and Strategies ,User Backups with the tar Command,System Backup Options
31. Common Problems and Symptoms,Troubleshooting Steps
32. Repairing General Boot Problems
33. Hard Drive Problems
34. Restoring Shared Libraries

Certificate Course in Network Administration

Course Duration: 60 hours

Scheme of Course

Paper No.	Title of Paper	Maximum Marks	Passing Marks	Duration of Exam
	Network Administration (Theory)	50	20	3 hours
	Network Administration (Practical)	50	20	3 hours

- **Program Outcome:** To Enhance the excellent analytical skills to understand the complexities of the network to diagnose and repair any issues that may arise.

- **Job Roles:** Network Administrator
  Technical Support Engineer
  System Administrator
  Network Connectivity Engineer
  Server Engineer

- **OrganizingDepartment/Association:** Computer Science & Applications.
- **Structure of the Course:**
  o Paper I: Theory Paper
  o Paper II: Practical

- **Scheme of Examination:** There will be an Examination of 50 marks each. There will be a written examination carrying 50 marks and practical examination will carry 50 marks.

2481715/2022/Coordination

Paper Code:
Nomenclature: Network Administration (Theory)

Maximum Marks: 50
Minimum Marks: 20

Time: 3 hours
Course Learning Outcome:
After learning the course the students should be able to:

1 Design and configure peer-to-peer networks to share resources;
2. Analyse requirements and design network architecture for a given scenario;
3. Design and configure IP addressing schemes for a given scenario;
4. Design and configure a client-server network and required network services for a given scenario;
5. Evaluate and critique a design for a systems and network solution.

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of four (short-answer type) questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory Question No. 1. All questions will carry equal marks.

Unit –I

Basics of computer, Organization of computer, Software and hardware, Input/output devices, Network Hardware, Computer topology, LAN, WAN, MAN, PAN, CAN, Networking Model: The OSI model, TCP/ IP Model

Unit-II

Network adapters, introducing protocols, Cabling and troubleshooting, Types of networks, various networking devices: Routers, Switches. Modems. Hub,basicaddressing, Wired and Wireless technology.

Unit-III

Introduction to servers and network security, Types of servers: Files servers, Email Servers, Proxy servers etc .Basics of Internet and Intranet:. Types of Internet connections: Dialup, Broadband, Leased Line, Wi-Fi, Wi-Max, 2G, 3G, 4G, WWW,

Unit-IV

E-mails, Search Engines, Social Networking, Cloud application, Audio-video Conferencing. Voice over Internet Protocol (VOIP), Recovery and backup, Essential security measures.

Text books:

1 Behrouz A. Forouzan, "Data communication and Networking", Fourth Edition, Tata McGraw – Hill,2011.

2 "Data and Computer Communication" by William Stallings.

3 Nader. F. Mir, "Computer and Communication Networks", Pearson Prentice Hall Publishers, 2010.

4 Ying-Dar Lin, Ren-Hung Hwang, Fred Baker, "Computer Networks: An Open Source Approach",Mc Graw Hill Publisher, 2011.

Reference books

1. "The Practice of System and Network Administration: Volume 1: DevOps and other Best Practices for Enterprise IT" by Thomas A Limoncelli and Christina J Hogan.
2. TCP/IP Illustrated, Volume 1: The Protocols by W. Richard Stevens.
3. Unix Network Programming: Networking APIs: Sockets and XTI (Volume 1) by W. Richard Stevens.
4. Advanced Programming in the Unix Environment by W. Richard Stevens, Addison-Wesley, 1993.

Paper Code:
Nomenclature: Network Administration (Practical)

M.M: 50   **Distribution of Marks**
Time: 3 hours

Viva Voce: 10

Experiment: 25
Practical Work Book: 15

1 Inside the PC:

Opening the PC and identification

Study of different blocks

Assembling and disassembling

2 Network basic and configuration

Setting IP addresses

Sharing files and folders

Network troubleshooting

PING test, ipconfig etc.

3 Check MAC address

4 Subnet Calculations

5 Upgrading and repairing computer networks

6 Deploying and updating software

7 Managing servers and their operating systems

8 Managing cloud and physical network storage

9 Implementing security measures and basic testing

12 A

'Certificate Course in Database Administration

Scheme of Course

Course Code	Course Name	Duration of the course	Maximum Marks			Duration of Exam	Medium of Instruction
			Theory	Practical	Total		English and Hindi
	PAPER 1	30 hours	50	-	100	3 Hours	
	PAPER 2		-	50			

Program Outcome:

At the end of the program student will be able to:

- Use DBMS software to store and organize data.
- Plan, install, configure and design database.
- Apply migration, performance monitoring, security, troubleshooting, as well as backup and data recovery of the database.
- Learn about database administration concepts through real-time examples.
- Develop in-demand skills to administer Oracle Database through hands-on projects and use cases.

Job Roles in Government Sector, IT Firm & Private Organizations:

➤ Database Administrator

➤ Computer and Information Systems Manager

➤ Computer Network Architect

➤ Computer Programmer

➤ Computer Systems Analyst

Objectives:

➤ To equip learner with the skill of installation ,planning &database design
➤ To train student to store and organize data efficiently and economically.
➤ To make learner understand the role of DBA in organisation.
➤ Apply logical database design principles , including ER Diagram and database normalization.
➤ To Understand Backup systems in case of power outage and other disasters.
➤ To understand database integrity, transaction management, concurrency control of database, reliability and journaling.

Course: Certificate Course in Database Administration

2481715/2022/Coordination

Paper Code:

Nomenclature of Paper:Database Administration(Theory)

Max Marks50   **Time:3 hrs**

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of four (short-answer type) questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory Question No. 1. All questions will carry equal marks.

UNIT 1

Introduction: DBMS architecture and data independence, DBA roles and responsibilities, SQL *PLUS Overview: SQL Plus Fundamentals, Producing more readable outputs, Accepting values at umtime, Using iSQL *Plus, Modifying Data: Introduction to DML Statements, Truncating a table, Transaction control language, Managing Constraints: Creating constraints, Dropping constraints, enabling and disabling constaints, deferring constraints checks

UNIT 2

Managing Views: Creating and modifying views, Using views, Inserting, Updating and deleting data through views

User Access and Security: Creating and modifying use accounts, creating and using roles, granting and revoking privileges, Managing user groups with profiles

UNIT 3

Oracle Overview and Architecture: An overview of logical an physical storage structures, Oracle memory structures, Oracle background processes, connecting to oracle instance, processing SQL command.Managing Oracle,Control and Redo Log Files: Managing the control files, Maintaining and monitoring redo log filesManaging tables, indexes and constraints: Storing data (create, alter, analyzing, querying table information), Managing indexes, Managing constraints

Managing Users and Security: Profiles, Managing users, managing privileges, managing roles, querying role information

UNIT 4

Introduction to Network Administration: Network design considerations, network responsibilities for the DBA, network configuration, Overview of oracle Net features, Oracle Net Stack Architecture

Backup and Recovery Overview: Database backup, restoration and recovery, Types of failure in oracle environment, defining a backup and recovery strategy, Testing the backup and recovery plan

Introduction to performance tuning: brief overview of Tuning methodology, General tuning concepts

Course: Certificate course in Database Administration
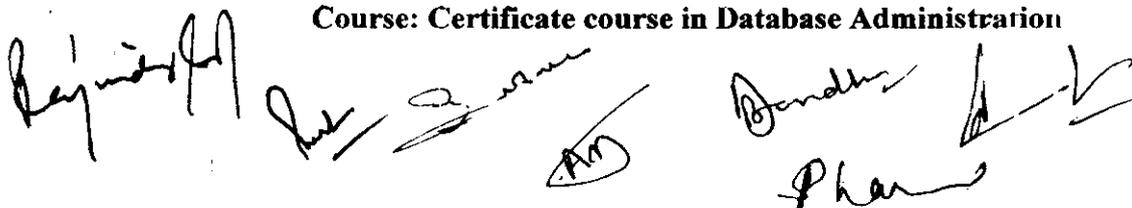
Paper Code:

Nomenclature of Paper :Database Administration(Practical)

Max Marks50   **Time:3 hrs**

Practical Notebook:10

Experiment:30

Viva Voce:10

Course Outcome: After learning the course the students should be able to:

> understand Oracle Database Architecture

> understand how to install Oracle database/client binaries

> Query data using SQL and perform DDL, DML and DCL operations

> Configure backups and perform the recovery using the recovery manager

> Work with Oracle database parameters

> Managing Users/Schemas, and profiles

> understand to work with RDBMS to store and retrieve data

List of Practicals

1. Introduction to Oracle DBA.

2. Creating of multi-container databases and pluggable databases

3. Managing multi-container databases(cdb) and pluggable databases(pdb)

4. Managing tables spaces and users in multi-container databases(cdb) and pluggable databases(pdb)

5. Backup recovery and flashback multi-container databases(cdb) and pluggable databases(pdb)

6. Heat map,automatic data optimization and online datafile move

7. Auditing

8. Privileges

9. Oracle data pump,sql * loader and external tables

10. Recovery managers new features

11. Oracle data guard

Syllabus Description of Value Added Course

Remark: Successful completion of the following course earns the student a certification issued by college.

Course Name	Duration of the course	Maximum Marks			Duration of Exam
Digital Marketing and Web Designing	34	Theory	Practical	Total	3 Hours
		40	60	100	

- **Objective:** Students will learn about different aspects of Digital Marketing and how they come together in a cohesive and effective Digital Marketing plan. Students will learn how to increase the visibility of your website using paid advertising. Students will also get an opportunity to develop websites and how to drive Traffic to your website using Keyword planning SEO and Google Analytics.

- **Programme outcome:** Students will develop digital advertising campaigns and develop websites using Wordpress, HTML & CSS and create content for proportional purposes develop a successful marketing strategy to position a brand, maintain its reputation and build a website, conduct surveys to identify the interest and concerns of key stakeholders. Students will also gain knowledge of how to advertise your business on domestic as well as international market to increase visitors and ultimately more income.

- **Eligibility:**
  - Students of all streams can enroll for the course.
- **Structure of the Course:**
  - Paper 1: Practical Examination and Viva-Voce
- **Scheme of Examination:** There will be a Practical Examination of 50 marks and Viva-voce of 50 marks.

SYLLABUS
Unit-I

HTML: Web Designing Introduction, HTML-Introduction, HTML-Basic Formatting Tags, HTML-Grouping Using Div Span, HTML-Lists, HTML-Images, HTML-Hyperlink, HTML-Table, HTML-Iframe, HTML-Form, HTML-Headers, Javascript, CSS

FLASH: Flash Basics, Shapes & objects, Transformation tools, Colors, palettes, text, Frame, key frames, layering, Sounds & video, Shapes, symbols, Animation, Publishing & exporting flash files.

Unit-II

PHOTOSHOP:Introduction: Theory on graphic designing, Toolbar, Menu Bar, Options Bar, Toolbox All New, Opening an Existing File, Screen Modes, Standard Screen Mode, Full Screen Mode with Menu Bar, Creating a New Document, Saving Files, Reverting Files, Closing Files and Quitting Photoshop.Basic Image Manipulation, Color Basics, Paining Tools, Brush Settings, Making Selections, **Mastering Layers in Photoshop,**Layer Style and Filter Effects, **Automation, 3D and printing in Photoshop,**Exporting Formats.

