



TELANGANA SOCIAL WELFARE RESIDENTIAL ARMED FORCES  
PREPARATORY DEGREE COLLEGE FOR WOMEN,  
BHONGIR, TELANGANA- 508126  
(AFFILIATED TO MAHATMA GANDHI UNIVERSITY, NALGONDA)  
Tel No :0947995010687 Website : <https://www.tswreis.ac.in/>  
Email Id : [pri-rdcw-bngiri-swrs@telangana.gov.in](mailto:pri-rdcw-bngiri-swrs@telangana.gov.in)



### DEPARTMENT OF ZOOLOGY

Lr.RC.No.AJ/AFPDCW/Zoo/Add-on/005/2022

Date:20/07/2022

#### APPROVAL LETTER

This is to approved that, Department of Zoology introducing ADD-ON course- during odd semester, 2022.

#### Course & its details:

- ❖ Title of the course: "**Human Female Reproductive System and Assisted Reproductive Techniques (ART)**".
- ❖ Course code: ZOO/ADD-ON/005
- ❖ Type of the course: Certificate course
- ❖ Course duration: 30 hrs.
- ❖ Course pattern: Theory & Practical.
- ❖ Target students: All the students of UG & IMA will eligible to opt this course.
- ❖ Course Co-ordinator: Dr. K. Srilatha, Head, Department of Zoology.
- ❖ Evaluation: Written and practical test (20 Marks)

#### Course Objectives:

- ❖ To Understand the structure of Female reproductive system.
- ❖ To Learn the techniques and methods regarding ART.
- ❖ To gain knowledge about the role of various hormones in regulation of reproduction.
- ❖ To learn about the various problems associated with menstrual cycle and the precautionary measures.

**Terms & conditions:** 80% attendance is mandatory to write the exam and 45% pass percentage in result is mandatory to get the certificate.

- ❖ Fee: No fee

Co-ordinator, IQAC  
TSWRAFPDCW,

Principal  
TSWRAFPDCW,

**HUMAN FEMALE REPRODUCTIVE SYSTEM AND ASSISTED  
REPRODUCTIVE TECHNIQUES (ART)  
COURSE DURATION - 30 HOURS**

**MODULE - I Human female reproductive system and Hormones (10 Hours)**

- 1.1 Structure of Human female reproductive system.
- 1.2 Menstrual cycle and its regulation.
- 1.3 Puberty and role of Hormones
- 1.4 Irregularities in menstrual cycle – PCOD/PCOS.
- 1.5 Role of FSH, LH and progesterone.

**MODULE – II Reproduction and Parturition (6 Hours)**

- 2.1 Fertilization and Implantation of embryo
- 2.2 Gestation and Role of hormones
- 2.3 Parturition and Role of Relaxin and Oxytocin.

**MODULE – III ART Techniques (7 Hours)**

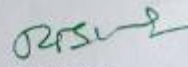
- 3.1 IUI, IVF, ICSI
- 3.2 Embryo transfer.
- 3.3 Cryopreservation.

**PRACTICALS (7 Hours)**

1. Identification of endocrine glands – Ovaries, testis, Uterus.
2. Identification of Gonadotropin in human urine samples.
3. Virtual demonstration of IUI, IVF and ICSI techniques.
4. Virtual demonstration of ET technique.

  
**HEAD**  
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TSWRAFPDCW

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**PRINCIPAL**  
S.W.R.A.F.P.D.C.W  
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### DEPARTMENT OF ZOOLOGY

Lr.RC.No.AI/AFPCW/Zoo/Add-on/004/2022

Date:22/03/2022

#### APPROVAL LETTER

This is to approved that, Department of Zoology introducing ADD-ON course, April, 2022.

#### **Course & its details:**

- ❖ Title of the course: "Apiculture".
- ❖ Course code: ZOO/ADD-ON/004
- ❖ Type of the course: Certificate course
- ❖ Course duration: 30 hrs.
- ❖ Course pattern: Theory & Practical.
- ❖ Target students: All the students of UG are eligible to opt this course.
- ❖ Course Co-ordinator: Dr. K. Srilatha, Head, Department of Zoology.
- ❖ Evaluation: Written and practical test (20 Marks)

#### **Course Objectives:**

- Understand the practices of using earthworms to enhance soil fertility.
- To Learn the techniques and methodologies used in preparing vermicompost pit.
- To Develop skills in establishing their own vermiculture units.
- The usage of compost in the kitchen garden in the campus to grow veggies in organic farming mode.

**Terms & conditions:** 80% attendance is mandatory to write the exam and 45% pass percentage in result is mandatory to get the certificate.

- ❖ Fee: No fee

  
Co-ordinator, IQAC  
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JAC Coordinator  
TSWRAFPDCW  
Bhongir, 508126

  
Head, Department of Zoology  
TSWRAFPDCW,  
Bhongir

  
Principal  
TSWRAFPDCW,  
Bhongir  
PRINCIPAL  
T.G.S.W.R.A.F.P.D.C.W  
BHONGIR

**TSWRAFPDCW, Bhongir**  
**DEPARTMENT OF ZOOLOGY**  
**SYLLABUS FOR ADD ON COURSE FOR THE YEAR 2021-22**

**Apiculture**  
**COURSE DURATION - 30 HOURS**

**MODULE - I**


**(15 Hours)**


- 1.1 Introduction to Apiculture.
- 1.2 Biology of Bees – Types of Honey Bees, Biology of Honey Bees, General morphology of *Apis* Honey Bee.
- 1.3 Social organization of Bee Colony.
- 1.4 Rearing of Bees – Artificial Bee rearing, Beehives – Newton and Langstroth box, Bee Pasturage, Selection of Bee Species for Apiculture.
- 1.5 Modern Bee Keeping equipment, Methods of extraction of honey (Indigenous and Modern).

**MODULE - II**

**(15 Hours)**

- 2.1 Diseases and Enemies – Bee diseases and Enemies, Control and Preventive measures.
- 2.2 Economy – Products of Apiculture and its Uses – Honey, Bees, Wax, Propolis, Pollen, royal jelly etc.,
- 2.3 Entrepreneurship in Apiculture – Bee keeping industry, Recent efforts.
- 2.4 Modern methods in employing artificial Beehives for cross pollination in horticultural gardens.

  
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DEPARTMENT OF ZOOLOGY

Lr.RC.No.AI/AFPDCW/Zoo/Add-on/003/2021

Date:01/03/2021

APPROVAL LETTER

This is to approved that, Department of Zoology introducing ADD-ON course, March, 2021.

**Course & its details:**


- ❖ Title of the course: **"Vermiculture and Vermicomposting"**.
- ❖ Course code: ZOO/ADD-ON/003
- ❖ Type of the course: Certificate course
- ❖ Course duration: 30 hrs.
- ❖ Course pattern: Theory & Practical.
- ❖ Target students: All the students of UG are eligible to opt this course.
- ❖ Course Co-ordinator: Dr. K. Srilatha, Head, Department of Zoology.
- ❖ Evaluation: Written and practical test (20 Marks)


**Course Objectives:**


- Understand the practices of using earthworms to enhance soil fertility.
- To Learn the techniques and methodologies used in preparing vermicompost pit.
- To Develop skills in establishing their own vermiculture units.
- The usage of compost in the kitchen garden in the campus to grow veggies in organic farming mode.

**Terms & conditions:** 80% attendance is mandatory to write the exam and 45% pass percentage in result is mandatory to get the certificate.

- ❖ **Fee:** No fee

  
Co-ordinator, IQAC  
TSWRAFPDCW,  
Bhongir  
**IQAC Coordinator**  
**TSWRAFPDCW**  
**Bhongir 508126.**

  
Head, Department of Zoology  
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Bhongir  
**HEAD**  
**Department of Zoology**  
**TSWRAFPDCW, Bhongir**

  
Principal  
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**T.G.S.W.R.A.F.P.D.C.W.**  
**BHONGIR.**



VERMICULTURE AND VERMICOMPOSTING  
COURSE DURATION - 30 HOURS

**MODULE - I**

**(9 Hours)**

- 1.1 Introduction of vermiculture and Vermicomposting.
- 1.2 Earthworm diversity – Ecological groups of earthworms, biology of composting- earthworms – *Eoisena foetida*, *Eudrilus lugentae*.
- 1.3 Soil – Physical, Chemical and Biological features.
- 1.4 Problems in traditional composting, vermicomposting.
- 1.5 Types small and large scale pit method, heap method.

**MODULE - II**

**(9 Hours)**

- 2.1 Vermiculture techniques.
- 2.2 Bedding, essential parameters of vermiculture management.
- 2.3 Methods of harvesting – Manual and Mechanical methods.
- 2.4 Applications of vermicomposting in agriculture and horticultural practices.

**MODULE - III.**

**(3 Hours)**

- 3.1 Nutritive value of Vermicomposting, storing and packing of compost
- 3.2 Economic importance of vermiculture.

**VERMICULTURE AND VERMICOMPOSTING PRACTICALS**

**(9 Hours)**

1. Physical and PH analysis of Soil
2. Study and identification of earthworms used in vermicomposting.
3. Preparing of vermicompost bed
4. Preparing vermicompost pit and harvesting of vermicompost.

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DEPARTMENT OF ZOOLOGY

Lr.RC.No.AI/AFPDCW/Zoo/Add-on/002/2019

Date: 18.08.2019

APPROVAL LETTER

This is to approved that, Department of Zoology introducing ADD-ON course in the month of September, 2019.

**Course & its details:**

- ❖ Title of the course: "Entomology".
- ❖ Course code: ZOO/ADD-ON/002
- ❖ Type of the course: Certificate course
- ❖ Course duration: 30 hrs.
- ❖ Course pattern: Theory & Practical.
- ❖ Target students: All the students of UG are eligible to opt this course.
- ❖ Course Co-ordinator: Dr. K. Srilatha, Head, Department of Zoology.
- ❖ Evaluation: Written and practical test (20 Marks)

**Course Objectives:**

- Understand the biology of insects, both beneficial and harmful ones.
- Learn the techniques and methodologies used in establishing Apiculture unit or Sericulture unit and establishing a small-scale industry.

**Terms & conditions:** 80% attendance is mandatory to write the exam and 45% pass percentage in result is mandatory to get the certificate.

- ❖ Fee: No fee

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**ENTOMOLOGY**  
**COURSE DURATION - 30 HOURS**

**MODULE - I Basics of Entomology (9 Hours)**

- 1.1 Definition, Scope and importance of Entomology.
- 1.2 Insect classification and their distinctive characters.
- 1.3 Insect external morphology – Head, Thorax and Abdomen.
- 1.4 Insect internal morphology – Digestive, Respiratory, Circulatory, Nervous and Reproductive Systems.
- 1.5 Insect growth and development.

**MODULE – II Insect vectors and pests (8 Hours)**


- 2.1 Vectors of public health importance – Mosquitoes, housefly, sand fly, Bed bugs and lice.
- 2.2 Vector born diseases – Malaria, Dengue, filaria and their control measures.
- 2.3 Role of pests in Agriculture.
- 2.4 Crop pests and their control measures

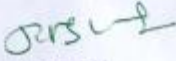
**MODULE – III Beneficial insects (5 Hours)**

- 3.1 Apiculture
- 3.2 Sericulture
- 3.3 Lac culture

**ENTOMOLOGY PRACTICALS (8 Hours)**

1. Identification and study of house hold insects – Cockroach, silver fish, crickets.
2. Identification and study of important insect vectors – Mosquitoes, housefly, head lice.
3. Mounting of mouth parts of mosquitoes.
4. Identification of pests infesting rice fields.

  
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### DEPARTMENT OF ZOOLOGY

Lr.RC.No.AI/AFPCW/Zoo/Add-on/001/2019

Date: 04.03.2019

#### APPROVAL LETTER

This is to approved that, Department of Zoology introducing ADD-ON course, March, 2019.

#### **Course & its details:**


- ❖ Title of the course: "Clinical Pathology".
- ❖ Course code: ZOO/ADD-ON/001
- ❖ Type of the course: Certificate course
- ❖ Course duration: 30 hrs.
- ❖ Course pattern: Theory & Practical.
- ❖ Target students: All the students of UG are eligible to opt this course.
- ❖ Course Co-ordinator: Dr. K. Srilatha, Head, Department of Zoology.
- ❖ Evaluation: Written and practical test (20 Marks)

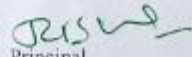
#### **Course Objectives:**

- To Understand the principles and practices of clinical science.
- To Interpret the laboratory results and correlate them with clinical conditions.

**Terms & conditions:** 80% attendance is mandatory to write the exam and 45% pass percentage in result is mandatory to get the certificate.

- ❖ **Fee:** No fee

  
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T.G.S.W.R.A.F.P.D.C.W

DEPARTMENT OF ZOOLOGY

SYLLABUS FOR ADD ON COURSE FOR THE YEAR 2018-19

CLINICAL PATHOLOGY SYLLABUS

(Total instruction hours 30)

MODULE-I

(10hrs)

1. Introduction, history and scope of Clinical Pathology
2. Introduction to Biochemistry.
3. Structure and Pathogenicity of Protozoan parasites - Entamoeba histolytica and Plasmodium.
4. Structure and Pathogenicity of Helminth parasites - Ascaris lumbricoides, Schistosoma haematobium, Wucheraria bancrofti.

MODULE-II


(10hrs)

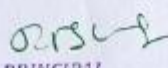
1. Blood groups
2. Types of Immunity and Immune responses
3. Hypersensitivity
4. Cytological examination of diseased tissue, Biopsy and Autopsy

MODULE-III (Practicals)

(10hrs)

1. Estimation of Haemoglobin (Sahli's haematin method)
2. Urine analysis – sugar (Benedict's reagent method)
3. Microscopic Examination of parasites
  - (a) Entamoeba histolytica
  - (b) Plasmodium
  - (c) Ascaris lumbricoides
  - (d) Schistosoma haematobium
  - (e) Wucheraria bancrofti
  - (f) Taenia solium

  
HEAD  
Department of Zoology

  
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## DEPARTMENT OF ZOOLOGY

Lr.RC.No.AI/AFPDCW/Zoo/Add-on/006/2024

Date: 24.01.2024

### APPROVAL LETTER

This is to approved that, Department of Zoology introducing ADD-ON course in Even semester, 2024.

#### **Course & its details:**

- ❖ Title of the course: "**Clinical Science**".
- ❖ Course code: ZOO/ADD-ON/006
- ❖ Type of the course: Certificate course
- ❖ Course duration: 30 hrs.
- ❖ Course pattern: Theory & Practical.
- ❖ Target students: All the students of UG are eligible to opt this course.
- ❖ Course Co-ordinator: Dr. K. Sriatha, Head, Department of Zoology.
- ❖ Evaluation: Written and practical test (20 Marks)

#### **Course Objectives:**

- To Understand the principles and practices of clinical science.
- To Interpret the laboratory results and correlate them with clinical conditions.

**Terms & conditions:** 80% attendance is mandatory to write the exam and 45% pass percentage in result is mandatory to get the certificate.

- ❖ **Fee:** No fee

Head, Department of Zoology  
TSWRAFPDCW,  
Bhongir

**HEAD**  
Department of Zoology  
TSWRAFPDCW, Bhongir

IQAC Co-ordinator  
TSWRAFPDCW,  
Bhongir

**IQAC Coordinator**  
TSWRAFPDCW

Principal  
TSWRAFPDCW,  
Bhongir

**PRINCIPAL**  
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BHONGIR.

DEPARTMENT OF ZOOLOGY  
SYLLABUS FOR ADD ON COURSE FOR THE YEAR 2023-24

**CLINICAL SCIENCE**  
(Total instruction hours 30)

**MODULE-I** (10 hrs)

1. Introduction, history and scope of Clinical Science.
2. Introduction to Biochemistry.
3. Types of Immunity, Immune responses
4. Hypersensitivity

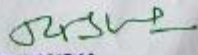
**MODULE-II** (10 hrs)

1. Blood sample collection
2. Blood groups
3. Blood Cell Counting
4. Estimation of Haemoglobin

**MODULE-III (PRACTICALS)** (10 hrs)

1. Estimation of Haemoglobin (Sahli's haematin method)
2. Identification of Blood group
3. Estimation of RBC
4. Estimation of WBC

  
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TELANGANA SOCIAL WELFARE RESIDENTIAL  
ARMED FORCES PREPARATORY DEGREE  
COLLEGE FOR WOMEN, BHONGIR



DEPARTMENT OF TELUGU

యాడ్ ఆన్ కోర్స్

వచన కవిత - రచనా నైపుణ్యాలు

పాఠ్య ప్రణాళిక

విద్య సంవత్సరం : 2023-24

కోర్సు అవలోకనం : ఈ కోర్సు వచన కవితము మరియు వచన కవిత్యం రాయడంలో నైపుణ్యాలను తెలుపుతుంది.

ప్రవేశం : US తృతీయ సంవత్సరం విద్యార్థులందరూ ఈ కోర్సులో చేరడానికి అర్హులు.

కోర్సు వ్యవధి: 30 గంటలు

శిక్షణ విధానం : తరగతి గది శిక్షణ

తెలుగు విభాగం వచన రచన పై యాడ్ ఆన్ సెక్షన్లలో కోర్సును విజయవంతంగా పూర్తి చేసింది. వచన రచనలో నైపుణ్యాలను మెరుగుపరచడం ఈ కోర్సు లక్ష్యం. విద్యార్థులు రోజు 3 గంటల పాటు (3.00 pm - 8.00 pm) కోర్సుకు హాజరయ్యారు. ఈ కోర్సు పూర్తయిన తర్వాత మేము పరీక్ష నిర్వహించి 45% మరియు అంతకంటే ఎక్కువ పొందిన విద్యార్థులకు సెక్షన్లలో జారీ చేశాము.

పాఠ్య ప్రణాళిక క్రమం

క్ర.సం	రోజు	రోజు అంశం
1	1వ రోజు	ఉద్ఘాటం/పరిచయం
2	2వ రోజు	వచన కవిత - లక్షణాలు
3	3వ రోజు	వచన కవిత్యం వివిధ రూపాలు
4	4వ రోజు	మినీ కవితలు - లక్షణాలు
5	5వ రోజు	నానీలు - లక్షణాలు



6	6వ రోజు	హైకూలు-లక్షణాలు
7	7వ రోజు	తెలుగు పద కోశం
8	8వ రోజు	ప్రాస పదాలను ఉపయోగించి కవిత్య రచన
9	9వ రోజు	అలంకారాలను ఉపయోగించి కవిత్య రచన
10	10వ రోజు	వచన రచనలో పాఠాంతర్గత వైపుజ్ఞాలు

#### లక్ష్యములు మరియు ఆశయాలు

- విద్యార్థుల్లో సాహిత్య అభిలాషను పెంపొందించడం.
- వచన కవిత్య అభ్యాసం వలన సరైన ఆలోచనను ఏర్పరచుకోవడం.
- కవిత్యన్ని అర్థం చేసుకోవడానికి విమర్శనాత్మకత మరియు వినూత్నమైన ఆలోచనలను చేయడం.
- తమలో కలిగిన భావాలను స్పష్టపరచుకొని, కవితాత్మకంగా చెప్పగలగడం.
- కవిత్య రచన వలన సమాజానికి ఉపదేశాన్ని, ఆనందాన్ని కలిగించడం.
- వచన కవిత్య రచనా పద్ధతులను గ్రహించి వచన కవిత్య రచన వైపు ప్రయాణిస్తారు.
- వచన కవిత్య పరిణామ వికాసంలో భాగంగా ఏర్పడిన లఘు కవితల గురించి విద్యార్థులు గ్రహిస్తారు.
- లఘు కవిత్య రూపాలలో మినీ కవితలు, నానీలు, హైకూలు వంటి కవిత రూపాల లక్షణాలను తెలుసుకుంటారు.

#### ఫలితాలు

- వచన కవిత లక్షణాలను వివిధ రూపాలను తెలుసుకున్నారు.
- వచన కవిత వైపుజ్ఞాలను సాధించగలిగారు.
- సాహిత్య పఠనంపై అభిలాషను పెంపొందించుకున్నారు.
- వచన కవితా రచనకు పూనుకున్నారు.
- కవితా పఠనం పై ఆసక్తిని కనబరిచారు.