Unit-III

WORDPRESS: Introduction,Set up a MySQL database on their server,Install WordPress on the MySQL database, Plan their website by choosing color schemes, fonts, layouts, and more, Search for themes in WordPress,Select, install, and activate a theme,Add posts to their website,Create website pages,Add images, photo galleries, and more,Create tags for SEO and categories to organize their posts, Use WordPress as a content management system (CMS),Use widgets and plugins,Create an ecommerce site,Integrate WordPress with social media

DIGITAL MARKETING :Basics: Search Engine Optimization, Social Media Optimization, Social Media Marketing **Advanced:**SEO, Web Master Tool, Social Media Marketing, Google Adwords,Google Analytics, Affiliate Marketing,Email Marketing,Mobile Marketing,Digital Marketing Strategy,Ecommerce Marketing,Infographics Content Marketing,App Store Optimization

Job oriented - 25 A

#2. Programming with PYTHON

MODULE - I (Getting started with PYTHON)	• Features, Advantages & Limitations of PYTHON • Installing PYTHON • Interacting with PYTHON; Python Shell, Command Line Interaction, Python Editor Window (Working in Script Mode) • PYTHON Character Set, Tokens & Keywords • Variables & Data Types (Mutable & Immutable) • Expressions & Operators, Indentation in PYTHON • User defined FunctionsSelections, Filling & stroking Layers • Rules and Conventions for writing PYTHON Programs • Comments & Debugging (Syntax, Run-time & Logical Errors)
MODULE - II (Conditional & Looping Constructs))	• Types of Statements in PYTHON • Program Control Flow • Conditional Statements (if, if-else, if-elif-else statements) • Iteration (for loop, while loop & Nested Loops) • Jump Statements (break, continue & pass statement)
MODULE - III (Strings & Lists)	• Creating Strings & Accessing Characters (Indexing) in a string • Traversing a String • Special String Operations (Concatenating & Replicating), Membership Operators, Comparison Operators • String Operators, String Methods & Built - in Functions • Declaring/Creating/Initialising LIST • Indexing (Accessing List Elements) • Traversing a List, Aliasing, Comparing Lists • Operators on Lists (Concatenation, Repetition/Replication, Membership Testing, Indexing, Slicing) • Nested Lists, Copying Lists, Deletion Operation • Built-in Functions/Manipulating Lists, Sorting Lists
MODULE - IV (Tuples, Dictionary & Modules)	• Creating, Accessing & Traversing a Tuple, Nesting of Tuples • Tuple Operations (Tuple Slicing, Addition/Concatenation, Multiplication/Repetition, Membership Operator 'in' & 'not in' • Comparing Tuples, Deleting a Tuple • Dictionary in PYTHON, Methods to Create Dictionary • Accessing Elements in Dictionary, Traversing a Dictionary • Appending Values to a Dictionary • Updating & Removing Elements in Dictionary • Common DIctionary Functions & Methods • Importing PYTHON Modules, Retrieving Objects from Module • Module Aliasing, Member Aliasing, Locating Modules • Standard Built - in PYTHON Modules & Functions

Value - Added Courses - Department of Computer Science & Applications
#1. WEB DESIGNING USING HTML

MODULE – I	Introduction to Internet and World Wide Web; Evolution and History of World Wide Web; Basic Features; Web Browsers; Web Servers; Hypertext Transfer Protocol; URLs; Searching and Web Casting Techniques; Search Engines and Search Tools
MODULE – II	Steps for Developing Website; Choosing the Contents; Home Page; Domain Names; Internet Service Provider; Planning and Designing Web Site; Creating a Website
MODULE – III	Web Publishing: Hosting Site; Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML Tags; Header, Title, Body, Paragraph, Ordered/Unordered Line, Creating Links; Hea Styles; Text Structuring; Text Colors and ders; Text Background; Formatting Text; Page layouts; Insertion of Text, Movement of Text
MODULE – IV	Images: Types of Images, Insertion of Image, Movement of Image, Ordered and Unordered lists; Inserting Graphics ; Table Handling Functions like Columns, Rows, Width, Colours; Frame Creation and Layouts; Working with Forms and Menus; Working with Buttons like Radio, Check Box

#2. DIGITAL MARKETING

MODULE-I	Introduction to Digital Marketing	Digital Marketing Principles and different channels, Difference between inbound and outbound marketing strategies, using several tools to create a buyer persona
	Content Marketing	Content Marketing Concepts & Strategies; Planning, Creating, Distributing & Promoting Content, Using Content Research for Opportunities, Latest trends in digital marketing, creating content for social media platforms and websites.
MODULE-II	Social Media Marketing	Introduction to Major Social Media Platforms for Marketing, Developing Data-driven Audience & Campaign Insights, Social Media for Business, Creation & Optimization of Social Media Campaigns.
	Search Engine Optimization	Search Engine Optimization Basics, Keywords and SEO Content Plan, SEO - Business Objectives, Writing SEO Content; On-site & off-site SEO, Optimize Organic Search Ranking, etc.
MODULE-III	E-mail Marketing	Effective E-mail Campaigns, E-mail Plan, E-mail Marketing Campaign Analysis,
	Web Design	Web design, optimization of websites; Publishing a basic website; User-centred Design and Website Optimization; Design Principles and Website Copy.
MODULE-IV	Introduction to CRM	Fundamentals to CRM; CRM Platforms; CRM Models; CRM Strategy, etc.
	Video Advertising	Basics of Video Advertising; Creating Video Campaigns; Measurement & Optimization; Creating & Managing a YouTube Channel; Targeting Video Campaigns, etc.

#3. MS – WORD

MODULE - I (Text & Paragraph Formatting)	• Introduction to Word-Processing & Office Automation • Installation of MS-Office & familiarisation with Toolbars • Concept of Files & Folders, Usage of Windows Explorer • Basics of Typing, Creation, Saving, Moving, Deletion etc.. • Text Formatting; applying font styles, sizes and colors etc.. • Paragraph Formatting; Drop Cap, Spacing, Text Columns etc..
MODULE - II (Using In-built Utilities)	• Using Spell Checker, Checking Grammar & using Thesaurus • Adding Autocorrect Entries with & without formatting • Headers & Footers • Bullets & Numbering • Borders & Shading • Creating Bookmarks • Inserting ClipArt, Word Art, Pictures, Objects, symbols, equations, hyperlinks etc..
MODULE - III (Working with Tables & Tabs)	• Table creation and setting custom row - column width • Entering & editing data in tables • Formatting style and applying grid lines • Merging & Splitting of cells • Converting text to table • Working with TABs; Setting Custom Tabs
MODULE - IV (Mail Merge & MACRO)	• Creating Data Source & Main Document • Creating a Mail Merged Document • Creating & Running MACRO

#4. MS – EXCEL

MODULE - I (Starting with Spreadsheets)	• Introduction to Spreadsheets & Office Automation • Installation of MS-Office & familiarisation with Toolbars • Creating, Closing, Saving & Opening of Workbook • Concept of Workbook - Worksheets, Row, Column & Cell • Components of Workbook & Worksheet • Inserting, Deleting, Copying, Moving, Renaming Worksheets
MODULE - II (Working with Data)	• Autofill • Merging - Unmerging, Vertical and Horizontal Alignments • Headers & Footers • Border or gridline styles • Data Sorting and Filtering • Inserting ClipArt, Word Art, Pictures, Objects, symbols, equations, hyperlinks etc..
MODULE - III (Working with Formulas & Functions)	• Using Names in Formulas and Commands; Referencing Named Cells, Naming Formulas and Constants • Using Operators in Formulas • Changing Formulas to Values • Categories of Functions • Moving or Copying Formulas • MACRO
MODULE - IV (CHARTS)	• Understanding of various types of CHARTS • Creating, Editing & Printing CHARTS

#5. MS – POWERPOINT

MODULE - I (Starting with PowerPoint Presentations)	• Starting Powerpoint & Understanding of Screen Elements • Components of a Slide • Creating, Copying, Moving & Deleting a Slide with in a ppt • Creating, Closing, Saving & Opening of PPT • Placing "Text Box, Picture, Clip Art, Video Clip" in Slide
MODULE - II (Working with Views & in-built utilities)	• Using existing Templates and Creation New Templates • PowerPoint Views • Using Layouts and Themes· • Using Shapes, Word Art
MODULE - III (CHARTS & Transitions)	• Using Charts and Graphs • Applying Transition Effects • Controlling Transitions manually and with timer
MODULE - IV (Slide Show Setup)	• Adding Sound to a ppt • Adding and controlling Animation Effects • Setting up Slide show and Looping Slide show

Certificate Course in Open Source Software

Course Duration: 60 hours

Scheme of Course

Paper No.	Title of Paper	Maximum Marks	Passing Marks	Duration of Exam
	Open Source Software	50	20	3 hours
	Lab based on Open Source Software	50	20	3 hours

Program Outcome:

- Able to recognize the benefits and features of Open Source Technology.

- Interpret, Contrast and compare open source products among themselves.

- Understand and demonstrate Version Control System along with its commands.

- Be familiar with open source software products and development tools currently available in the market.

Job Roles in Government Sector, IT Firm & Private Organizations:

- Software Developer
- System Engineer
- Security Professional
- Project Manager
- Software Executives
- System Designer.
- Information Systems Manager.

Objectives:

To provide a basic idea of Open source technology, their software development process so as to understand the role and future of open source software in the industry along with the impact of legal, economic and social issues for such software.
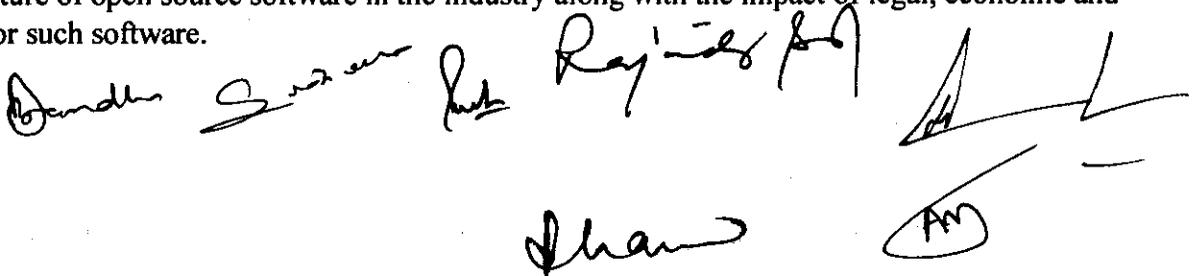
Paper Code:
Nomenclature: Open Source Software (Theory)

Maximum Marks: 50
Minimum Marks: 20
Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. F rst Question will be compulsory, consisting of four (short-answer type) questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addit on to compulsory Question No. 1. All questions will carry equal marks.

UNIT I

Introduction:

Open Source Systems: Introduction, Objectives, Overview of Open Source System, Open source tools, Open source components, Open source methodology
Contrasting and comparing open source vs. traditional development methodologies
Open Source Software Development Models, OSS: UNIX, PHP (WordPress, Zoomla) and Android, MySQL, Libre Office, VLC Media Player, Mozilla Firefox, Linux

UNIT II

Licensing:

Commercial License versus Open Source License, Open Source Licensing: Contract, and Copyright Law -Basic Principles of Copyright Law, Contract and Copyright, Open Source Software Licensing, Types of OSS licenses, OSS licensing strategies, Issues
with Copyrights and Patents, Warranties, License Issues (MPL, GPL, LGPL, etc.)

UNIT III

Open Source Development:

Linux: User accounts, Logging in and Logging out, Command line, Simple commands
Linux file system, Linux files, i-nodes and structure and file system related commands,
Shell as command processor, Shell variables, Creating command substitution, Scripts, Functions, Conditionals, Loops, Customizing environment.
Libre Office: Writer, Calc, Impress, Draw (vector graphics), Base (database), Math (formula editor)

UNIT IV

Open source software tools:

Core Applications: GIT, GIMP, Inkscape, Scribus, MyPaint, Blende , Krita
Video tools: Kdenlive, Shotcut, OpenShot Video Editor

Text books:

1. Ellen Siever, Stephen Figgins, Robert Love, Arnold Robbins, "Linux in a Nutshell", Sixth Edition, OReilly Media, 2009

REFERENCES:

1. Professional Linux Programming by Mathew, vol. 1 & 2, Wrox-Shroff, 2001.
2. Running Linux by Welsh & Kaufmann, O'Reiley & Associates, 2000.

Paper Code:
Nomenclature: Lab based on Open Source Software (Practical)

M.M: 50	**Distribution of Marks**
Time: 3 hours	Experiment: 25
	Practical Work Book: 15
	Viva Voce: 10

Course Outcome:

After learning the course the students should be able to:
- Install open source operating system
- Identify and use UNIX/Linux utilities to create and manage simple file processing operations, organize directory structures with appropriate security, and develop shell scripts to perform more complex tasks.

List of Experiments:

Linux:
- Installation of Unix/Linux operating system.
- Study of logging/logout details.
- Study of Unix/Linux general purpose utility command list obtained from (man, who, cat, cd, cp, ps, ls, mv, rm, mkdir, rmdir, echo, more, date, time, kill, history, chmod, chown, finger, pwd, cal, logout, shutdown) commands.
- Study of vi editor.
- Study of Unix/Linux files system (tree structure).

Libre Office:
- Page setup, Text formatting, Editing, SmartArt, Quick Access,Title and ribbon bar, Spellcheck and Grammar check
- Spreadsheets, Workbooks, Formulas, Data Linking, Charts, Data Analysis, Macros , IF Statements, Data Validation
- Presentation design, Templates, Custom slides, Animation, Manuscripts, Creating graphs and charts.

Major Equipment's: - Latest PCs with related software.

Syllabus Description of Value Added Course

Remark: Successful completion of the following course earns the student a certification issued by college.