TELANGANA SOCIAL WELFARE RESIDENTIAL  
ARMED FORCES PREPARATORY DEGREE

COLLEGE FOR WOMEN, BHONGIR



DEPARTMENT OF TELUGU

ఉపన్యాస శిక్షణ

పాఠ్య ప్రణాళిక

యాడ్ ఆన్ కోర్స్

విద్య సంవత్సరం 2023-24

కోర్సు అవలోకనం : ఈ కోర్సు ఉపన్యాస శిక్షణ తెలుపుతుంది.

ప్రవేశం : U6 తృతీయ సంవత్సరం విద్యార్థులందరూ ఈ కోర్సు లో చేరడానికి అర్హులు.

కోర్సు వ్యవధి: 30 గంటలు

శిక్షణ విధానం : తరగతి గది శిక్షణ

తెలుగు విభాగం ఉపన్యాస శిక్షణ పై యాడ్ ఆన్ సెషిన్స్ కోర్సును విజయవంతంగా పూర్తి చేసింది. ఉపన్యాస శిక్షణ లో నైపుణ్యా లను మెరుగుపరచడం ఈ కోర్సు లక్ష్యం. విద్యా ధులు రోజు 3 గంటల పాటు ( 5.00 pm - 8.00 pm ) కోర్సుకు హాజరయ్యారు. ఈ కోర్సు పూర్తయిన తర్వాత మేము పరీక్ష నిర్వహించి 45% మరియు అంతకంటే ఎక్కువ పొందిన విద్యార్థులకు సెషిన్స్ జారీ చేశాము .

పాఠ్యప్రణాళిక క్రమం

క్ర.సం	రోజు	రోజు అంశం
1	1 వ రోజు	ఉపన్యాసం అర్థ వివరణ- నిర్వచనం
2	2 వ రోజు	ఉపన్యాస శిల్పం
3	3 వ రోజు	ఉపన్యాస ప్రారంభం
4	4 వ రోజు	భాష
5	5 వ రోజు	కంఠస్వరం
6	6 వ రోజు	వేదిక నిర్వహణ
7	7 వ రోజు	వ్యక్తిగత నైపుణ్యం

8	8 వ రోజు	కొన్ని ప్రముఖుల ఉపన్యాసాలు టీవీలో వినిపించడం.
9	9 వ రోజు	ప్రముఖుల ఉపన్యాసాల ఆధారంగా మెలకువలను గుర్తించడం .
10	10 వ రోజు	ఒక అంశాన్ని తీసుకొని విద్యార్థులను ఉపన్యసించడం-వారిలో ఉన్న లోపాలను అక్కడికక్కడే సవరించడం

### లక్ష్య ములు మరియు ఆశయాలు

- సంఘంలో మంచి వక్తలుగా రాణించగలుగుతారు.
- ఉపన్యాసించడం వలన బహుముఖీయంగా అనేక అంగికంగా హావ భావాలు అభినయం వాక్పాఠ్యం ఆత్మ విశ్వాసం అనే నైపుణ్యాలను పెంపొందించు కుంటారు.
- ఉత్తమ వక్తలుగా రాణించగలుగుతారు.
- భావవ్యక్తీకరణ నైపుణ్యా లు పెంపొందుతాయి.

### ఫలితాలు

- విద్యార్థులు సభాకంపాన్ని తొలగించుకొని ఉపన్యసించగలిగారు.
- సందర్భానుసారంగా జరిగే సభలలో పాల్గొని తమ వంతు భావవ్యక్తీకరణను చేయగలిగారు.



TELANGANA SOCIAL WELFARE RESIDENTIAL  
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COLLEGE FOR WOMEN, BHONGIR  
DEPARTMENT OF TELUGU

ఇంటర్మీడియట్ - మెళకువలు

పాఠ్య ప్రణాళిక

యాడ్ ఆన్ కోర్స్

విద్యసంవత్సరం : 2022-23

కోర్సు అవలోకనం : ఈ కోర్సు ఇంటర్మీడియట్ - మెళకువలు తెలుపుతుంది.

ప్రవేశం : UG తృతీయ సంవత్సరం విద్యార్థులందరూ ఈ కోర్సులో చేరడానికి అర్హులు.

కోర్సు వత్సరం: 30 గంటలు

శిక్షణ విధానం : తరగతి గది శిక్షణ

తెలుగు విభాగం గ ఇంటర్మీడియట్ -v పై యాడ్ ఆన్ సర్టిఫికేట్ కోర్సును విజయవంతంగా పూర్తి చేసింది. ఇంటర్మీడియట్ లో నైపుణ్యాలును మెరుగుపరచడం ఈ కోర్సు లక్ష్యం. విద్యార్థులు రోజు 3 గంటల పాటు (5.00 pm - 8.00 pm) కోర్సును హాజరయ్యారు. ఈ కోర్సు పూర్తయిన తర్వాత మేము పరీక్ష నిరక్షాంబి 45% మరియు అంతకంటే ఎక్కువ పొందిన విద్యార్థులకు సర్టిఫికేట్ జారీ చేశాము.

పాఠ్య ప్రణాళిక క్రమం

క్ర.సం	రోజు	రోజు అంశం
1	1వ రోజు	ఇంటర్మీడియట్ నిర్వచనం, ఉపోద్ఘాతం
2	2వ రోజు	ఇంటర్మీడియట్ ఎవరిని చేయాలి.
3	3వ రోజు	ఎలా ఇంటర్మీడియట్ చేయాలి.
4	4వ రోజు	ప్రశ్నలను ఎలా రూపొందించుకోవాలి.

5	5 వ రోజు	దృశ్య మాధ్యమా ఇంటర్వ్యూ
6	6 వ రోజు	ఇంటర్వ్యూ రకాలు
7	7 వ రోజు	ప్రముఖుల ఇంటర్వ్యూ మెలకువలను గ్రహించడం
8	8 వ రోజు	ఇంటర్వ్యూ భౌతిక తయారీ
9	9 వ రోజు	మానసిక తయారీ
10	10 వ రోజు	మెద పర తయారీ

### లక్ష్యములు మరియు ఆశయాలు

- > పత్రికా రంగంలో కీలకమైన సృజనాత్మక ప్రక్రియగా ఎదిగిన జర్నలిస్టు వృత్తి జీవితంలో ఇంటర్వ్యూ అనేది అసక్తికరమైన అంశం. ఈ అంశంలో విద్యార్థులు ప్రదర్శించినట్లయితే ఉన్నత ఉపాధి అవకాశాలు పొందగలరు.
- > ఎవరిని ఇంటర్వ్యూ చేయాలి ఎలా చేయాలి అనే విషయాల పైన అవగాహన ఏర్పరచుకుంటారు.
- > ఇంటర్వ్యూలో ప్రధాన రకాలను గ్రహిస్తారు.
- > ఇంటర్వ్యూ ద్వారా వ్యక్తి యొక్క హేతుబద్ధమైన జ్ఞానం, ఆలోచన, కమ్యూనికేషన్ నైపుణ్యాల మరియు సృజనాత్మకత పెంపొందుతాయి.
- > జర్నలిజంలోని ఉపాధి అవకాశాలను పొందగలుగుతారు..

### ఫలితాలు

- > విద్యార్థులు తమ నివాస ప్రాంతాలకు దగ్గరగా ఉన్న ప్రముఖులను ఇంటర్వ్యూ చేయగలిగారు.
- > ఇంటర్వ్యూ మెలకువలను అభివృద్ధి చేశారు.
- > చిన్నచిన్న అంశాలపై తరగతి గదిలో చర్చాచేదీకలు నిర్వహించారు.



H. O. D  
Department of Telugu  
TSWRAPP Degree College (W)  
Dist: Bhongir

  
PRINCIPAL  
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BHONGIR.





TELANGANA SOCIAL WELFARE RESIDENTIAL  
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DEPARTMENT OF TELUGU

గద్యరచన - మెళకువలు

పాఠ్య ప్రణాళిక

యాడ్ ఆన్ కోర్స్

విద్యసంవత్సరం : 2022 -23

కోర్సు అవలోకనం : ఈ కోర్సు గద్య రచన - మెళకువలు తెలుపుతుంది.

ప్రవేశం : UG తృతీయ సంవత్సరం విద్యార్థులందరూ ఈ కోర్సులో చేరడానికి అర్హులు.

కోర్సు వత్తడి: 30 గంటలు

శిక్షణ విధానం : తరగతి గది శిక్షణ

తెలుగు విభాగం గద్య రచన - మెళకువలు పై యాడ్ ఆన్ సెషన్లలో కోర్సును విజయవంతంగా పూర్తి చేసింది. గద్య రచన - మెళకువలులో నైపుణ్యాలను మెరుగుపరచడం ఈ కోర్సులక్ష్యం. విద్యార్థులు రోజు 3 గంటల పాటు ( 5.00 pm - 8.00 pm ) కోర్సుకు హాజరయ్యారు. ఈ కోర్సు పూర్తయిన తర్వాత మేము పరీక్ష నిర్వహించి 45% మరియు అంతకంటే ఎక్కువ పొందిన విద్యార్థులకు సెషన్లలో జారీ చేశాము.

పాఠ్య ప్రణాళిక క్రమం

క్ర.సం	రోజు	రోజు అంశం
1	1వ రోజు	గద్య సాహిత్య పరిచయం
2	2వ రోజు	వస్తువు
3	3వ రోజు	ఎత్తుగడ
4	4వ రోజు	పాత్రలు
5	5వ రోజు	శిల్ప, వర్ణనలు

6	6 వ రోజు	కంఠస్వరం
7	7 వ రోజు	ఆరంభం - ముగింపు
8	8 వ రోజు	పేరు
9	9 వ రోజు	భాష
10	10 వ రోజు	సంభాషణలు

**లక్ష్యములు మరియు ఆశయాలు**

- > భాష స్వరూప స్వభావాలలో విద్యా ర్థులకు అవగాహన ఏర్పరచడం.
- > తెలుగు సాహితీ వైభవాన్ని విద్యార్థులలో పెంపొందించడం.
- > గద్య రచన ప్రక్రియలో వివిధ తెలియపరచడం.
- > గద్య రచన సాహిత్య సంపదను పెంపొందించడం.
- > సామాజిక రుగ్మతలను, దుష్ట శక్తులను మాన్పేమందు, ఆయుధం సాహిత్య మేనని విద్యార్థులకు తెలియ చెప్పడం

**ఫలితాలు**

- > విద్యార్థులు గద్య రచన ఆవశ్యకతను గ్రహించారు.
- > గద్య రచన ప్రక్రియలైన కథానిక, నవల, నాటకం మొదలైన ప్రక్రియలలో రచనలు చేయడానికి వూసుకున్నారు.
- > సాహిత్య పఠనం పై ఆభిలాషను పెంపొందించుకున్నారు.
- > సాహిత్య పఠనం వలన వ్యక్తిత్వాన్ని ఆత్మ పైర్వాన్ని సుజనాత్మకతను ఏర్పరచుకోగలిగారు.
- > సమాజంలోని అవినీతిని, అన్యాయాన్ని తమ గద్య రచనల ద్వారా చూపే ప్రయత్నం ఆరంభించారు..