Typing and Shorthand (English)

Course Name	Duration of the course	Maximum Marks				Duration of Exam
Typing and shorthand English		Shorthand Theory	Shorthand Practical	Typing Practical	Total	3 Hours
		50	50	**50**	150	

Introduction: Stenography is job - oriented course. It is known as Dual Art. It is unique combination of Shorthand and Typewriting. In other words Shorthand plays a predominant role in for establish a career. Steno is a kind of coded language which helps an individual to write long length translation into a small word or in the small length. Basically, the word steno can be described as the process writing in shorthand. Steno is only where spoken words have been documented as such. Stenographer records the spoken words of the individual into in a coded language with the speed of other individual spoken speed in the coded language and after that decode into original language i.e. Hindi or English.

Objective: This course is very much in demand for its practical utility in the professional world. So the syllabus has been designed to equip the students to impart sufficient knowledge. Training is given to develop their Steno typing skills and to obtain computer typing skills which enable them after getting training in this field, will not face difficulty in getting suitable jobs.

Programme Outcome:
There is a high demand for the stenographer in every department and every field irrespective of being public sector or private sector. Stenographer are primarily employed by the courts and by those in the legal profession because court official and lawyers need an exact transcript to use during the trials and also can get the job in banks, Excise, High Courts Para-Military, Ministry of Home-Affairs, Indian Railways, Parliament Lok Sabha and Rajya Sabha He/ She can join any organization as a Stenographer, as a personal assistant, and also can be join as a reporter in any newspaper or magazine industry. Newspaper reporters can much more be benefited from the skill of stenography. They can write down their repots in shorthand on the spot of any incident or happening and later can translate on computer from the shorthand notes their report in fully.

- **Eligibility:**
  o Students of all streams can enroll for the course.
- **Structure of the Course:**
    Paper 1: Practical Examination (Shorthand)
    Paper 2: Theory   Examination (Shorthand)
    Paper 3: Typing   Practical

Scheme of Examination: There will be a practical Examination of 50marks and Theory Examination 50 marks & Typing practical 50 marks.

Syllabus for Value Added Course of Typing and Shorthand (English)

Unit-1 Introduction to shorthand: The Consonants, Vowels, Intervening Vowels and their positions, Grammalogues, Punctuationssigns, Alternatives signs for 'r' and 'h'.
Unit-2 Diphthongs, Abbreviated 'W' and Phraseography including tick 'The'
Unit-3 Representing 'S' and 'Z' with Circle and Strokes, large Circles 'SW' and 'SS' or 'SZ'
Unit-4 Loops 'ST' and 'STR' initial Hooks to Straight Strokes and Curve, 'N' and 'F' Hooks, alternativesforms for fr' and 'vr' etc. with intervening vowels.
Unit-5 Circles and Loops to final hooks, the Shun hook.

Practical: **The candidates should be able to perform all the tasks in practical examination as have been taught for the theory examination.**

Syllabus for Typewriting Practical

]Unit-1 Touch Typewriting Ergonomics, Correct sitting posture, Position of keyboard, Method of
Typewriting: Touch method of Typewriting, Sight method of typewriting, Positioning of fingers
on fingers on the keyboard according to Touch method of typewriing.
Unit-2 Practicing second row and third row combined. (Drill exercises) -- Practicing first, second and
third row combined uses of functional keys.
Unit-3 Practice of A to Z and reverse – Practice to attain speed on sentences and paragraphs Practice of Business and official letters. (30 W.P.M.)

#2. TAXATION

MODULE - I	Introduction to income tax: concept, tax, person, income, agricultural income, casual income, previous year, financial year, assessment year, gross total income, total income; tax management: tax evasion, avoidance, and tax planning. Basis of charges: scope of total income, residence and tax liability, income which does not form part of total income.
MODULE - II	Heads of income: income from salary, house property; profit and gains from business and profession, capital gains and other sources. Clubbing and aggregation of income. Provisions regarding set-off and carry forward of losses.
MODULE - III	Deductions under section 80C to 80U in computing total income. Computation of total income and tax liability of an individual and H.U.F. Computation of total income and tax liability of a Firm. Deduction of tax at source; advance payment of tax.
MODULE - IV	Income tax authorities and their powers. Procedure for assessment; different types of returns. Procedure of filing e-return and revised return. Recovery and refund of tax. Penalties and prosecutions; appeals and revision.

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#3. Advertising & Marketing Communication

MODULE - I	Communication and advertising mix: communication process; advertising functions; types of advertising; e-advertising; economic, legal, ethical and social aspects of advertising; setting advertising objectives, Dagmar approach; Advertising budget.
MODULE - II	Advertising: meaning, importance & scope, advertising vs. publicity, promotion mix, advertising process. Creative aspects of advertising: advertising appeals, copy writing, headlines, illustrations and message.
MODULE - III	Advertising media: types of media, merits and demerits; media planning and scheduling. Advertising agency: concept, role & relationship with clients, advertising department.
MODULE - IV	Advertising and consumer behavior. Advertising Effectiveness: concept and benefits; measuring advertising effectiveness: pre, post and concurrent tests

#1. BUSINESS MANAGEMENT

MODULE - I	Introduction to Management: concept, characteristics and significance, Process/Functions of Management. Management: as Science, Art and profession.
MODULE - II	Approaches to Management: Classical and Neo classical approach, Behavioral approach, Management science approach, Systems approach and Contingency approach; Management thought in ancient India.
MODULE - III	Planning: concept, process & importance, Types of Plans: Policy, Programme, Strategy, Vision, Mission, Goals, and Objectives. Organizing: meaning, principles and benefits of organizations; Organizational structure: Functional, Line vs. Staff, matrix, Formal vs. Informal; Organizational structure for large scale business organization. Delegation: meaning, advantages, barriers to delegation, guidelines for effective delegation. Decentralization and Centralization: advantages and disadvantages, factors influencing decentralization.
MODULE - IV	Staffing: meaning, importance & scope of staffing. Directing: concept; Motivation: concept, objectives & significance, Approaches to motivation. Leadership: concept, significance & functions, Leadership styles, approaches to leadership. Controlling: meaning and characteristics of control, process of control, prerequisites of an effective control system; controlling techniques.

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Food Security

1.	What is food security, Combination	Food availability, access, utilization concept, meaning, scope and importance.
2.	Food production in india	Basic aim of production. How can increase food production, green revolution.
3.	Public Distribution system (P.D.S)	APL Card, Antodya Card, BPL Card, Extra Food Stock.
4.	Food security scheme in india	
5.	Comprehensive summary of food security in india log term measures and U.N. Report	
6.	Challenges of food security	Climate change, lack of access to remote areas, overpopulation, poverty, lack of education, couruption.
7.	Recent Government initiatives	a. Rashtriya Krishi Vikas Yojna (RKVY) 2007 b. National Food Security Act (NFSA) 2013 c. Food and Agriculture Organization d. World Food Programme e. International Fund for Agriculture Development (IFAD)

Syllabus Description of Value Added Courses

Remark: Successful completion of the following courses earns the student a certification issued by college.

Waste Management

Course Name	Duration of the course	Maximum Marks			Duration of Exam
Waste Management	30 hours	External	Internal	Total	3 Hours
		60	40	100	

- **Objective:**

Every human activity ends up in the generation of unwanted waste product. This course throws light on the current scenario of solid waste generation and problem in its handling and management. It also deals with the different governmental policies that explain proper transportation, handling and disposal of solid waste to minimize its effect on environment and promote the concept of zero waste living.

- **Programme outcome:** After finishing the course the students would be able to:
  1. Understand clearly and comprehend information related to strategic planning in waste management.
  2. Identify the methods for Recycling, Recovery and Reuse of the materials considered to be waste.
  3. Apply for diploma and degree courses in solid waste management which would open immense job opportunities as waste manager, supervisor, operators, technicians, service manager, superintendents, field service worker, inspectors etc.
- **Department:** Botany
- **Eligibility:**
  o All undergraduate students can enroll for the course.
- **Structure of the Course:**
  o Paper I: Theory Paper
  o Paper II: Practical
- **Scheme of Examination:**
  o There will be a written examination carrying 60 marks and practical examination will carry 40 marks.

Syllabus

Theory (30 Lectures)
Unit 1: Introduction to Environment

Ecosystem:-Meaning, Components, Types, Structure, Functions.

Levels of organization- Food chain and Trophic levels, Energy Flow and Biogeochemical Cycles

Unit 2: Solid Waste

Sources and Types of Municipal Solid Waste, Biomedical and Chemical Waste, Nuclear and e-Waste

Unit 3: Effect of solid waste disposal on environment

Impact of solid waste on environment, human and plant health; effect of solid waste and industrial effluent discharge on water quality and aquatic life; mining waste and land degradation; effect of land fill leachate on soil characteristics and ground water pollution.

Unit 4:Solid waste Management

Different techniques used in collection, storage, transportation and disposal of solid waste (municipal, hazardous and biomedical waste); landfill (traditional and sanitary landfill design); thermal treatment (pyrolysis and incineration) of waste material; drawbacks in waste management techniques.

Unit 5:Industrial waste management

Types of industrial waste: hazardous and non-hazardous; effect of ndustrial waste on air, water and soil; industrial waste management and its importance; stack emission control and emission monitoring; effluent treatment plant and sewage treatment plant.

Unit 6: Resource Recovery

4R-reduce, reuse, recycle and recover; biological processing -composting, vermi-composting, anaerobic digestion, aerobic treatment;; mechanical biological treatment; green techniques for waste treatment.

Unit 7: Policies for solid waste management

Municipal Solid Wastes (Management and Handling) Rules 2000; Hazardous Wastes Management and Handling Rules 1989; Bio-Medical Waste (Management and Handling) Rules 1998; Ecofriendly or green products.

Practicals: 15 lectures

1. Determination of pH of MSW
2. Determination of Total dissolved solids in water / effluent sample.
3. Lab scale study on composting and vermi-composting
4. Lab scale study of aerobic and anaerobic digesting of municipal and industrial solid waste

5. A visit to industrial area to study the handling of hazardous material and study the working of incinerators

6. Preparation of Project Report based on case study of a hospital or an industry.

Syllabus for Waste Management
Six months Certificate course Waste Management

Paper-1 Code- WMS-101	Unit-1	• Introduction to Environmental Science, Definition, Types and Categories of Waste, • Collection, Sorting and Transfer of Waste, • Techniques in Solid and Liquid Waste Management
	Unit-2	• Waste Disposal and Scientific Landfill Cultivation • Introduction to Hazardous Waste (Nuclear Waste and e-Waste) • Management and Disposal of Hazardous Waste • Impact of Bio-medical Waste on Environment and Human Health
Paper-2 Code- WMS-102	Unit-1	• Treatment and Disposal of Bio-medical waste • Infection Control, Prevention and Patient Safety • Waste Management in Food Industry • Reuse and Recycling Techniques
	Unit- 2	• Environmental Policies, Act and Legislation • Entrepreneurship in Waste Management • Human Resource and Financial Management
Paper-3 Code- WMS-103	Practical	• Industry Based Case Studies

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Energy Security

1.	Introduction	Meaning, definition, scope and importance in present era.
2.	India's Energy Resources	Classification of energy resources primary and secondary enerfy, commercial and non-commercial energy, renewable and non renewable energy.
3.	Non renewable energy	Oil, natural gas, nuclear energy and coal known as fossil fuels.
4.	Renewable energy	Wind, sun, Geothermal, tide, water, bio-mass, waves, ocean energy.
5.	Solar Energy	Solar Thermal energy, solar water heating solar space heating, solar chimney, solar India
6.	Energy Importance	Human need, Ecomonic development industrial development need for reliable and affordable energy.

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Syllabus For Environmental Impact Assessment
Six months certificate course Environmental Impact Assessment

Paper- 1 Code-EIA-101	Unit-1	INTRODUCTION: Classification of Pollution and Pollutants, AIR POLLUTION: Primary and Secondary Pollutants, air pollutants-sulfur dioxide-nitrogen dioxide, carbon monoxide, Impact of air pollutants on human, vegetation and environment, , Ambient Air Quality Standards
	Unit-2	WATER POLLUTION: Point and Non-point Source of Pollution, Major Pollutants of Water, Physical, chemical and biological characteristics of water , Water borne diseases, Water Quality standards
Paper- 2 Code-EIA-102	Unit-1	SOLID WASTE: Classification and sources of Solid Waste, Characteristics of Solid Waste, e waste, Radioactive wastes LAND/SOIL POLLUTION: Effects of urbanization on land degradation, Impact of Modern Agriculture on Soil, pesticide pollution, Effect on Environment
	Unit-2	NOISE POLLUTION: Sources of Noise, Effects of Noise, measurement of noise, Equivalent sound pressure level, Control measures,
Paper- 3 Code-EIA-103	Unit-1	Impacts of pollutants, types, scale of impact-Global, local pollutants. Climate change, Ozone layer depletion, Deforestation, land degradation Environmental impact assessment, Need for EIA,
	Unit-2	EIA Procedure-Screening, Scoping, EIA procedure in India, Impact analysis-checklists, matrix methods, overlay analysis, Case studies of EIA

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Resource Security

1.	Aim and Concept	Resources, meaning, definition, scope and its utility and importance in present era.
2.	Types of resources	Biotic and Abiotic Natural resources Biotic (Living and Organic Material), Abiotic (Non-living and Non Organic Material). How are resources spread across the globe.
3.	Natural Resources	Oil, Natural Gas, Coal, Metal, Stone, Phosphorus, Bouxite, Earth, Sunlight, Atmosphere, Water land and Minerals with vegetation.
4.	Conservation of Resources.	Importance of conservation, classification of resources, on the basis of origin, exhaustibility. Ownership and status of development.
5.	Resources and Development	Importance of resources and role in development, development of resources, land utilization and planning. Soil conseration.

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Fire Security

1.	Relevant Knowledge	Basic elements of Nature-Barth, Water, Fire, Air & Space what we means by fire, its importance and scope.
2.	Classification of Fire	Class-A, Class-B, Class-C, Class-D & Class-K
3.	Common course of fire	Open flame, Electrical, Cooking, and Spontaneous Ignition.
4.	Dealing with fire emergencies 'RACE'	Rescue/Remove, Alarm/Alert, Confine/contain and Evacuate/Extinguish
5.	Methods and Techniques of Extinguishing Fire	Cooling, Smothering, Starving
6.	Fire Fighting Equipment and installation	Personal Protective Equipment (PPE), Fire water tank, pumps, fire Hydrots, Yard Hydrots, Automatic sprinkler system, fire detection panel and warning system, Heart detectors smoke detectors, flame detector, public address system, automatic sprinkler alarm panel, emergency exits, signages emergency power supply.
7.	Prevantion procedure and role of people in fire control	Fire prevention, fire protection, person discerning fire, telephone oerator, fire fighting team, dutie of leadr of the fire fighting team, duties of chief fire officer, duties of engineering duties of different offices and staff.

Disaster Management

1.	Introduction of Disaster	Meaning, definition, scope and its importance.
2.	Types of Disaster	1. Natural Disaster- Flood, Cyclone, Earthquakes, Landslides, Draught. 2. Man Made Disaster- Fire, Industrial Pollution, Nuclear Disaster, Biological Disaster, Accodents (Air, Sea, Rail & Road), Building and Bridge Failures, War, Terrorism. 3. Causes effect and practical examples for all disasters.
3.	Risk and Vulerability Analysis	1. Risk: Its concept and analysis 2. Risk Reduction 3. Vulnerability: Its concept and analysis 4. Its strategic development.
4.	Preparedness	Concept and nature, Plan, Early Warning, Safety measures of Disaster, Role of information, education communication and training, Role of Govt. Internation and N.G.O. bodies.
5.	Rehabilitation, Reconstruction and recovery	Its means and development, damage assessment, post disaster effects and remedial measures, house construction sanitation and hygiene, education awareness and role of educational institute.

Internal Security

1.	Unit-I	Meaning of security, Its importance of a Nation.	Internal security, meaning, concept, challenges and importance special reference of India
2.	Unit-II	Terrorism	Classification, types of terror, causes the rises of terrorism, India's preparedness.
3.	Unit-III	Naxatism	Development of Naxatism in India. Its Aim, Objectives and working system, Main Causes of Naxatism and its obstacles. How can stop this challenges.
4.	Unit-IV	Insurgency in North East States	Causes of insurgency. In North East Area insurgent groups relation with other countries, seven sister position.
5.	Unit-V	Security Forces and Institutions	Central Armed Police Force (CAPF), Central Para Military Forces (CPMF), Border Security Forces (BSF), Central Reserve Police Forces (CRPF), Sashtra Seema Bal (SSB), National Security Guard (NSG).

Entrepreneurship Courses

Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv. Dip.	Credits	Broad outline of the Syllabus
1	Home Science	Block Printing	Diploma	60	Introducion, Types and Block printing on different materials, Skills to Sell
2	Home Science	Embroidry	Diploma	60	Introducion, Types, Fabrics, Skills to Sell
3	Home Science	Beauty & Wellness	Diploma	60	Anatomy, Physiology, Yoga, dietetics,types of cosmetics, recognition of abnormalities and faults of figure, skin and hair and their correction
4	Home Science	Handicraft	Diploma	60	Introducion, Types, Understanding Materials, Skills to Sell
5	Home Science	Bakery, Confectionery & Cookery	Diploma	60	Nutrition, Computer Awareness, Hygiene and Sanitation, Commodities and Costing
6	Home Science	Food & Beverage Production	Diploma	60	Food Production Module, Food And Beverage, Hotel Communication Cum Soft Skills Module, Hygiene And Sanitation, Hotel Facility Planning, Front Office, Engineering & Maintenance, Nutrition And Food Sciences, Personality Development
7	Home Science	Fashion Technology & Apparel Designing	Advanced Diploma	120	World of Design, C.A.D. and I.P.S., History of Indian Fashion, Fashion Style and Illustration, Vintage Costume, Business Management and Entrepreneurship, Pattern and Markee Making on Computer, Apparel Manufacturing Technology
8	Home Science	Jewellery Designing	Diploma	60	Drawing and Rendering, Cost Based Designing, Grading and Sorting, Store Layout and Design
9	Home Science	Cutting, Tailoring & Surface Ornamentation	Diploma	60	Sewing, Garment Construction
10	Home Science	Fashion Designing	Advanced Diploma	120	World of Design, C.A.D. and I.P.S., History of Indian Fashion, Fashion Style and Illustration, Vintage Costume, Business Management and Entrepreneurship, Pattern and Markee Making on Computer, Apparel Manufacturing Technology

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Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv. Dip.	Credits	Broad outline of the Syllabus
11	Home Science	Dairy Products & Processing	Diploma	60	Basics of dairy (liquid food) food processing and preservation technologies
12	Home Science	House Keeping and Management	Diploma	60	Food and Beverages, Front Office, Culinary Art, Management Skills, House Keeping
13	Home Science	Vastu Shastra & Interior Designing	Diploma	60	Origin And History, Principles Of Vastu-Shashtra, Introduction To Directions, Residential Vastu, Commercial Vastu, Interior Designing
14	Commerce	Entrepreneurship Development	Diploma	60	Introduction, Training and Case Studies Practical Experience Developing a Business Plan
15	Commerce	Women Entrepreneurship	Diploma	60	Introduction, Training and Case Studies Different business plans
16	Biology	Soil Management & Vermi-Composing	Certificate	30	Soil Research methodology and Vermi Composing
17	Biology	Landscaping	Certificate	30	Introduction, Need and Study
18	Biology	Rain Water Harvesting	Certificate	30	Managing India's water future: Past, Present and Future, Water auditing and water efficient fixtures, Technologies of rainwater harvesting and water conservation, Harvesting city's water endowment through water sensitive designs (including waterbodies), Policy framework for rainwater harvesting, water conservation and waterbodies
19	Biology	Ornamental Fish Culture	Certificate	30	Ornamental Fish Production and Management, Types freshwater ornamental fishes
20	Biology	Mushroom Cultivation	Certificate	30	Introduction Mushroom culture, Spawn production and spawning, Making and casing beds, Growing conditions for mushrooms, Pests, diseases and growing mushrooms outside, Harvesting, storing and using mushrooms, Marketing of mushrooms and special assignment
21	Biology	Bio-Farming	Certificate	30	How To Farm - Thorough, Simpl, Step-by-Step Bio-Farming, utilizing ancient tried-and-true Farming Methods

Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv. Dip.	Credits	Broad outline of the Syllabus
22	Biology	Horticulture and Nursery Management	Diploma	60	Horticulture, Fruit and Vegetable Production, Post Harvest Management of Fruits & Vegetables, Floriculture, Ornamental Horticulture
23	Biology	Landscape Gardening & Management	Diploma	60	Introduction, Designs, Planning, Developing, Themes, etc.
24	Biology	Green House Technology	Certificate	30	Introduction, Need, Pest Management
25	Music/Theatre	Theatre & Stage Craft	Diploma	60	Literture, Stage, Direction, Production and Participation and other Aspects
26	Music/Theatre	Western Contemporary Dance	Diploma	60	Classical Dance, Taal, Ballet, Floor Work, Dance Forms, Costumes and makeup.
27	Physical Education	Panchkarma	Certificate	30	Panchkarma, Operating Equipments

VALUE ADDED PROGRAMME
TITILE OF THE COURSE- BLOCK PRINTING

E - 1 A

Unit 1	Fabric - Synthetic and Natural Fabrics
Unit 2	Historical Background of Block Printing
Unit 3	Types of Block Printing
Unit 4	Colours – Primary and Secondary
Unit 5	Different types Colour schemes, Colour Wheel
Unit 6	Types of Block Printing
Unit 7	Different types of Dyes for Block Printing
Unit 8	Dyes affinity to Fabrics
Unit 9	Design making for block printing
Unit 10	Tools and Equipments for block printing
Unit 11	Usage of tools and equipment
Unit 12	Blocks – tracing and carving of block
Unit 13	Treatment and care for blocks
Unit 14	Printing Surface
Unit 15	Preparation of pastes, dyes and Colours
Unit 16	Binder – types and preparation
Unit 17	Making samples using different materials and dyes
Unit 18	Pre-Preparation and treatment of fabricfor printing
Unit 19	Learning to put registration marks
Unit 20	Learning to make corners
Unit 21	Single colour printing 1
Unit 22	Single colour printing 2
Unit 23	Double colour printing 1
Unit 24	Double colour printing 2
Unit 25	Multi colour printing
Unit 26	Treatment of Fabric after Printing
Unit 27	Safety Precautions
Unit 28	Value Addition
Unit 29	Display Techniques
Unit 30	Employment Opportunities
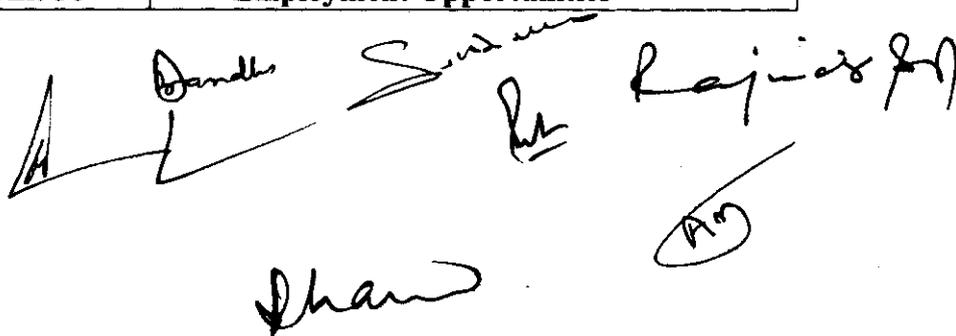
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2. TITLE OF THE COURSE- EMBROIDERY

Unit -1	Embroidery – importance, types – Hand and Machine Embroidery
Unit -2	Tools and Equipment for Hand embroidery
Unit-3	Threads for Embroidery
Unit -4	Needles for Embroidery
Unit -5	Colours – Primary and secondary, colour wheel, colour schemes
Unit -6	Designs – floral, geometrical, human, animal and other designs
Unit -7	Selection and Preparation of fabric for embroidery
Unit -8	Different methods of transferring a design on fabric
Unit -9	Precautions while doing embroidery
Unit -10	Making Samples using Basic embroidery stitches – stem stitch, satin stitch, chainstitch. Herringbone stitch, lazy daisy, buttonhole stitch etc.
Unit -11	Making samples using Basic Embroidery stitches – stem stitch, satin stitch, chainstitch. Herringbone stitch, lazy daisy, buttonhole stitch etc.
Unit – 12	Making Samples using Basic Emroidery stitches – stem stitch, satin stitch, chainstitch. Herringbone stitch, lazy daisy, buttonhole stitch etc.
Unit -13	Making Samples using Decorative Embroidery stitches – Bullion stitch, French knot,Spider stitch, Romanian stitch, Feather stitch etc.
Unit -14	Making Samples using Decorative Embroidery stitches – Bullion stitch, French knot,Spider stitch, Romanian stitch, Feather stitch etc.
Unit – 15	Making Samples using Decorative Embroidery stitches – Bullion stitch, French knot,Spider stitch, Romanian stitch, Feather stitch etc.
Unit -16	Designing using basic and decorative stitches
Unit -17	Preparing one household article using at least 5 basic embroidery stitches
Unit -18	Preparing one household article using at least 5 Decorative embroidery stitches
Unit 19	Making Samples using Traditional embroideries of India 1
Unit 20	Making Samples using Traditional embroideries of India 2
Unit 21	Making Samples using Traditional embroideries of India 3
Unit 22	Making Samples using Traditional embroideries of India 4
Unit 23	Making Samples using Traditional embroideries of India 5
Unit 24	Preparing one household article using any one of traditional embroidery of India
Unit 25	Care and storage of Embroidered article
Unit 26	Employment Opportunities