*Rama* 20/10/22

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*K. S.*

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TELANGANA SOCIAL WELFARE RESIDENTIAL  
ARMED FORCES PREPARATORY  
DEGREE COLLEGE FOR WOMEN, BHONGIR  
DEPARTMENT OF TELUGU

గద్యరచన - మెళకువలు

పాఠ్య ప్రణాళిక

యాడ్ ఆన్ కోర్స్

విద్యసంవత్సరం : 2021- 22

కోర్సు అవలోకనం : ఈ కోర్సు గద్య రచన - మెళకువలు తెలుపుతుంది.

ప్రవేశం : UG తృతీయ సంవత్సరం విద్యార్థులందరూ ఈ కోర్సులో చేరడానికి అర్హులు.

కోర్సు వ్యవధి: 30 గంటలు

శిక్షణ విధానం : తరగతి గది శిక్షణ

తెలుగు విభాగం గద్య రచన - మెళకువలు పై యాడ్ ఆన్ సెస్సిఫికల్ కోర్సు విజయవంతంగా పూర్తి చేసింది. గద్య రచన లో నైపుణ్యాలను మెరుగుపరచడం ఈ కోర్సు లక్ష్యం. విద్యార్థులు 3 గంటల పాటు ( 5.00 pm - 8.00 pm ) కోర్సుకు హాజరయ్యాడు. ఈ కోర్సు పూర్తయిన తర్వాత మేము పరీక్ష నిర్వహించి 45% మరియు అంతకంటే ఎక్కువ పొందిన విద్యార్థులకు సెస్సిఫికల్ జారీ చేశాము.

పాఠ్య ప్రణాళిక క్రమం

క్ర.సం	రోజు	రోజు అంశం
1	1వ రోజు	గద్య సాహిత్య పరిచయం
2	2వ రోజు	వస్తువు
3	3వ రోజు	ఎత్తుగడ
4	4వ రోజు	పాత్రలు
5	5వ రోజు	శిల్ప, వర్ణనలు
6	6వ రోజు	కంఠస్యరం

7	7 వ రోజు	ఆరంభం - ముగింపు
8	8 వ రోజు	పేరు
9	9 వ రోజు	భాష
10	10 వ రోజు	సంభాషణలు

**లక్ష్యములు మరియు ఆశయాలు**

- > భాష స్వరూప స్వభావాలలో విద్యా ధృలకు అవగాహన పెర్రవడం.
- > తెలుగు సాహితీ వైభవాన్ని విద్యార్థులలో పెంపొందించడం.
- > గద్య రచన ప్రక్రియలో వివిధ తెలియపరచడం.
- > గద్య రచన సాహిత్య సంపదను పెంపొందించడం.
- > సామాజిక రుగ్గుణలను, దుష్ట శక్తులను మాన్పేమందు , ఆయుధం సాహిత్య మేనని విద్యా ధృలకు తెలియ చెప్పడం

**ఫలితాలు**

- > విద్యార్థులు గద్య రచన ఆవశ్యకతను గ్రహించారు.
- > గద్య రచన ప్రక్రియలైన కథానిక, నవల , నాటకం మొదలైన ప్రక్రియలలో రచనలు చేయడానికి పూనుకున్నారు .
- > సాహిత్య పఠనం పై ఆభిలాషను పెంపొందించుకున్నారు.
- > సాహిత్య పఠనం వలన వ్యక్తిత్వాన్ని ఆత్మ పైర్వాన్ని సుజనాత్మకతను పెర్రవచుకోగలిగారు.
- > సమాజంలోని అవినీతిని, అన్యాయాన్ని తమ గద్య రచనల ద్వారా చూపే ప్రయత్నం ఆరంభించారు..

  
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DEPARTMENT OF TELUGU

ఇంటర్మీడియట్ - మెళకువలు

పాఠ్య ప్రణాళిక

యాడ్ ఆన్ కోర్స్

విద్య సంవత్సరం : 2021-22

కోర్సు అవలోకనం : ఈ కోర్సు ఇంటర్మీడియట్ - మెళకువలు తెలుపుతుంది.

ప్రవేశం : UG తృతీయ సంవత్సరం విద్యార్థులందరూ ఈ కోర్సులో చేరడానికి అర్హులు.

కోర్సు వత్సరం: 30 గంటలు

శిక్షణ విధానం : తరగతి గది శిక్షణ

తెలుగు విభాగం గ ఇంటర్మీడియట్ - మెళకువలు పై యాడ్ ఆన్ సెమిస్టర్ కోర్సును విజయవంతంగా పూర్తి చేసింది. ఇంటర్మీడియట్ నైపుణాలను మెరుగుపరచడం ఈ కోర్సు లక్ష్యం. విద్యార్థులు రోజు 3 గంటల పాటు (5.00 pm - 8.00 pm) కోర్సును హాజరయ్యారు. ఈ కోర్సు పూర్తయిన తర్వాత మేము పరీక్ష నిర్వహించి 45% మరియు అంతకంటే ఎక్కువ పొందిన విద్యార్థులకు సెమిస్టర్ జారీ చేశాము.

#### పాఠ్య ప్రణాళిక క్రమం

క్ర.సం	రోజు	రోజు అంశం
1	1 వ రోజు	ఇంటర్మీడియట్ నిర్వచనం, ఉపోద్ఘాతం
2	2 వ రోజు	ఇంటర్మీడియట్ ఎవరిని చేయాలి.
3	3 వ రోజు	ఎలా ఇంటర్మీడియట్ చేయాలి.
4	4 వ రోజు	ప్రశ్నలను ఎట్లా రూపొందించుకోవాలి.



5	5 వ రోజు	దృశ్య మాధ్యమ ఇంటర్వ్యూ
6	6 వ రోజు	ఇంటర్వ్యూ రకాలు
7	7 వ రోజు	ప్రముఖుల ఇంటర్వ్యూ మెలకువలను గ్రహించడం
8	8 వ రోజు	ఇంటర్వ్యూ భౌతిక తయారీ
9	9 వ రోజు	మానసిక తయారీ
10	10 వ రోజు	మెద పర తయారీ

### లక్ష్యములు మరియు ఆశయాలు

- > పత్రికా రంగంలో కీలకమైన సృజనాత్మక ప్రక్రియగా ఎదిగిన జర్నలిస్టు వృత్తి జీవితంలో ఇంటర్వ్యూ అనేది అనర్వీకరమైన అంశం. ఈ అంశంలో విద్యార్థులు ప్రదర్శించినట్లయితే ఉన్నత ఉపాధి అవకాశాలు పొందగలరు.
- > ఎవరిని ఇంటర్వ్యూ చేయాలి ఎలా చేయాలి అనే విషయాలపైనే అవగాహన ఏర్పరచుకుంటారు.
- > ఇంటర్వ్యూలో ప్రధాన రకాలను గ్రహిస్తారు.
- > ఇంటర్వ్యూ ద్వారా వ్యక్తి యొక్క హేతుబద్ధమైన జ్ఞానం, ఆలోచన, కమ్యూనికేషన్ నైపుణ్యాల మరియు సృజనాత్మకత పెంపొందుతాయి.
- > జర్నలిజంలోని ఉపాధి అవకాశాలను పొందగలుగుతారు.

### ఫలితాలు

- > విద్యార్థులు తమ నివాస ప్రాంతాలకు దగ్గరగా ఉన్న ప్రముఖులను ఇంటర్వ్యూ చేయగలిగారు.
- > ఇంటర్వ్యూ మెలకువలను అభివృద్ధిచేశారు.
- > చిన్నచిన్న అంశాలపై తరగతి గదిలో చర్చావేదికలు నిర్వహించారు.



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DEGREE COLLEGE FOR WOMEN, BHONGIR

DEPARTMENT OF TELUGU

ఉపనాథ శిక్షణ

పాఠ్య ప్రణాళిక

యాడ్ ఆన్ కోర్స్

విద్యసంవత్సరం : 2020-21

కోర్సు అవలోకనం : ఈ కోర్సు ఉపనాథ శిక్షణ తెలుపుతుంది.

ప్రవేశం : U6 తృతీయ సంవత్సరం విద్యార్థులందరూ ఈ కోర్సులో చేరడానికి అర్హులు.

కోర్సు వత్తిడి: 30 గంటలు

శిక్షణ విధానం : తరగతి గది శిక్షణ

తెలుగు విభాగం ఉపనాథ శిక్షణ పై యాడ్ ఆన్ సెషిఫికేట్ కోర్సును విజయవంతంగా పూర్తి చేసింది. ఉపనాథ శిక్షణ లో నైపుణ్యాలను మెరుగుపరచడం ఈ కోర్సులక్ష్యం. విద్యార్థులు రోజు 3 గంటల పాటు (2.00 pm - 5.00 pm) కోర్సును హాజరయ్యారు. ఈ కోర్సు పూర్తయిన తర్వాత మేము పరీక్ష నిర్వహించి 45% మరియు అంతకంటే ఎక్కువ పొందిన విద్యార్థులకు సెషిఫికేట్ జారీ చేశాము.