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NAME OF THE TITLE- FOOD AND NUTRITION

UNIT	TOPIC
UNIT - 1	Food and its function
	Concept of balanced diet, Food and Nutritional Requirements
Unit - 2	Carbohydrate
	Protein
	Fats
Unit - 3	Vitamin A
	Vitamin B-complex
	Vitamin C
	Vitamin D
	Vitamin E
	Vitamin K
	Minerals – Sodium, Potassium
	Mineral – Calcium, Phosphorus
	Mineral – Iodine
	Mineral – Iron
	Water and Roughage
	Meal planning
	Meal planning for children
	Meal planning for adolescents
	Meal planning for Adults (Man and Woman)
	Meal planning for pregnant Woman
	Meal Planning for Lactating Mother
	Methods of cooking and its effects on nutrients
	Methods of enhancing nutritive value of food
	Food habits and misconceptions
	Nutrition related Government Policies and Programmes

Course Name	Duration of the course	Maximum Marks			Duration of Exam	Medium of Instruction
Apparel Designing	40 hours	External	Internal	Total	3 Hours	English and Hindi
		50	50	100		

- **Objective:**

The objective of the course is to equip students with entrepreneurial skills which will help them to compete in the dynamic business world. The curriculum aims to establish foundation for basic concepts and techniques of designing.

- **Department:** Home Science
- **Eligibility:**
  - Students of all streams can enroll for the course.
- **Structure of the Course:**
  - Paper I: Theory Paper
  - Paper II: Practical
- **Scheme of Examination:**
  - There will be an Examination of 50 marks each. There will be a written examination carrying 50 marks and practical examination will carry 50 marks.

Syllabus of Apparel Designing

Theory:

Introduction to Printing and its types

Embroidery and its types

Introduction to Tie & Dye, Types of Tie & Dye

Practical:

Printing: Block Printing, Stencil Printing, Roller Printing, Screen Printing, Spray Printing

Embroideries: Chain Stitch, Stem Stitch, Lazy Daisy Stitch, Satin Stitch, Kantha Stitch, French Knot

4. TITLE OF THE COURSE – CUTTING TAILORING AND SURFACE ORNAMENTATION

T	TOPIC
Unit -1	Sewing Machine – parts of sewing machine , Operation, Defects of sewing Machine and their adjustment, Care and maintenance of sewing machine, points to be remembered while sewing
Unit -2	Introducing Terminology of garment making- Warp, weft, grain line, on-grain, off-grain, selvedge, bias (true and false), layout, marking and cutting, seams, fasteners.
Unit -3	Taking body measurements – points to be taken care while taking body measurements
Unit - 4	Proper usage of measuring tape, scale, French curve and other stitching and cutting tools.
Unit - 5	Drafting – meaning and importance
Unit - 6	Preparation of the fabric for cutting, fabric layout and its types
Unit -7	Permanent Basic Seams - plain, run and fell, French, top seam, slot seam. Finishing neck using facing, piping. Stitching on curves and making corners.
Unit -8	Learning Functional stitches by hand - basting, tacking, running stitch,hem stitch, slip stitch. Learning to attach fasteners - Hook and eye, Button and button hole, Push buttons,
Unit - 9	Learning to prepare plain dart, french dart, contour dart, plain tuck, pintuck, gathers, pleats and inserting elastic.
Unit - 10	Drafting, cutting and stitching of jhabla with bloomer
Unit - 11	Preparation of child basic bodice block, sleeve block and collar of any one size between 2 to10 years.
Unit - 12	Drafting, Cutting and Stitching of baby Frock (Gathered frock with puff sleeve).
Unit - 13	Drafting, Cutting and Stitching of Night Suit (top with yoke andpayjama)
Unit -14	Drafting, Cutting and Stitching of Child's Kurta
Unit -15	Preparing basic block, sleeve block and skirt block as permeasurements for an adult
Unit -16	Adaptation of bodice block for kurti or kameez as per measurements. Layout, Cutting and Stitching of Kurti or kameez.
Unit - 17	Drafting, Cutting and Stitching of Salwar.
Unit -18	Adaptation of basic block to night wears (with yoke). Layout andCutting as well as stitching the night wear.
Unit -19	Adaptation of basic block to blouse. Layout and Cutting as well as stitching the blouse
Unit -20	Drafting, Cutting and Stitching of any one Skirt (Pleated/ Flared/Gathered) or a Trousers/ Bermuda for a teen.

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<u>Syllabus Description of Value Added Courses</u> (105) (E) - 13A

Remark: Successful completion of the following courses earns the student a certification issued by college.

Basics of Interior Decoration

Course Name	Duration of the course	Maximum Marks			Duration of Exam	Medium of Instruction
Basics of Interior Decoration	40 hours	External	Internal	Total	3 Hours	English and Hindi
		50	50	100		

- **Objective:**

The objective of the course is to equip students with entrepreneurial skills which will help them to compete the dynamic business world. The curriculum aims to establish foundation for basic concepts and techniques of Interior Decoration.

- **Department:** Home Science
- **Eligibility:**
  - Students of all streams can enrol for the course.
- **Structure of the Course:**
  - Paper I: Theory Paper
  - Paper II: Practical

Scheme of Examination:

  - There will be an Examination of 50 marks each. There will be a written examination carrying 50 marks and practical examination will carry 50 marks.

Syllabus Of Theory: Paper I

Space planning for different income groups and for different rooms passage and stair cases keeping into account the following.

- Orientation
- Activity
- Privacy
- Spaciousness
- Aesthetics
- Economy
- Light
- Ventilation
- Flexibility

Syllabus for Practical: Paper-II

- Layout of furniture and furnishing costs for different rooms/areas.
- Alpana and rangoli designs.
- Candle making, collage, paper mashie,poster making, fabic painting, mosaic scenary.
- Table setting and napin folding.
- Devlopment & design, color wheel planning color scheme for different room.
- Ornamental plants, potted plants and pott painting, hand bag making.
- Flower arrangement for different rooms and occassions.
- Greeting cards by quilling or crafting.
- Use of waste materials for decorative articles.
- Different type of pouches like potli,purses.

Course on Vermicomposting

Course Name	Duration of the course	Maximum Marks			Duration of Exam	Medium of Instruction
		External	Internal	Total		
Vermicomposting	30 hours	50	50	100	3 Hours	English and Hindi

- **Objective:** To enable students to develop understanding of vermicomposting
- **Department:** Zoology
- **Eligibility:**
  - Students of science stream can enrol for the course.
- **Structure of the Course:**
  - Paper I: Theory Paper
  - Paper II: Practical
- **Scheme of Examination:**
  - There will be an Examination of 50 marks each. There will be a written examination carrying 50 marks and internal assessment will carry 50 marks.

Syllabus

Unit-1 (04 Hrs)

1.1. Definition and concept of vermiculture.
1.2. Soil: major types (red soil, black soil, alluvial soil).
1.3. Influence of soil organisms in vermitechnology- Litter degradation and decomposition.
1.4. Problems in vermiculture and remedial solutions.

Unit-2 (04 Hrs)

2.1. Vermicomposting : Introduction and Scope
2.2. Endemic and exotic species of earthworms.
2.3. Ecological classification of earthworms- epigeic, anecic and endogeic forms.
2.4. Life history of Earthworms (Earthworm Species *Eisenia foetida*)

2.5. Physical, chemical and biological changes caused by earthworms in soil .

Unit-3 (04Hrs)

3.1. Vermicomposting materials
3.2. Vermicomposting methods Small scale and large scale
3.3. Factors affecting vermicomposting - pH, moisture, temperature
3.4. Establishment of Vermicomposting and Vermiwash unit

Unit-4

4.1. Precautions while Vermicomposting (04 Hrs)

4.2. Physico- chemical analysis of vermicompost
4.3.Physical Parameters of vermicompost
4.4.Nutrient content of vermicompost
4.5. Pests and diseases of Earthworms

Unit-5
5.1.Harvesting of vermicompost   (04 Hrs)
5.2.Storing, packaging and marketing- cost benefit analysis.
5.3. Quality, properties and advantages over chemical fertilizers.
5.4. Advantages of vermiwash.

Paper II- Practical
1. Key to identify different types of earthworms   (10 Hrs)
2. Field trip- Collection of native earthworms & their identification
3. Study of Sytematic position, habits, habitat & External characters of Eisenia fetida
4. Study of Life stages & development of Eisenia fetida
5. Study of equipments and devices used in Vermiculture, Vermiwash & Vermicompost
6. Establishment of vermicomposting unit Pit method
7. Establishment of vermicomposting unit Bed method
8. Establishment of vermiwash unit
9. Maintenance of vermicompost units & climatic conditions.
10. Harvesting and separation of vermicompost
11. Packaging and storage of Vermicompost

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(E) - 20A

Syllabus For Mushroom Cultivation

PAPER-1 THEORY: - Introduction to Mushroom	• History, classification based on occurrence, morphology, status, importance and scope of Mushroom in India • Major cultivatable Mushroom species in India and their climatic requirements. • Nutritional and Medicinal properties of different mushrooms species. • Edible Mushroom species and diagnostic features –morphological and microscopic identification • Life cycle of mushrooms • Nutrient profile of mushrooms
PAPER -2 THEORY: - Cultivation Technology of Agaricus bisporus	• Cultivation Technology of White button mushroom - Agaricus bisporus. • Farm design and fabrication of low cost Mushroom shed for seasonal cultivation. • Farm design and fabrication of AC unit for off season cultivation in controlled conditions. • Long Method of composting • Short Method of composting • Mushrooms spawn production technology. (A)Pure Culture (B) Mother spawn (C) Master spawn (D) Commercial spawn (E) Different Strains. • Spawning methods and after care of Mushroom house. • Casing process and preparation, sterilization of casing mixture • Management of environmental parameters in Mushroom house for different species • Insect-pests, diseases and disorders of white button Mushroom and their management • Post harvest technology, grading, packing & marketing of Mushroom
PAPER-3 THEORY:- Cultivation Technology of some other important Mushroom	• Cultivation Technology of Oyster mushroom - Pleurotus spp. • (A)Compost (B) Spawning process • Cultivation Technology of Milky mushroom (Calocybe indica) • Cultivation Technology of Cordyceps mushroom • Cultivation technology of Paddy straw mushroom - Volvariella spp. • Cultivation technology of Specialty mushrooms - Shiitake (Lentinula edodes).
PAPER -4:- Entrepreneurship development in Mushroom Cultivation	• Value addition, processing and preservation technology of different Mushroom species • Mushroom cultivation as a component of Integrated Farming System for sustainability. • Use of spent mushroom compost in agriculture. • Involvement of woman self help group (SHGs)

- their economic and Social empowerment
- Schemes of different government departments including horticulture department for Mushroom cultivation.
- Preparation of project report and economics for cultivation of different mushroom species
- Success stories of Progressive Mushroom Grower

Sr. No.	Mushroom Cultivation (Practicals)-I
1.	Fabrication of low cost and AC Mushroom house
2.	Preparation of pure culture, master culture and commercial spawn.
3.	Compost preparation of white button Mushroom (Long and short methods)
4.	Preparation and sterilization of casing mixture
5.	Composting, spawning and casing in mushroom house
6.	Harvesting, washing, grading and packing of Mushrooms.

Sr. No.	Mushroom Cultivation (Practicals)-II
1.	Substrate preparation for Oyster, paddy straw and milky mushroom
2.	Substrate preparation for Cordyceps mushroom.
3.	Identification of various diseases, disorder and insect pest and their management
4.	Post-harvest handling for value addition including dehydration and canning of mushrooms
5.	Commercial Mushroom farm visit for practical exposure.
6.	Visit to a mushroom spawn lab and spawn preparation by participants
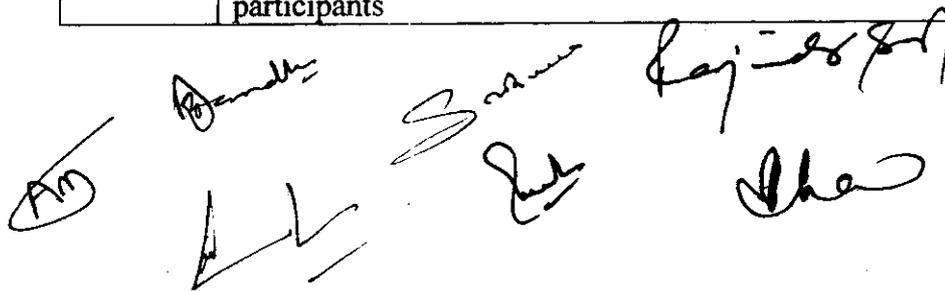
Syllabus For Organic Farming/Bio Farming
Six months certificate course Organic Farming/Bio Farming

Paper-1 Code- COR-101	Unit-1	Organic Farming: Concepts and development of Organic Farming: Principles, Needs and approaches, Characteristics of an Organic Farm, Conventional farming and organic farming, Composting and Manuring
	Unit- 2	Vermicomposting techniques, Biofertilizers and other practices to control diseases, Cultural and Mechanical practices of plant protection, Biopesticides and other practices to control diseases, Seed and Planting techniques in Organic Farming,
Paper-2 Code- COR-102	Unit-1	Livestock Management in Organic Farming, Discussion with an expert on Livestock management, Crop Rotation Practices in Organic Farming, Water Management in Organic farm, Organic Standards
	Unit-2	Procedure of Inspection and Certification, Documentation for Organic Certification, Discussion with an expert on Certification of Organic Farm Quality Management and Organic Trademark, Concept of Marketing and Indian Organic Market, Economics of Organic Farming and Government Schemes to support Organic Farming
Paper-3 Code- COR-103	Practical: -	Field visit, Soil preparation, Soil & Water conservation (Sampling of manure, Bulk density, pH of compost/manure, Water holding capacity) Crop Practices: Dhania, pudina, chana, pepper, palak, Techniques and Methods for Vermicompost formation, Livestock Management

Syllabus For Horticulture and Nursery management
Six months Certificate course Horticulture and Nursery management

Paper-1 Code – HOR-101	A) TROPICAL AND SUB-TROPICAL VEGETABLE CROPS	Cropping systems, harvest, yield, post-harvest handling, economics and marketing of tropical and sub-tropical vegetable crops such as tomato, brinjal, chillies etc.
	B) TEMPERATE FRUIT CROPS	Classification of temperate fruits, management, harvesting, post-harvest handling and storage of apple, pear, peach etc.
	C) TROPICAL AND SUB-TROPICAL FRUITS	Classification of tropical and subtropical fruits, management, harvesting, post-harvest handling and storage of Mango, citrus, guava, etc.
Paper-2 Code – HOR-102	D) WATER MANAGEMENT IN HORTICULTURAL CROPS	Methods of irrigation, viz., sprinkler and drip irrigation, their suitability, merits and limitations, economic use of irrigation water. Water management problem, irrigation management practices for different soils and crops.
	E) NURSERY MANAGEMENT PRACTICES	Need and potentialities for plant multiplication, sexual and asexual methods of propagation, advantages and disadvantages, greenhouses, glasshouses, poly-houses, nursery (tools and implements), seed and vegetative propagation, methods of cutting, layering, grafting, budding, rooting, factors influencing rooting of cuttings and layering, graft incompatibility.
Paper-3 Code – HORP-103	Practical:-	Identification and description of tropical and sub-tropical vegetable crops and fruit crops, Browning reactions of Fruits and Vegetables, nursery practices and techniques, Working out economics for Fruits and vegetables, Visit to private orchard.

Value Added Courses

Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv.	Credits	Broad outline of the Syllabus
1	Commerce	Personal Grooming	Certificate	30	Personal Development, Etiquette Dressing, Communication Skills, Presentation Skills, Interview Preparation, Business Counselling, Personal Grooming, Makeup & Hair Styling
2	Commerce	Leadership and Teamwork	Certificate	30	Personal Development, Presentation Skills, Case Studies
3	Commerce	Professional Etiquattes	Certificate	30	Personal Development, Presentation Skills, Professional Etiquattes
4	Commerce	Group Discussions	Certificate	30	Personal Development, Presentation Skills, Group Discussions
5	Commerce	Interview Skills	Certificate	30	Personal Development, Presentation Skills, Mock Interviews
6	Commerce	Professional Grooming	Certificate	30	Personal Development, Communication Skills, Presentation Skills, Interview Preparation, Business Counselling, Professional Grooming
7	Commerce	Time Management	Certificate	30	Time Management for Personal & Professional Productivity, Task Management, Planning
8	Commerce	Stress Management	Certificate	30	Resources to Increase Resilience, Focus, Emotional Intelligence & Leadership
9	Languages	Public Speaking	Certificate	30	Understanding speech, Making Ideas, Delivering your ideas
10	Languages	Creative Writing	Certificate	30	Initiating Creative Writing, Literary Elements & Techniques, Creating Stories, Fiction Writing, Script Writing, Poetry Writing, Soft Skills Development

Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv.	Credits	Broad outline of the Syllabus
11	Languages	Spoken English & Communication Skills	Certificate	30	Basic Grammer, Emails and Professional Communication with Training
12	Languages	Critical Thinking	Certificate	30	Logic, Critical Thinking reason Evaluation, Interpretation, Language, Linguistics
13	Humanities	Gender Equality	Certificate	30	Gender Based Analysis Analytics, Data Analysis, Design Thinking, Leadership Business Analytics, Leadership Development, Innovation, Qualitative and Quantitative Data Analysis, Stakeholder Analysis, Community engagement
14	Humanities	Life Skills (Emotional Intelligence,Team Dynamics, Managing Diversity)	Certificate	30	Emotional Intelligence, Team Dynamics, Managing Diversity
15	Humanities	Human Values and Ethics	Certificate	30	Social Values and Human behaviour, Group Discussion, Case Studies, Project work and report writing, Team Building activities, Mock Meetings, Role Play, Public Speaking and Presentations, Mock Interviews
16	Chemistry	Chemistry in day to day life	Certificate	30	Drugs and their classification, Drug-Target interaction, The therapeutic action of different classes of drugs, Chemicals in food, Cleansing agents
17	Science/Humanities	Research Methodology	Certificate	30	Research Problem, Research Design, Sampling Techniques, Research Proposal, Data Collection, Report Submission

Sr. No.	Department	Name of the Course	Certificate/ Dip./Adv.	Credits	Broad outline of the Syllabus
18	Music	Rhythm: Course on Music Instruments	Certificate	30	History and Origion, Various Types of Equipments and its Operations
19	Music	Sound Design & Music Vocal	Certificate	30	Audio Recording, Music technology, Music production, Singing, Music Vocal.
20	Computer	Power Point Presentation	Certificate	30	Computer Fundamentals, Computer organization, Operating System Fundamentals, PPT

VALUE ADDED COURSE: Personal Grooming

Course Name	Duration of the course	Maximum Marks			Duration of Exam
Personal Grooming	35 Hours	**Practical**	**Viva-Voce**	**Total**	3 Hours
		50	50	100	

Objective: To impart professional discipline techniques and etiquette required at the workplace. Also to make them ready for job interviews by imparting resume writing and group discussion skills.

Outcome: The student should be able to present impactful resume, should be able to create a mark in the group discussion and be able to present himself well in the job interviews. Also, be sensitized on the discipline and conduct requirement in the workplace.

Skills Imparted: Resume Writing, Group Discussions, Interview Preparation and professional etiquette

SYLLABUS

Unit 1	Unit 2

1.1 Introductions
1.2 Definition
1.3 Importance
1.4 Uses and Application
	2.1 Resume Writing
	   • Types of Resume
	   • Impact Points
	   • Content
	2.2 Key Factors
	2.3 Common Mistakes
	2.4 Effective Resume

Unit 3	**Unit 4**

3.1   Group Discussions
   • Winning factors
   • Listening Skills
   • Summarising
3.2   Skills of Debating
3.3   Practical's
3.4   Win a Group Discussion
	4.1 Interview Skills
	   • Types
	   • Pre Preparations
	   • Dress Up
	4.2 IQ Test
	4.3 Interview Preparations
	4.4 Practical's
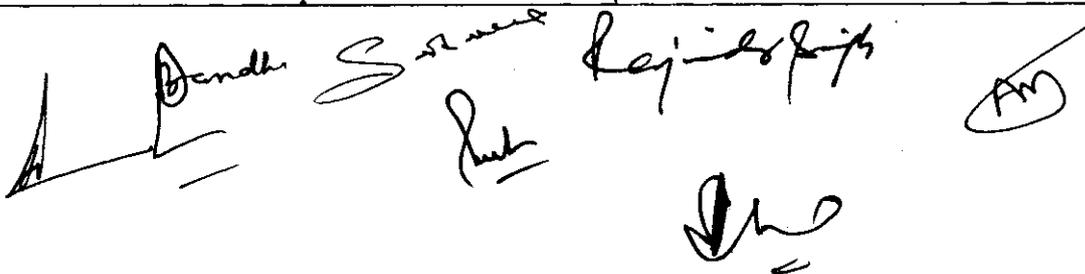
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Value Added Course: Leadership & Teamwork

Course Name	Duration of the course	Maximum Marks			Duration of Exam
		Practical	Viva-Voce	Total	
Leadership & Teamwork	30 Hours	50	50	100	3 Hours

Objective: Leadership and Teamwork are the most important mantras in today's professional world. The student has to learn the Human Dynamics to be able to channelize the energies of the team towards a common goal.

Outcome: The student should be able to skills of leadership and teamwork in different situations.

Skills Imparted: Skills on a number of Human Behaviour, Team Dynamics and Ability to lead.

Methodology: The Facilitators of Gurukul Drona will engage in a 40 hours workshop spread over the academic year 2018-19. The participant size will be 40 to 60 students. Leadership and Teamwork skills will be imparted through practical implementation.

Eligibility: Students of all streams and classes can enroll for the Value Added Course

Examination: There will be one VIVA-VOCE for 50 Marks and one written examination for 50 Marks.

SYLLABUS

Unit 1	Unit 2
1.1 Introductions	2.1 Human Behaviour
1.2 Definition	2.2 Sub-Conscious Mind
1.3 Importance	2.3 Cross Cultural Dynamics
1.4 Uses and Application	2.4 Social Professional Environment
Unit 3	**Unit 4**
3.1 Team Dynamics	4.1 Leadership
3.2 Types of Teams	4.2 Leadership Styles
3.3 Common Goals	4.3 HR V/s Leadership
3.4 Team Synergy	4.4 Crisis management

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Value Added Course: Professional Etiquette

Course Name	Duration of the course	Maximum Marks			Duration of Exam
Professional Etiquette	40 Hours	**Practical**	**Viva-Voce**	**Total**	3 Hours
		50	50	**100**	

Objective: There are over 30 different parameters of etiquette that a professional needs to understand. To fulfill his duties in the corporate world he needs to understand all of them.

Outcome: The student should be able to exhibit phone, email, cubical, meeting and many more etiquette.

Skills Imparted: Skills on a number of professional etiquette will be imparted which will help them to become better professionals.

Methodology: The Facilitators of Gurukul Drona will engage in a 40 hours' workshop spread over the academic year 2017-18. The participant size will be 40 to 60 students. Professional Etiquette in different aspects will be discussed in detail.

Eligibility: Students of all streams and classes can enroll for the Diploma Course

Examination: There will be one VIVA-VOCE for 50 Marks and one written examination for 50 Marks.

Unit 1	Unit 2
1.1 Introductions	2.1 Interpersonal Etiquette
1.2 Definition	2.2 First Impression
1.3 Importance	2.3 Meeting Seniors / Colleagues / Juniors
1.4 Uses and Application	2.4 Social Professional Environment
Unit 3	**Unit 4**
3.1 Office Etiquette	4.1 Dining Etiquette
• Juniors, Seniors Colleagues	• Formal Informal
3.2 Decorum	• Seating
3.3 Cubicle Etiquette	• Cutlery
• Meeting	• Seating
• Arrangement	4.2 Restaurant Etiquette
3.4 Business Meeting Etiquette	4.3 Client meeting
	4.4 Email Writing
• Time Management	• Content
• Body Language	• CC / BCC
• Cross Cultural	• Grammar
	• Formats
Unit 5	**Unit 6**
5.1 Phone Call Etiquette	6.1 Case Study
5.2 Gender Etiquette	6.2 Scenario Presentations
5.3 Letter Writing	6.3 Viva
• Grammar	6.4 Practical's

	• Format	
	• Types	
5.4	Work Ethics	

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VALUE ADDED COURSE: Group Discussion

Course Name	Duration of the course	Maximum Marks			Duration of Exam
Group Discussion	40 Hours	Practical	Viva-Voce	Total	3 Hours
		50	50	**100**	

Objective: To impart professional discipline techniques and etiquette required at the workplace. Also to make them ready for job interviews by imparting resume writing and group discussion skills.