పాఠ్య ప్రణాళిక క్రమం

క్ర.సం	రోజు	రోజు అంశం
1	1వ రోజు	ఉపనాథం అర్థ వివరణ- నిర్ణయనం
2	2వ రోజు	ఉపనాథ శిల్పం
3	3వ రోజు	ఉపనాథ ప్రారంభం
4	4వ రోజు	భాష
5	5వ రోజు	కంఠసభ్యం

6	6 వ రోజు	వేదిక నిర్మాణ
7	7 వ రోజు	వక్రీకరణ నైపుణ్య
8	8 వ రోజు	కొన్ని ప్రముఖుల ఉపనామాలు డేవిల్ వినిపించడం.
9	9 వ రోజు	ప్రముఖుల ఉపనామాల ఆధారంగా మొలకువలను గుర్తించడం .
10	10 వ రోజు	ఒక అంశాన్ని తీసుకొని విద్యార్థులను ఉపన్యసించడం - వారిలో ఉన్న లోపాలను అక్కడికక్కడే సవరించడం

### లక్ష్యములు మరియు ఆశయాలు

- సంఘంలో మంచి వక్రలుగా రాణించగలుగుతారు.
- ఉపనామాలను వలన బహుముఖీయంగా అనేక అంశాలకు పోషక భావాలు అభినయం వాక్యరచన అక్షరవిశాసం అనే నైపుణ్యాలను పెంపొందించు కుంటారు.
- ఉత్తమ వక్రలుగా రాణించగలుగుతారు.
- భావవక్రీకరణ నైపుణ్యాలు పెంపొందుతాయి.

### ఫలితాలు

- విద్యార్థులు సభా కంపాన్ని తోలగించుకొని ఉపనామాలను చెబుతారు.
- సందర్భానుసారంగా జరిగే సభలలో పాల్గొని తమ వంతు భావవక్రీకరణను చెబుతారు.

  
 10/02/21  
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TELANGANA SOCIAL WELFARE RESIDENTIAL  
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DEGREE COLLEGE FOR WOMEN, BHONGIR  
DEPARTMENT OF TELUGU, Academic Year 2019-20

యాడీ ఆన్ కోర్స్

బాల వాక్రరణం

పాఠ్య ప్రణాళిక

విద్యసంవత్సరం 2019-20

కోర్సు అవలోకనం : . బాల వాక్రరణం మరియు భాష సభాస సభాసలను తెలుపుతుంది.

ప్రవేశం : UG తృతీయ సంవత్సరం విద్యార్థులందరూ ఈ కోర్సులో చేరడానికి అర్హులు.

కోర్సు వత్సరం: 30 గంటలు

శిక్షణ విధానం : తరగతి గది శిక్షణ

తెలుగు విభాగం బాల వాక్రరణం పై యాడీ ఆన్ సర్టిఫికేట్ కోర్సును విజయవంతంగా పూర్తి చేసింది . బాల వాక్రరణంలో నైపుణాలను మెరుగుపరచడం ఈ కోర్సులక్ష్యం. విద్యార్థులు రోజు 3 గంటల పాటు ( 2.00 pm - 5.00 pm ) కోర్సును పాఠ్యం చేయాలి. ఈ కోర్సు పూర్తయిన తర్వాత మేము పరీక్ష నిర్వహించి 45% మరియు అంతకంటే ఎక్కువ పొందిన విద్యార్థులకు సర్టిఫికేట్ జారీ చేశాము .

పాఠ్య ప్రణాళిక క్రమం

క్ర.సం	రోజు	రోజు అంశం
1	1 వ రోజు	పరిచయం ప్రయోజనాలు
2	2 వ రోజు	సంఖ్య పరిచయము
3	3 వ రోజు	తత్వ పరిచయము


4	4వ రోజు	కారక పరిచేతము
5	5వ రోజు	సమాస పరిచేతము, తద్దత పరిచేతము
6	6వ రోజు	సంది పరిచేతము
7	7వ రోజు	ఆదిక పరిచేతము
8	8వ రోజు	శ్రీయా పరిచేతము
9	9వ రోజు	కృదంత పరిచేతము
10	10వ రోజు	ప్రకీర్షక పరిచేతము

#### లక్ష్యములు మరియు ఆశయాలు

- భాష సత్వాల సభావలలో విద్యార్థులకు అవగాహన పెరచడం.
- ప్రాచీన కవిజాలను అర్థం చేసుకోవడానికి అవసరమైన వాక్రణ విషయాలను తెలుసుకుంటారు.
- తెలుగు సాహితీ వైభవాన్ని విద్యార్థులలో పెంపొందించడం.
- వాక్రణ సహితమైన భాషా పరిజ్ఞానాన్ని పెరచుకుంటారు.
- వాక్రణబద్ధంగా మాట్లాడగలుగుతారు.

#### ఫలితాలు

- విద్యార్థులు దోషరహితంగా మాట్లాడగలరు.
- విద్యార్థులు దోషరహితంగా రాయగలరు.
- కాలానుగుణంగా భాషలో పెరచిన మార్పును గ్రహించారు.
- వాక్రణబద్ధంగా రచనలను చేయడానికి పూనుకున్నారు.

  
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TELANGANA SOCIAL WELFARE RESIDENTIAL  
ARMED FORCES PREPARATORY  
DEGREE COLLEGE FOR WOMEN, BHONGIR

DEPARTMENT OF TELUGU Academic Year 2018-19

యాడ్ ఆన్ కోర్స్

కవిత్యరచన మెళకువలు

పాఠ్య ప్రణాళిక

విద్యసంవత్సరం : 2018-19

**కోర్సు అవలోకనం** : ఈ కోర్సు వచన కవితలు మరియు వచన కవిత్య రాయడంలో నైపుణ్యాలు తెలుపుతుంది.

**ప్రవేశం** : UG తృతీయ సంవత్సరం విద్యార్థులందరూ ఈ కోర్సులో చేరడానికి అర్హులు.

**కోర్సు వత్సరం**: 30 గంటలు

**ఇక్షణ విధానం** : తరగతి గది ఇక్షణ

తెలుగు విభాగం కవిత్యరచన పై యాడ్ ఆన్ సెషన్లలో కోర్సు విజయవంతంగా పూర్తి చేసింది. కవిత్యరచనలో నైపుణ్యాలు మెరుగుపరచడం ఈ కోర్సు లక్ష్యం. విద్యార్థులు రోజూ 3 గంటల పాటు ( 2.00 pm - 5.00 pm ) కోర్సులో పాఠశాలలో. ఈ కోర్సు పూర్తయిన తర్వాత మేము పరీక్ష నిరీక్షించి 45% మరియు అంతకంటే ఎక్కువ పొందిన విద్యార్థులకు సెషన్లలో జారీ చేశాము.

పాఠ్య ప్రణాళిక క్రమం

క్ర.సం	రోజు	రోజు అంశం
1	1 వ రోజు	ఉదాహరణ / పరిచయం
2	2 వ రోజు	కవిత్య లక్షణాలు
3	3 వ రోజు	వచన కవిత్య వివిధ రూపాలు
4	4 వ రోజు	మినీ కవితలు - లక్షణాలు

5	5 వ రోజు	నానీలు - లక్షణాలు
6	6 వ రోజు	హైకూలు - లక్షణాలు
7	7 వ రోజు	తెలుగు వచ కోశం
8	8 వ రోజు	ప్రాస పదాలను ఉపయోగించి కవిత రచన
9	9 వ రోజు	అలంకారాలను ఉపయోగించి కవిత రచన
10	10 వ రోజు	వచన రచనలో పాటించాల్సిన నైపుణ్యాలు

#### లక్షణాలు మరియు ఆశయాలు

- > విద్యార్థుల్లో సాహిత్య అభిలాషను పెంపొందించడం.
- > వచన కవిత్వ అభ్యాసం వలన సరైన ఆలోచనను విర్రభయకోపడం.
- > కవిత్వార్థం చెసుకోవడానికి విమర్శాత్మకత మరియు వివేకమైన ఆలోచనలను చేయడం.
- > తమలో కలిగిన భావాలను సృజనాత్మకంగా, కవితాత్మకంగా చెప్పగలగడం.
- > కవిత్వ రచన వలన సమాజానికి ఉపదేశాన్ని ఆనందాన్ని కలిగించడం.
- > వచన కవిత్వ రచనా పద్ధతులను గ్రహించి వచన కవిత్వ రచన వైపు ప్రయాణిస్తారు.
- > వచన కవిత్వ పరిణామ వికాసంలో భాగంగా విర్రభయ లఘు కవితల గురించి విద్యార్థులు గ్రహిస్తారు.
- > లఘు కవిత్వ రూపాలలో మినీ కవితలు, నానీలు, హైకూలు వంటి కవిత రూపాల లక్షణాలను తెలుసుకుంటారు.

#### ఫలితాలు

- > వచన కవిత లక్షణాలను వివిధ రూపాలను తెలుసుకున్నారు.
- > వచన కవిత నైపుణ్యాలు సాధించగలిగారు.
- > సాహిత్య పఠనంపై అభిలాషను పెంపొందించుకున్నారు.
- > వచన కవితా రచనకు పూనుకున్నారు.
- > కవితా పఠనం పై ఆసక్తిని కనబరిచారు.

  
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**Course Objective:**

To develop understanding of the usage of MS-Excel.

**Course Outcomes:**

- CO1: To optimize the use of MS-Excel for powerful data analysis
- CO2: To apply correct data visualization technique to gain optimal presentation of data
- CO3: To apply enhanced features of MS-Excel

**Course Introduction**

To meet the pace with increasing use of technology in day to day life, students should possess skills to work on various operating application softwares. To enable them to meet this requirement in at least one of the most widely used tools. MS Office Advanced Excel training is provided to them as an Add-on course to help them work efficiently at their workplace.

Proficiency in advanced Excel enhances data analysis, visualization, and management skills. Mastery of functions like VLOOKUP, PivotTables, and macros streamlines complex tasks, fostering efficiency and accuracy in decision-making processes. Advanced Excel expertise a candidate's adaptability and problem-solving capabilities to meet current days job requirements. Ultimately, it equips students with versatile tools to tackle real-world challenges and empowers them to excel in their academic and professional pursuits.

**WEEK-I: KNOW YOUR WORKBOOK**

Workbook and worksheets- Navigation with keyboard, Tabs and ribbons, file menu, quick access toolbar, create print and save workbook, worksheet basics, protecting excel workbook and worksheet, importing and exporting data,

**WEEK-II: BASIC FEATURES OF YOUR WORKBOOK**

Data and Formatting-Adding Data, Ctrl Copy Paste, Data fill ,Data Movement, Cell Formatting, Conditional Formatting, Cell Operations, Reusable Lists , Data Validation , Sorting And Filtering, Tables.

**WEEK III: FORMULAS, FUNCTIONS**

Understanding formulas; operators in formula; named ranges; calculations; functions in formulas; relative and absolute addressing; referencing cells outside the worksheet and workbook; functions - logical, summarizing, text , lookup, reference, data and time, math functions; error handling, formula auditing.