Outcome: The student should be able to present impactful resume, should be able to create a mark in the group discussion and be able to present himself well in the job interviews. Also, be sensitized on the discipline and conduct requirement in the workplace.

Skills Imparted: Resume Writing, Group Discussions, Interview Preparation and professional etiquette

Methodology: The Facilitators of Gurukul Drona will engage in a 40 hours' workshop spread over the academic year 2018-19. The participant size will be 40 to 60 students. There will be skills imparting, resume writing, practical group discussion on scenarios and mock interviews session.

Eligibility: Students of final year of all streams enroll for the Value Added Course.

Examination: There will be one VIVA-VOCE for 50 Marks and one written examination for 50 Marks.

SYLLABUS

Unit 1		Unit 2	
1.9 Introductions		2.1 Resume Writing	
1.10 Definition		• Types of Resume	
1.11 Importance		• Impact Points	
1.12 Uses and Application		• Content	
		2.2 Key Factors	
		2.3 Common Mistakes	
		2.4 Effective Resume	
Unit 3		**Unit 4**	
3.1 Group Discussions		4.1 Interview Skills	
• Winning factors		• Types	
• Listening Skills		• Pre Preparations	
• Summarising		• Dress Up	
3.2 Skills of Debating		4.2 IQ Test	
3.3 Practical's		4.3 Interview Preparations	
3.4 Win a Group Discussion		4.4 Practical's	

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VALUE ADDED COURSE: Interview Skills

Course Name	Duration of the course	Maximum Marks			Duration of Exam
Interview Skills	30 Hours	**Practical**	**Viva-Voce**	**Total**	3 Hours
		50	50	**100**	

Objective: To impart professional discipline techniques and etiquette required at the workplace. Also to make them ready for job interviews by imparting resume writing and group discussion skills.

Outcome: The student should be able to present impactful resume, should be able to create a mark in the group discussion and be able to present himself well in the job interviews. Also, be sensitized on the discipline and conduct requirement in the workplace.

Skills Imparted: Resume Writing, Group Discussions, Interview Preparation and professional etiquette

Methodology: The Facilitators of Gurukul Drona will engage in a 30 hours' workshop spread over the academic year 2018-19. The participant size will be 40 to 60 students. There will be skills imparting, resume writing, practical group discussion on scenarios and mock interviews session.

Eligibility: Students of final year of all streams enroll for the Value Added Course.

Examination: There will be one VIVA-VOCE for 50 Marks and one written examination for 50 Marks.

SYLLABUS

Unit 1	Unit 2
a. Introductions b. Definition c. Importance d. Uses and Application	2.1 Interview Psychology 2.2 Interview parameters 2.3 Interview Pre Preparations

Unit 3
3.1 Important Arenas of Brush up
3.2 Highlight the strengths
3.3 Do's & Don'ts
	Unit 4
	4.1 Interview Skills
	  • Types
	  • Pre Preparations
	  • Dress Up
	4.2 IQ Test
	4.3 Interview Preparations
	4.4 Practical's

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Course Name	Duration of the course	Maximum Marks			Duration of Exam
Public Speaking	40 Hours	Practical	Viva-Voce	Total	3 Hours
		50	50	100	

Objective: Public Speaking is most important soft skills which enable a student to express himself confidently in front of any audience. The student needs these skills in every stage of his life (social and professional).

Outcome: The Student should be able fight the stage fright and be able to communicate and express himself in a confident manner in front of small and large audience. He should have all the necessary skills related to this field.

Skills Imparted: Body Language, Voice Modulation, Out of Box Thinking and Critical Analysis.

Methodology: The Facilitators of Gurukul Drona will engage in a 40 hours' workshop spread over the academic year 2019-20. The participant size will be 40 to 60 students. The skills training on Public Speaking will be imparted in practical methodology.

Eligibility: Students of all streams and classes can enroll for the Value Added Course

Examination: There will be one VIVA-VOCE for 50 Marks and one written examination for 50 Marks.

SYLLABUS

Unit 1	Unit 2
1.5 Art : Public Speaking • Improtance • Speaking as a Skill and Art 1.6 Definition 1.7 Expectation Audit 1.8 Uses and Application	2.1 Body Language • Physical Posture • Listening Skills 2.2 Legs and Hand Movement • Power Position • Steeple 2.3 Eye Contact • Broadcast • Small and Large Audience 2.4 Non Verbal Communication
Unit 3	**Unit 4**
3.1 Voice and Tone • Importance • Usage in Speaking 3.2 Pitch 3.3 Voice Modulation • Impact Points 3.4 Verbal Communications Skills	4.1 Creative Thinking • Straight Thinking • Story • Inverse • Deviation 4.2 Opening and Closing 4.3 Content Writing 4.4 Skills of Creative writing

Unit 5		Unit 6	
5.1	Audio Visual Aid	6.1	Impromptu Speaking
	• Videos		• Out of Box Thinking
	• PPTs		• Summary Message
	• White Board	6.2	Presentation Skills
	• Flip Charts	6.3	Viva
5.2	Art of Facilitation	6.4	Stage Presentations
5.3	Hostile Audience		
	• Identify		
	• Ways to tackle		
5.4	Impact Situations		

Course Name	Duration of the course	Maximum Marks			Duration of Exam	Medium of Instruction
Research Methodology	35 hours	External	Internal	Total	3 Hours	English and Hindi
		50	50	100		

- **Objective:** To enable students to develop understanding of basic concepts of research and to provide them with an opportunity to develop research skills.
- **Department:** Commerce
- **Eligibility:**
  - o. Students of B.Com, BBA and M.Com can enrol for the course.
- **Structure of the Course:**
  - o Paper I: Theory Paper
  - o Paper II: Practical
- **Scheme of Examination:**
  - o There will be an Examination of 50 marks each. There will be a written examination carrying 50 marks and internal assessment will carry 50 marks.

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Syllabus of Research Methodology

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Introduction to research: definition, objectives, characteristics, need for research, designing the methodology, types of research: qualitative and quantitativeresearch.

Literature review; Sampling Techniques.

Data collection, method of questionnaire, types of data: primary and secondary data, interpretation of data.

Basics of hypothesis testing and Report writing.

Suggested Readings:

- Bagchi, Kanak Kanti, Research Methodology in Social Sciences: A Practical Guide, Delhi, Abijeet Publications.
- Sharma, B. A. V., Research Methods in Social Sciences, New Delhi, Sterling Publishers.
- Cooper, R. Donald and Pamela S. Schindler , Business Research Methods, Delhi, Tata McGraw-Hill.
- Kothari, C. R. ,Research Methodology: An Introduction, Delhi, New Age.
- Krishna swami, K. N., Appa Ayyar Shivakumar and M. Mathiarajan , Management Research Methodology, Integration of Principles, Methods and Techniques, New Delhi
- Malhotra, N., & Birks, D. Marketing Research: an applied approach: 3rd European Edition. Pearson education.

Syllabus Description of Value Added Course

Remark: Successful completion of the following course earns the student a certification
issued by college.

Rhythm: Course on Music instrumental

Course Name	Duration of the course	Maximum Marks			Duration of Exam
Rhythm: Course on Music instrumental	30 HOURS	Theory	Practical	Total	3 Hours
		50	50	100	

- **Objective:** To make students develop skills in Music instruments
- **Eligibility:**
  - Students of all streams can enroll for the course.
- **Structure of the Course:**
  Paper 1: Practical Examination and Viva-Voce
- **Scheme of Examination:** There will be a Theory of 50 marks and Practical Examination of 50 marks.

Syllabus for Value Added Course on Music Instrumental (Percussion)
Part I: Theory

- Historical study and detailed description of the following Taalas: Teentaal, Ektaal, Deepchandi, Dadra, Kaharva and Rupak.

- Ten Praan of Taalas

- Varn of Tabla

- Structure of Tabla/Dhokla/Tasha/Nagra etc. and its techniques.

- Definition of the following: Taal, Sam, Taali, Khali, Vibhag, Aavartan, Zay

- Lifesketch and contribution towards the development of music instrumental Percussion- playing of the following:-

Ustad Allah Rakhkha; Ustad Zakir Hussain; Pt. Krishan Maharaj; Pt. ShamtaPrashaad; Lala Sattar; Roshan Ali; Naveen Sharma

Part II: Practical

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a) Ability to demonstrate Teentaal, Ektaal, Deepchandi, Dadra, Keharva and Rupak by hand in Thah and DugunLaykaries with reciting bols.

b) Tuning of Instrument

c) Ability to play the Taalas- Dadra, Kaharva and Teentaal on your own instrument

d) Playing the instruments:

e) Single lay exercises

f) Double lay exercises

Exposure:

a) At least one stage performance in front of live audience every month.

b) Solo performance on stage in front of live audience.

c) Accompaniment with any classical music/ light music/ folk music.

d) Participation in music instrumental competitions and shows.

Sound Design and Music Vocal

Remark: Successful completion of the following courses earns the student a certification issued by college.

Course Name	Duration of the course	Maximum Marks			Duration of Exam	Medium of Instruction
Sound Design and Music Vocal	30 HOURS	External	Internal	Total	3 Hours	English and Hindi
		50	50	100		

- **Objective:**The objective of the course is to equip students with sound designing skills which will help them to become a music producer as well as sound designer.
- **Department:** Commerce
- **Eligibility:**
  - Students of all streams can enrol for the course.
- **Structure of the Course:**
  - Paper I: Theory Paper
  - Paper II: Practical
- **Scheme of Examination:**
  - There will be an Examination of 50 marks each.There will be a written examination carrying 50 marks and internal assessment will carry 50 marks.

Syllabus

- Uses of Computer in Sound Recording

- Recording concept and type

- Play back music and sound recording

- Recording studio equipment

- How to create a song with internal and external loops

- How to edit music

- Mic Technique for Music Vocal students in studio

- Difference between voice training in studio and live music

- How to make a powerful vocal track in studio recording

- How to record vocal on karoke track

- How to mix master a track

SUGGESTED READING:
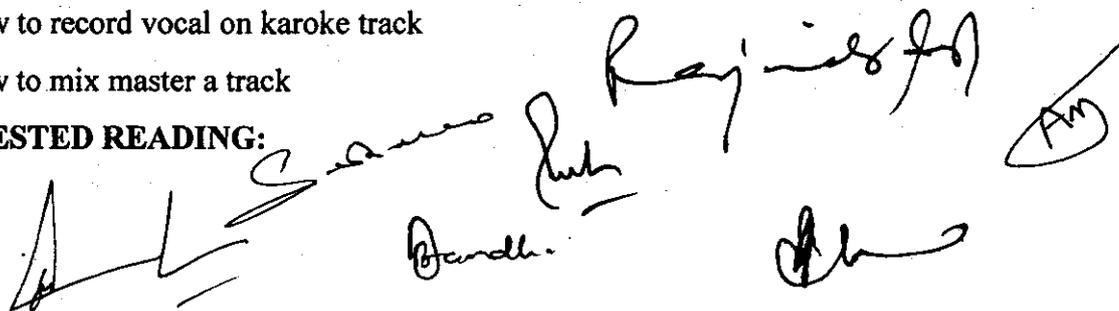
- The Art Of Mixing By David Givson
- Mixing Secrets for the small studio by Mike Senior
- Making Music: 74 Creative Strategies for electronic music Producer By Dennis DeSantis
- Aadhunik Recording Padhhati By Anita Gautam
- Modern Recording Techniques by David Miles Huber

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VALUE ADDED COURSE: Power Point Presentation

Course Name	Duration of the course	Maximum Marks			Duration of Exam
		Practical	Viva-Voce	Total	
Power Point Presentation	30 – 40 Hours	50	50	100	3 Hours

Objective: To impart skills on effective presentation using audio visual aids of Power Point Presentation, Props, videos and charts. The student will use these techniques in his profession for client meetings, team meetings and also addressing general gathering.

Outcome: The student should be able to explain his theme/topic in collaboration with audio visual aids in an effective manner. He should be able to switch between different mediums with ease and at the same time have control on the audience and the topic.

Skills Imparted: Power Point Presentations, Video Presentations, Presentation styles, Voice Modulation and Body language.