**WEEK IV: CHARTS AND ANALYSIS**

Chart types and uses. Chart depiction – column, line, pie, bar, bubble, histogram Analysis - Pivot Table, Pivot Charts, What If Analysis

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MULTIMEDIA USING CANVA

SEMESTER IV  
Add-On Course  
BONGIR

**Course Objective:**

To make the students understand and design their own templates with the choice of their own designs, text, pictures.

**Course Outcomes:**

- CO1: To optimize the use of Canva for colorful creation of designs
- CO2: To apply the learnt data for creating invitations, social media content etc
- CO3: Utilize advanced Canva features for professional and creative designs

**WEEK I: LEARNING THE BASICS OF CANVA**

**Introduction to Canva:** What is Canva and its uses, Signing up for Canva, Exploring the Canva dashboard and interface, **Basic Design Principles:** Understanding design elements: color, typography, images, and layout, introduction to Canva's design resources, **Canva Tools and Features:** Overview of Canva tools: text, images, shapes, lines, icons, Using the drag-and-drop feature

**WEEK II: CREATING A SIMPLE DESIGN**

Starting a new project, Choosing a template, Adding and editing text and images, **Working with Text:** Adding text to designs, Exploring font styles and sizes, Text alignment and formatting, **Utilizing Shapes and Lines:** Adding shapes and lines to designs, Customizing shapes: color, size, border, **Importing and Exporting Designs:** Importing images and other assets, Exporting designs in different formats (PNG, JPEG, PDF)

**WEEK III: IMPLEMENTING AND DESIGNING USING CANVA**

**Social Media Posts:** Creating social media posts for platforms like Instagram, Facebook, Twitter, Using and customizing social media templates, **Flyers and Posters:** Designing a flyer or poster, Using grids and frames, **Presentations:** Creating a presentation, Using Canva's presentation templates and features, **Business Cards and Letterheads:** Designing business cards, Creating a professional letterhead, **Infographics:** Introduction to infographics, Creating an infographic using Canva's templates, **Invitations and Cards:** Designing invitations for events, Creating greeting cards

**WEEK IV: ENHANCING FEATURES OF CANVA**

**Using Photos and Effects:-** Adding and editing photos, Changing background colors and patterns, **Animations and GIFs:** Creating simple animations, Designing GIF's, Applying brand colors, logos, and fonts, **Canva Pro Features:** Exploring Canva Pro features, Benefits of upgrading to Canva Pro, Designing covers and pages for ebooks, **Marketing Materials:** Designing brochures, Creating newsletters, **Resume Creation:** Compiling designs into a portfolio, Using Canva to create a portfolio presentation

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## NOTICE

The students are informed that an add-on course on "Introduction to Operating Systems" is being conducted by Department of Computer Science for IMA 1 Year in the month of February 2023. All the students are informed to attend the course, as it is very interesting and will acquaint you with the internal working of the computer. The course begins on 01-Feb 2023. Attendance will be taken and the students should clear an exam to get the certificate of completion.

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**Week 1:**

Introduction: Computer System Architecture, Computing Environments, Operating-System Structures: Operating System Services, User Interface for Operating-System, System Calls,

**Week 2:**

Types of System Calls, Operating System Structure. Process Management: Process Concept, Process Scheduling, Operations on Processes, Inter process Communication, Examples-Producer-Consumer Problem.

**Week 3:**

Process Synchronization: Critical-Section Problem, Peterson's Solution, Synchronization, Semaphores, Monitors. CPU Scheduling: Concepts, Scheduling Criteria, Scheduling Algorithms.

**Week 4:**

Deadlocks: System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock.

  
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NOTICE



The Computer Science Department informs the students to attend the add-on course on "Bridging the Gap" conducted by Department of Computer Science for MSCs 1 Year in the month of December 2018. All the students are informed to attend the course, as it is very interesting to learn basics of computers and to know the fundamentals of how our computer works and completes its tasks. The course begins from 1st December 2018 to 30th December 2018. Attendance will be taken and the students should clear an exam to get the certificate of completion.

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## SYLLABUS



### Week 1:

#### **Introduction to Computers**

Definition and characters of computer, History of Computers, Uses of Computer, Components of Computer, Input and Output Devices functions and characteristics, Storage Devices, Computer Memory - RAM, ROM, EPROM, PROM and other types of memory. Generations of Computers, Classification of Computers, Functions of Computers, Printers and its types.

**MS-WORD:** Introduction, Text basics, Formatting Text, Formatting Paragraph, Fonts, Alignments, Page Layouts, Tables, Lists, Word art, Mail Merge, Preparing time table, Resume.

### Week 2:

#### **MS-EXCEL**

Features of MS Excel, Parts of MS Excel. Spread Sheet / Work Sheet, workbook, cell, cell pointer, cell address, Insert Cell, Row and Columns, Delete Data, Cells, Rows and Columns in Excel, Changing Column Width and Row Height, Cell References in Excel.

### Week 3:

Formatting Features in Excel, Functions in Excel, Types of Functions in MS Excel: Mathematical, Statistical, Text, Date and Time and Logical Functions, Different Types of Charts in Excel, Process of Creating the Graphs in Excel, Sorting and Filtering in Excel. **MS-POWER POINT:** MS PowerPoint: Features, advantages and application of Ms Power point, Parts of MS Power point window, Menus and Tool bars, slide show, saving, opening and closing a Presentation.

### Week 4:

Inserting, editing and deleting slides, Types of slides -Slide Views, Formatting, Insertion of Objects and Charts in slides. **EMERGING TECHNOLOGIES IN COMPUTER SCIENCE:** IOT, Artificial Intelligence, Machine Learning and Deep Learning and its applications

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## **CHEMISTRY IN HYGIENE ADD ON COURSE**

### **Syllabus:**

#### **I. Introduction-7Hrs**

Daily using items- Toothpaste, Soap, Detergent, Sanitizer, Shampoo, composition and their applications

#### **II. Medicine-7Hrs**

Paracetamol, Aspirin..... Chemical Formula, Preparation, Composition, Applications And side effects

#### **III. Dyes-7Hrs**

Azo dyes Preparation, some synthetic dyes composition and uses

#### **IV. Disinfectants-9Hrs**

Chemical composition and applications.

N-Chloro P- toluene sulphonamide Antiviral activity and microbiological activity

Chemical agents commonly used as Disinfectants-Phenolic-Hexachlorophene

# INDUSTRIAL CHEMISTRY

## ADD ON COURSE

### Syllabus:

#### 1 Introduction to industrial chemistry

definition and scope of industrial chemistry, importance of modern industry

#### 2.chemical processes

Types of chemical processes (batch vs continuous), unit operation and unit processes, process flow diagrams Raw material and feedstocks-source of raw, materials nature and synthetic, Feed stock preparation and treatment

#### 3.Chemical reaction engineering

Kinetic of industrial reaction, reactors types and design, Catalysis in industry

#### 4.Industrial process and technology

production of basic chemicals (ammonia sulphuric acid), polymer manufacturing, Distillation , Extraction and filtration

#### 5.Environment and safety considerations

waste management in chemical industry, Environment coagulation and standard

#### 6.Quality control and quality assurance

Analytical technique in industrial chemistry, standard and certification

## **LAB SAFETY RULES ADD ON COURSE**

### **Syllabus:**

#### **BASIC LABORATORY TECHNIQUES: 30 Hrs**

- Knowledge of Laboratory chemicals- hazard symbols, warning symbols, safety precautions and storage of chemicals
- Cleaning of glassware – general glass wares, new glass wares, blood- stained pipettes, slides, culture plates etc
- Cleaning and disinfection of Disinfectants used and biosafety precautions in case of specimen spillage
- Bio- medical waste management -categories of bio-medical waste. Bio- medical waste – color coding, types of containers, collection, transport and disposal of biomedical waste.
- Basic first aid techniques for cuts & bruises, burn injury etc.
- Sample collection and processing – barcoding, safety precautions, processing of samples etc.
- Common Instruments used in laboratories – incubators, centrifuge, semi autoanalyzer, Colorimeter, Micropipettes etc
- Distillation and deionisation apparatus and use
- Laboratory management system

## CHEMISTRY IN DAILY LIFE ADD ON COURSE

### Syllabus:

#### I. Introduction-6Hrs

Daily using items- Toothpaste, Soap, Detergent, Sanitizer, Shampoo, composition and their applications

#### II. Medicine-6Hrs

Paracetamol, Aspirin.... Chemical Formula, Preparation, Composition, Applications And side effects

#### III. Dyes-6Hrs

Azo dyes Preparation, Some synthetic dyes composition and uses

#### IV. Disinfectant-8Hrs

Chemical composition and applications.

N-Chloro P- toluene sulphonamide Antiviral activity and microbiological activity

Chemical agents commonly used as Disinfectants-Phenolic-Hexachlorophene

#### V. Polymers in Daily life-4Hrs

Bakelite, Polyethylene, Polyester, Nylon and Biodegradable polymers.

# CHEMISTRY IN EVERYDAY LIFE

## ADD ON COURSE

### Syllabus:

#### I. Introduction-6Hrs

Daily using items- Toothpaste, Soap, Detergent, Sanitizer, Shampoo, composition and their applications

#### II. Medicine-6Hrs

Paracetamol, Aspirin.... Chemical Formula, Preparation, Composition, Applications And side effects

#### III. Dyes-6Hrs

Azo dyes Preparation, Some synthetic dyes composition and uses

#### IV. Disinfectants-8Hrs

Chemical composition and applications.

N-Choro P- toluene sulphonamide Antiviral activity and microbiological activity

Chemical agents commonly used as Disinfectants-Phenolic-Hexachlorophene

#### V. Polymers in Daily life-4Hrs

Bakelite, Polyethylene, Polyester, Nylon and Biodegradable polymers.

# DISINFECTANTS

## ADD ON COURSE

### Syllabus:

#### I. Introduction-6Hrs

Daily using items- Toothpaste, Soap, Detergent, Sanitizer, Shampoo, composition and their applications

#### II. Disinfectants-8Hrs

Chemical composition and applications.

N-Chloro P- toluene sulphonamide Antiviral activity and microbiological activity

Chemical agents commonly used as Disinfectants-Phenolic-Hexachlorophene

#### III. Medicine-6Hrs

Paracetamol, Aspirin.... Chemical Formula, Preparation, Composition, Applications And side effects

#### IV. Dyes-6Hrs

Azo dyes Preparation, Some synthetic dyes composition and uses

#### V. Polymers in Daily life-4Hrs

Bakelite, Polyethylene, Polyester, Nylon and Biodegradable polymers.



## **DRINKING WATER AND QUALITY ANALYSIS**

### **ADD ON COURSE**

#### **Syllabus:**

#### **I. Water quality parameters and their effects (10 hours)**

Physical parameters- pH, colour (Hazen), Odour, taste, turbidity, general parameter-hardness, total dissolved solids, chloride, sulphate, nitrate, fluoride Calcium, Magnesium, Iron, Manganese, Heavy metals, Pesticides, Dissolved Oxygen, Coli form Bacteria, Drinking Water, Specifications -Indian standard.

#### **II. Procedure for the measurement of physical parameters (10 hours)**

Water sampling and preservation, procedures for the measurement of pH, Conductivity and turbidity.

#### **III. Procedure for the measurements of chemical parameters (10 hours)**

Procedure for measurements of total hardness, chloride, sulphate, nitrate, fluoride, Iron, Dissolved Oxygen, Biological oxygen demand, Heavy metals and pesticides.

## **FORENSIC CHEMISTRY ADD ON COURSE**

### **Syllabus:**

#### **1. Introduction to Forensic Chemistry**

Overview of forensic science, Role of chemistry in forensic investigations, Ethical considerations in forensic science

#### **2. Analytical Techniques**

Qualitative and quantitative analysis, Spectroscopy (UV-Vis, IR, NMR, MS), Chromatography (GC, HPLC, TLC), Electrophoresis, Microscopy and microanalysis

#### **3. Evidence Collection and Preservation**

Crime scene processing, Types of evidence (biological, chemical, physical), Chain of custody, Contamination prevention

#### **4. Toxicology**

Principles of toxicology, Poison detection and analysis, Drug identification and quantification, Alcohol analysis

#### **5. Emerging Technologies in Forensic Chemistry**

Advances in forensic analytical methods, Digital forensics, Applications of nanotechnology in forensics, Forensic applications of artificial intelligence and machine learning

## **GREEN CHEMISTRY ADD ON COURSE**

### **Syllabus:**

#### **1. Introduction to Green Chemistry**

Principles of Green Chemistry, Historical Background and Development, Benefits and Importance

#### **2. Green Solvents**

Definition and Characteristics, Types of Green Solvents, Applications in Organic Chemistry

#### **3. Sustainable Synthesis**

Atom Economy, Reducing Emissions, Catalysis and Green Synthesis

#### **4. Green Energy**

Sustainable Energy Sources, Energy Efficiency in Chemical Processes, Green Chemistry and Climate Change

#### **5. Case Studies and Applications**

Green Chemistry in Industry, Green Chemistry in Pharmaceuticals, Green Chemistry in Agriculture



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Department of Chemistry

## PHARMACEUTICAL CHEMISTRY

### ADD ON COURSE

#### Syllabus:

##### 1. Introduction to Pharmaceutical Chemistry 5Hrs

Overview of pharmaceutical chemistry, History and development of drugs, Role of pharmaceutical chemists

##### 2. Basic Organic Chemistry 5Hrs

Structure and bonding, Functional groups, Stereochemistry, Reaction mechanisms

##### 3. Medicinal Chemistry 5Hrs

Drug design and development, Structure-activity relationships (SAR), Pharmacophores and bioisosteres, Drug-receptor interactions

##### 4. Analytical Techniques 5Hrs

Spectroscopy (UV-Vis, IR, NMR, Mass Spectrometry), Chromatography (HPLC, GC), Electrophoresis, Titration methods

##### 5. Pharmacokinetics and Pharmacodynamics 5Hrs

Absorption, distribution, metabolism, and excretion (ADME), Dose-response relationships  
Mechanisms of drug action, Therapeutic index

##### 6. Drug Classes and Mechanisms 5Hrs

Antibiotics, Antivirals, Anticancer drugs



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**HERBAL MEDICINE: SYLLABUS**

**Unit I:**

Introduction to Medicinally important Plant parts: Fruits, Leaves, Stem and Root & its modifications- 2 hrs

**Unit II:**

Plant identification – Elementary knowledge of Binomial nomenclature – Outline of Bentham and Hooker classification – Herbarium techniques. - 4 hrs

**Unit III:**

Study of some medicinally important families with reference to systematic position.  
Diagnostic features and medicinal uses only: Meliaceae, Myrtaceae, Apiaceae,  
Asclepiadaceae, Solanaceae, Lamiaceae, Euphorbiaceae, Zingiberaceae, Musaceae and  
Poaceae, - 6hrs

**Unit IV:**

Cultivation methods – Crop protection – Harvesting – Storage and Protection – Marketing  
and utilization - Export of medicinally important (General aspects). 4 hrs


**Unit V:**

Endangered Plants – Conservation: Exsitu and Insitu methods – Importance of Red data book  
(IUCN) – Patenting and IPR. 4 hrs

**Practical's:**

- 10 hrs  
1. Identification and Medicinal value of locally available medicinal plants.  
2. Morphology of the useful parts.

  
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DEPARTMENT OF BOTANY

SYLLABUS

S.No.	Topic	No. of hours to be taught
1	Introduction to medicinal plants in India.	1 hr
2	Scope of medicinal plants.	1 hr
3	Importance of medicinal plants	2 hr
4	Economic importance of medicinal plants	2 hrs
5	Commercial medicinal plants: Bio active compounds of various medicinal plants.	2 hrs
6	Indian traditional medicine: practices	2 hrs
7	NMPB, CIMAP, AIIA: Prioritized list of medicinal plants for cultivation.	3hrs
8	Cultivation and marketing of Medicinal plants	3hrs
9	Crude drugs -Pharmacognosy	3hrs
10	Extraction and validation of drugs	3hrs
11	Medicinal plants around us	3 hrs
12	Field trip: plants collection	5 hrs

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DEPARTMENT OF BOTANY


KITCHEN GARDENING: SYLLABUS

S.No.	Topic	No of Teaching hours
1	Importance of Kitchen Gardening –Transition from Vedic agriculture to Organic farming.	3h
2	Soil Health Management & Natural pest management	3h
3	Plant Protection and Plant Nutrient disease management	3h
4	Water and Disease management	3h
5	Bio pesticides and Biofertilizers	3h
6	Composting & Manuring	3h
7	Field visit	12 h

  
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DEPARTMENT OF BOTANY

SYLLABUS

**UNIT I Introduction** – History of mushroom cultivation; Classification and distribution of mushroom; Edible mushrooms in India, Poisonous mushrooms. 8 hrs

**UNIT II Spore preparation** – Spore production, multiplication and storage. 4hrs

**UNIT III Cultivation of mushroom**, layout of mushroom shed - small scale and large-scale production unit. Types of raw material – preparation and sterilization; Mushroom bed preparation – maintenance of mushroom shed; harvesting method and preservation of mushrooms. 10 hrs

**UNIT IV Nutrient values of mushroom** –storage techniques; Mushroom recipes. Medicinal value, pharmacological and economic values of mushroom. 8 hrs

  
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
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**IMMUNE MODULATOR PLANTS - SYLLABUS**

- Unit I:**  
Introduction to Medicinally important Plant parts: Immune modulator plants. 2 hrs
- Unit II:** Immunity and its types, natural immunity, Natural bio active compounds, natural healing with medicinal plants. 4 hrs
- Unit III:**  
Plant-Derived Molecules as Natural Immunomodulators- Diagnostic features and medicinal uses only: Meliaceae, Myrtaceae, Apiaceae, Asclepiadaceae, Solanaceae, Lamiaceae, Euphorbiaceae, Zingiberaceae, Musaceae and Poaceae. - 6hrs
- Unit IV:**  
Anti-diabetic, Anti - cancerous, Anti-inflammatory, anti-tuberculosis plant compounds. 4 hrs
- Unit V:**  
The role of medicinal plants in Ayurveda, Siddha and Unani. 4 hrs
- Practical's:** 10 hrs
1. Identification and Medicinal value of locally available medicinal plants.
  2. Morphology of the useful parts.

  
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AZOLLA CULTURE- SYLLABUS

**Unit I:**

1.Introduction and Characteristics of Azolla, Structure of Azolla & Classification of Azolla.

6 hrs

**Unit II:** Bio fertilizers, economic value of Azolla.

4 hrs

**Unit III:** Azolla Culture: Requirements, Cultivation & Steps of Azolla culture.

8 hrs

**Unit IV:** Limitations of Azolla Culture.

2 hrs

**Unit V:** Field applications, observations and reporting

10 hrs

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DEPARTMENT OF BOTANY

**IMMUNE MODULATOR PLANTS - SYLLABUS**

**Unit I:**

General account of microbes used as biofertilizers; Rhizobium: Morphology, identification, isolation, cultivation and mass multiplication. 8M

**Unit II:**

*Azospirillum*: Isolation and mass multiplication. *Azotobacter*: Classification, characteristics, crop response to *Azotobacter* inoculum, maintenance and mass multiplication. 7M

**Unit III:**

Cyanobacteria (Blue green algae), Anabaena- Azolla; nitrogen fixation, factors affecting growth, Anabaena- Azolla association in rice cultivation. 8M

**Unit-IV:**

Mycorrhizal association – types of mycorrhizal association, occurrence and distribution of phosphorus nutrition, growth and yield; colonization of VAM 7M

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Organic farming: Course Syllabus

S.No.	Topic	No of Teaching hours
1	Organic farming- concept, characteristics, significance, organic ecosystem, scope of organic farming in India	3h
2	Principles and types of organic farming	3h
3	Manures- compost, methods of composting	3h
4	Green manuring, vermicompos: and biofertilizer	3h
5	Land management in organic farming - Water management in organic farming	3h
6	Post-harvest management	3h
7	Organic certification & Marketing	3h
8	Practical and Field visit	12h

  
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**Title of the course: Communicative English**

**Course description:**

Communicative English aims to build effective communication skills among the students. It is a platform to the undergraduate students to manage their personal and professional life through their communication. The certificate course is designed to improve the career prospects through career oriented add on courses.