Methodology: The Facilitators of Gurukul Drona will engage in a 30 – 40 hours' workshop spread over the academic year 2018-19. The participant size will be 40 to 60 students. There will be skills imparting, power point presentations, video presentations, out of the box props creation and overall presentations

Eligibility: Students of all streams and classes can enroll for the Value Added Course.

wExamination: There will be one VIVA-VOCE for 50 Marks and one ritten examination for 50 Marks.

Syllabus

Unit 1	Unit 2
5 Hours	**10 Hours**
1.5 Introductions and Ice Breakers	2.1 Presentation Styles
• Facilitators Introduction	• Objective
• Participants Introduction	• Fact Based
• Group Introduction	• Subjective
• Ice Breaker - Achievements	2.2 Props and Samples
1.6 Definition	• Types of Props
• Presentation Skills in Future	• How to Use Props
1.7 Importance of Presentation Skills	2.3 Practical's
1.8 Uses and Application	2.4 Effective Presentations from Props

Unit 3 5 - 10 Hours	Unit 4 10- 15 hours
3.1 Video Presentations	4.1 Graphic Presentations
• Editing	• Time & Response

	• Time & response		• Graphic Creation
3.2	Tools of Effective Presentations	4.2	Tools Available to Speaker
	• Aids		• Equipment
	• Visual Aids		• Podium
	• Aha Cards, Cue Cards	4.3	Viva
3.3	Stage Presentations	4.4	Practical's
3.4	PPT Presentations		
	• Slide Format		
	• Transition		
	• Design		
	• Animation		

Remark: Successful completion of the following courses earns the student a certification issued by college.

Art and Craft

Course Name	Duration of the course	Maximum Marks			Duration of Exam
Creative Skills: Art and Craft	32 hours	Practical	Viva-Voce	Total	3 Hours
		80	20	100	

- **Objective:** To develop creative skills of the students and to train them in different areas of Art and Craft and this may enable them to view this as an emerging career opportunity.
- **Eligibility:**
  o Students of all streams can enroll for the course.
- **Structure of the Course:**
  Paper 1:Practical Examination and Viva-Voce
- **Scheme of Examination:** There will be a Practical Examination of 80 marks and Viva-voce of 20 marks.

Syllabus for Value Added Course on Art and Craft

- Creative sets: Bottle Set, Candle set, Jar set, Lamp art, Karvah Art
- Mirror Art: Talavera mirror, 3D mirror, mouldit mirror, crystal mirror
- Fabric Art: Fabric painting, Neon Pop art, African Art, Gond Art, embossing art, gota patti, liquid embroidery work.
- Canvas art: Canvas painting, canvas 3D painting, mouldit canvas, abstract painting
- Mural art: Kerala mural, mixed media mural, chopping board glass mural
- Newspaper art: newspaper pop art, newspaper photo frame, bicycle.
- Jewellery art: Mouldit Jewellery, Paper jewellery, Wood jewellery, Fabric jewellery, Thewa jewellery
- Pot decoration: Acrylic Pot, Mouldit pot, blue pottery, mixed media pot
- Pebble Art: Paper weight, pebble art painting, pebble art canvas
- Waste material art: PVC Pipe art, Plastic bottle art, CD art, Wood cutting art
- File folder decoration: Card decoration, File folder, quilling art, 3D and Paint folder
- Ceramic Art: Pot art, Lippan art
- Tie and Dye: Shibori, Indigo Dabu painting, Crumple dye, Ruching dye

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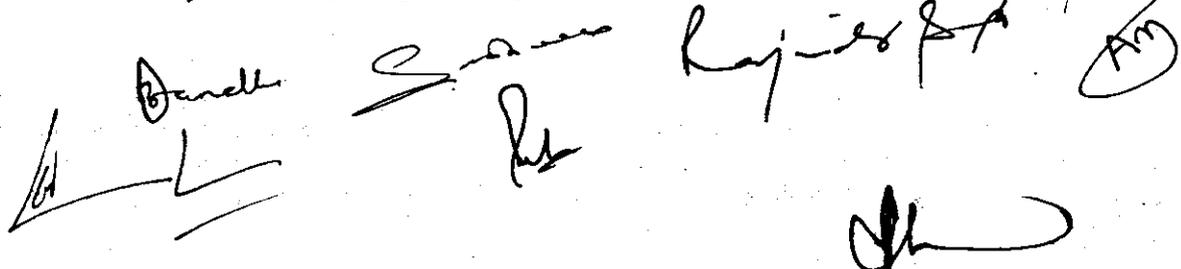
VALUE ADDED COURSE: Impromptu Speaking & Stage Management

Course Name	Duration of the course	Maximum Marks			Duration of Exam
Impromptu Speaking & Stage Management	30 Hours	Practical	Viva-Voce	Total	3 Hours
		50	50	100	

Objective: Public Speaking is most important soft skills which enable a student to express himself confidently in front of any audience. The student needs these skills in every stage of his life (social and professional). Impromptu Speaking is another skill which is advanced levels of speaking in public.

Outcome: The Student should be able fight the stage fright and be able to communicate and express himself in a confident manner in front of small and large audience. He should have all the necessary skills related to this field.

Skills Imparted: Body Language, Voice Modulation, Out of Box Thinking and Critical Analysis.

Unit 1 5 Hours	Unit 2 5 Hours

1.13 Art : Public Speaking
• Improtance
• Speaking as a Skill and Art
1.14 Definition
1.15 Expectation Audit
1.16 Uses and Application
	2.1 Body Language
	  • Physical Posture
	  • Listening Skills
	2.2 Legs and Hand Movement
	  • Power Position
	  • Steeple
	2.3 Eye Contact
	  • Broadcast
	  • Small and Large Audience

Unit 3 5 Hours	Unit 4 5 hours

3.1 Impromptu Spekaing
  • Importance
  • Usage in Speaking
3.2 Skills and Tricks
3.3 Speaking Templates
3.4 Verbal Communications Skills
	4.1 Stage Management
	4.2 Dynamics
	4.3 Career Option
	4.4 Nuances of Stage Management

Unit 5 5 Hours	Unit 6 5 Hours
5.1 Practical Training 5.2 Tasks and Homework	6.1 Viva 6.4 Stage Presentations
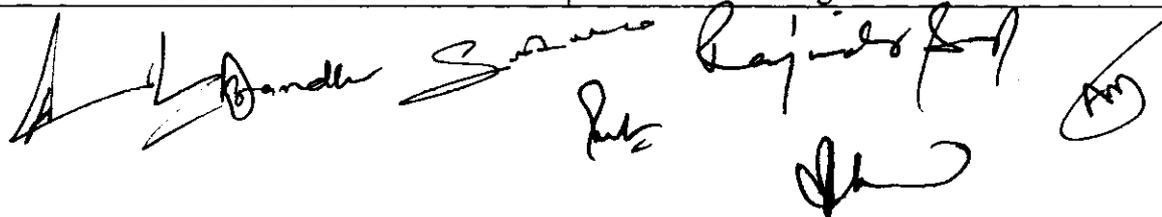
Syllabus Description of Value Added Courses

Remark: Successful completion of the following courses earns the student a certification issued by college.

Value Added Course: Personality development & Professional Grooming

Course Name	Duration of the course	Maximum Marks			Duration of Exam
Personality development & Professional Grooming	40 Hours	Practical	Viva-Voce	Total	3 Hours
		50	50	100	

Objective: Basic Manners, Social Etiquette, Behaviour, Relations and Professional Grooming are required for all the students to be complete in their life skills.

Outcome: The Students should be able to emit the correct Personal and Professional Behaviour at all times.

Skills Imparted: Personal, Professional, Interpersonal and Life Skills

Methodology: The Facilitators of Gurukul Drona will engage in a 40 hours' workshop spread over the academic year 2017-18. The participant size will be 40 to 60 students. Personal and Professional Skills will be imparted in each participant. The participants will undergo theory, practical learning and scenarios.

Eligibility: Students of all streams and classes can enroll for the Value Added Course.

Examination: There will be one VIVA-VOCE for 50 Marks and one written examination for 50 Marks.

SYLLABUS

Unit 1	Unit 2
1.1 Introduction on Life Skills.	2.1 Personal Grooming
1.2 Definition Interpersonal Skills	2.2 Personal Hygiene
1.3 Expectation Audit	2.3 Dress Up
1.4 Uses and Application	2.4 Left Brain / Right Brain
Unit 3	**Unit 4**
3.1 Personal Relation	4.1 Professional Grooming
3.2 Family Values	4.2 Interpersonal Skills
3.3 Social Values	4.3 Customer Relations
3.4 Civic Values	4.4 Personal Brand Building
Unit 5	**Unit 6 Practical's**
5.1 Professional Etiquette	6.1 Practical Assignments
5.2 Internet Tool Kit	6.2 Viva

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5.4 Creativity	6.3 Exam

Remark: Successful completion of the following courses earns the student a certification issued by college.

Value Added Course on Circuit Design on PCB

Course Name	Duration of the course	Maximum Marks			Duration of Exam	Medium of Instruction
Circuit Design on PCB	30 hours	Theory	Practical	Total	3 Hours	English
		40	60	100		

- **Objective:**
  PCB (Printed Circuit Board) design is an essential and integral part of each electronics device and appliance. This course is designed to develop the caliber in students to design and make their own projects starting from the blank PCB to assembly of the components to get final and working projects.
- **Department:** Electronics & IT
- **Eligibility:**
  o Students of B.Sc (Non-Medical, Computer Science , Electronics & IT), M.Sc. Physics
- **Structure of the Course:**
  o Paper I: Theory Paper .
  o Paper II: Practical
- **Scheme of Examination:**
  o There will be an Examination of Total 100 marks. Written examination will carry 40 marks and practical examination will carry 60 marks.

Syllabus

Theory: Types of PCBs: Single Sided (Single Layer), Multi-Layer (Double Layer), PCB Materials, Component introduction and their categories: **Active Components:** Diode, Transistor, MOSFET, LED, SCR, Integrated Circuits (ICs), **Passive Components:** Resistor, Capacitor, Inductor, Transformer, Speaker/Buzzer, Switches, Size and Shape of various components, Testing of components.

Hands-On : Express PCB software: Description to Express PCB, Hands on practice on available library of components ,working through wiring and schematic designing, Making New Component Symbols.

PCB Design and Assembly: PCB Designing Flow Chart: PCB Layout Designing (by taking small electronic circuit examples), Layout Design, Printing, Etching, Drilling, Assembly of components, Project Implementation

Text Books & Other References:

- Basic Electronics & Linear Circuits, N N Bhargava & D C Kulshreshtha
- Express PCB Tutorials
- Electronics for You for latest Projects

Remark: Successful completion of the following courses earns the student a certification issued by college.

Value Added Course: First Aid & Home Nursing

Course Name	Duration of the course	Maximum Marks			Duration of Exam
First Aid & Home Nursing	32 Hours	Practical	Viva Voice	Total	1 Hour 30 Minutes.
		60	20	80	

- **Objective:** First Aid course equips the learner with the knowledge, practical skills & understanding required to provide appropriate first-aid treatment in the workplace in compliance with the requirements of the Safety, Health & Welfare at Work.

- **Programme outcome:** At the end of this course students should be able to:
  Understand the Basics of First-Aid.
  Understand the Basic System of Human Body.
  Understand the Dressing Techniques
  Understand the Banding Techniques
  Understand the Transportation Techniques.

- **Eligibility:**
  Students of all streams can enroll for the course.

- **Structure of the Course:**
  Paper 1(Theory): 14 Hours.
  Paper 2(Practical):18 Hours.

- **Scheme of Examination:** There will be a Practical Examination of 60 marks and Viva-voce of 20 marks.

Syllabus

Paper 1(Theory)
1. Basic First Aid Techniques
2. Respiratory System and Breathing
3. Heart, Blood Circulation, Shock
4. Bones,Joints And Muscles
5. Nervous System and Unconsciousness
6. Gastrointestinal Tract, Diarrhoea, Food Poisoning And Diabetes
7. Skin, Burns, Heat Exhaustion, Fever and Hypothermia
8. Poisoning
9. Bites And Stings
10. Sense, Foreign Bodies in Eye, Ear, Nose or Skin And Swallowed Foreign
11. Urinary System, Reproductive System And Emergency Childbirth

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12. Psychological First Aid
13. Specific Emergency Situations And Disaster Management
14. First Aid Techniques: Dressing, Bandages And Transport Techniques.

Paper 2(Practical)
Practical Demonstration of all the First-Aid Techniques:
a. Dressing
b. Bandages
c. Transport Techniques