**Objectives:**

- ❖ Understand the importance of communication in daily and professional life
- ❖ Speak English confidently in their daily life
- ❖ Understand the common patterns of phonetics
- ❖ Make use of intonation where ever necessary

**COMMUNICATIVE ENGLISH**

S. NO	Topics	Sessions Required
1	What is communication? Elements of communication Barriers- Types	2
2	Phonetics Vowels, diphthongs and consonants	6
3	Intonation	2
4	Public Speaking Importance of Public Speaking Non-verbal communication Good speaker - Methods to improve	7
5	Listening as a Communication Skill Importance of listening skill in communication Why? Methods to improve?	3
6	Communication Activity: Role play	5

	Common expressions: Greeting, and leave-taking Situation/context-based writing and enacting (Conversation) Telephonic Conversations - Different contexts Etiquettes	
7	Presentation Practice	2
8	Group Discussions Practice	3

**Evaluation:**

Assignments

Practical sessions



## **Course Title: Grammar for Competitive Examination**

### **Course Overview:**

This course is designed to provide the students with a comprehensive understanding of grammar rules and concepts necessary for competitive examinations. **Course Modules:**

1. **Basics of English**
  - o Sentences, Clause, Phrase Word and Morpheme.
2. **Grammar**
  - o Tenses- Importance its uses and kinds of sentences were explained to the students.
  - o Degrees of Comparison were described along with the examples in detail.
  - o Transformation of sentences were also told in a narrative way.
  - o Voices and its types were told in a precise manner.
3. **Writing skills**
  - o Demonstrated students about paragraph writing and Essay writing.
  - o Illustrated Letter writing and report writing.
  - o Precise writing and note making.
4. **Enriching vocabulary**
  - o Abbreviations-Use of one word substitutes.
5. **Using Visual Aids**
  - o Selecting and designing effective visual aids
  - o Integrating visual aids seamlessly into your presentation
  - o Avoiding common pitfalls with visual aids
6. **Practice and Feedback**
  - o Delivering practice speeches in a supportive environment
  - o Receiving constructive feedback from peers and instructors
7. **Real-World Applications**
  - o Applying competitive exams knowledge in professional settings.(UPSC,CDS,NDA)

### **Assessment:**

- Speech presentations
- Written assignments
- Peer evaluations
- Participation in class activities and discussions

### **Resources:**

- Textbooks and reading materials on competitive exams.
- Online resources (articles, videos, podcasts)

### **Conclusion:**

By the end of this course, participants focuses on critical thinking and problem solving. students gain a competitive edge and improve their chances of success in various competitive exams job interviews, and other language proficiency assessments

**Course Title: Interview Skills**

**Course Overview:**

Interview skills are very essential in today's society. This course is intended to train the students to master the key skills that are required to face the competitive world especially in job interviews.

**Course Objectives:** By the end of the course, participants will be able to:

- Be confident and show professionalism in interviews.
- Overcome technical barriers
- Can deal with challenging questions.
- Make use of feedback for the better performance in interviews.

**Session Breakdown:**

**1. Introduction to Interview skills**

- o What is interview?
- o Various types of interviews
- o Understanding the purpose of interviews
- o Role of the interviewer and interviewee
- o Resume and Cover Letter Writing

**2. Communication while interview**

- o Verbal and non-verbal communication
- o Body language and tone of voice
- o Physical appearance
- o How to be reliable
- o

**3. Handling Common Interview Questions**

- o Practices for answering questions
- o Practicing mock interviews
- o Conducting mock interviews in pairs or groups
- o Dealing with technical barriers

**4. Dealing with Questions**

- Tactics for answering challenging or unexpected questions
- How to show professionalism
- Identifying strengths and weaknesses
- Researching and preparation
- 

**Final Assessment:**

- Mock interview with instructor feedback
- Peer feedback and self-reflection on improvements throughout the course

**Evaluation:**

- Participation and engagement in class activities and discussions
- Completion of assignments and mock interviews
- Improvement shown in mock interview performance

## **Course Title: Mastering Public Speaking**

### **Course Overview:**

This course is designed to train participants with the essential skills and methods to become confident and effective public speakers. Course Modules:

1. **Introduction to Public Speaking**
  - o Importance of public speaking
  - o Overcoming the fear of public speaking
  - o Setting personal goals for improvement
  - o Organizing key points effectively
2. **Effective Communication Skills**
  - o Verbal and non-verbal communication
  - o Vocal modulation and presentation
  - o Body language and gestures
3. **Structuring Your Speech**
  - o Crafting a compelling introduction
  - o Organizing key points effectively
  - o Concluding with impact
4. **Audience Engagement**
  - o Strategies for capturing audience attention
  - o Incorporating storytelling and humour
  - o Handling questions and feedback
  - o Managing Nervousness and Anxiety
  - o Visualization and relaxation techniques
  - o Building confidence through practice
5. **Using Visual Aids**
  - o Selecting and designing effective visual aids
  - o Integrating visual aids for presentation
6. **Real-World Applications**
  - o Applying public speaking skills in professional settings
  - o Leveraging public speaking opportunities for career advancement
  - o Networking and building connections through public speaking engagements

### **Assessment:**

- Speech presentations
- Written assignments
- Peer evaluations
- Participation in class activities and discussions

### **Resources:**

- Textbooks and reading materials on public speaking
- Online resources (articles, videos, podcasts)
- Access to speech evaluation tools and templates

**Course Title: Presentation Skills Workshop**

**Course Description:** This course is planned to enhance the abilities of the students to make effective presentations. The participants will get practical experience, sessions on feedback, and theoretical insights during the course. The students can make the presentations confidently in all aspects.

**Learning Objectives:** participants will be able to:

1. Plan and structure presentations effectively.
2. Design interesting and informative slides.
3. present with confidence and clarity.
4. Manage audience responses effectively.

**Week 1: Introduction to Effective Presentations**

- Understanding the importance of effective communication
- Key elements of a successful presentation

**Week 2: Structuring the Presentation**

- Identifying objectives and analyse the audience
- Making compelling beginnings and conclusions

**Week 3: Designing Visual Aids**

- Preparation of simple and reliable visual aids
- Tools and software for creating effective slides

**Week 4: Managing Audience**

- Techniques for arresting and maintaining audience interest
- Using suitable Voice modulation, body language, and eye contact
- Practicing effective rehearsal strategies

**Course Title: Enhancing Soft Skills**

**Course Description:** This course is intended to help assistants participants to enhance essential soft skills that are crucial for success in both professional and personal contexts.

**Course Objectives:**

- Understand the importance of soft skills in personal and professional development.
- Develop effective communication skills for different contexts.
- Enhance teamwork and collaboration abilities.
- Improve problem-solving and decision-making skills.
- Cultivate leadership qualities and emotional intelligence.
- Learn strategies for managing time effectively and adapting to change.
- Develop techniques for conflict resolution and networking.

**Week 1: Introduction to Soft Skills**

- Definition and importance of soft skills
- Self-assessment of current soft skills
- Effective verbal and non-verbal communication

**Week 2: Teamwork and Collaboration**

- Characteristics of effective teams
- Building trust and rapport within teams
- Resolving conflicts in team settings

**Week 3: Problem-Solving and Decision Making**

- Problem-solving techniques and strategies
- Critical thinking and decision-making processes
- Risk assessment and mitigation
- Qualities of effective leaders
- Emotional intelligence and self-awareness
- Motivating and inspiring others

**Week 4: Time Management and Adaptability**

- Prioritizing tasks and setting goals
- Techniques for managing time effectively
- Adapting to change and overcoming obstacles

**Week 5: Conflict Resolution and Networking**

- Identifying sources of conflict
- Strategies for resolving conflicts constructively
- Building and maintaining professional networks

**Week 6: Putting It All Together**

- Reflection on personal growth and development
- Action planning for continued improvement
- Celebration of achievements

**Teaching Methods:**

- Lectures and presentations
- Group discussions and activities
- Role-playing exercises
- Case studies and real-life scenarios
- Guest speakers (optional)

**Assessment:**

- Participation in class discussions and activities
- Completion of assignments and exercises
- Mid-term and final assessments (written or oral)
- Self-assessment and reflection journals



## Course Title: Voice and Accent training.

### Course Overview:

This course is intended to be a voice training is for anyone who desires to be a effective communicator but their speech prevent them fully achieving this. People from varied professions have taken voice training. English accent training teaches us new sounds and speech habits.

#### 1. Basics of voice and accent training

Voice quality and characteristics of an individual speech, accent and the way sounds are pronounced due to regional or linguistics influences.

Phonetics/Neutral Voice and Accent Pronunciation

- o Role of Phonetics in English language learning.
  - o Visual aid that helps learners to differentiate the sounds of the English language.
- #### 2. Vowel Sounds
- o Knowing English vowel patterns for students ensure that they become better readers.
  - o Proper vowel pronunciation helps to improve the sound quality, clarity, and emotional expression of a student's voice.
  - o It also helps the students to project their voice without strain and reach the audience.
- #### 3. Consonant sounds
- o Consonant sounds make speech clear, crisp and intelligent, and they make speech easier to understand.
  - o Consonants are easier to learn than vowels. There is usually only one way to pronounce each consonant sound.
- #### 4. Practice and Feedback
- o Delivering practice speeches in a supportive environment
  - o Receiving constructive feedback from peers and instructors
- #### 5. Real-World Applications
- o It insuikls Excellent Communications.
  - o Presentation skills were also improved.
  - o Career Advancements and Amazing confidence.

## Writing Skills Syllabus

### Course Overview

This course aims to develop students' writing skills, focusing on clarity, coherence, and proper grammar. The course will cover various forms of writing, including academic, creative, and professional writing.

### Course Objectives

1. Improve grammar, punctuation, and vocabulary.
2. Enhance the ability to write clear, concise, and coherent sentences and paragraphs.
3. Develop skills in different types of writing, such as essays, reports, and creative writing.
4. Understand the writing process, including brainstorming, drafting, revising, and editing.
5. Learn to use writing as a tool for communication and expression.

### Week 1: Introduction to Writing Skills

- Overview of the course
- Importance of writing skills
- Basic grammar review
- Types of sentences (simple, compound, complex)
- Developing coherent paragraphs
- Topic sentences and supporting details

### Week 2: Grammar and Punctuation

- Common grammatical errors
- Proper use of punctuation marks
- Subject-verb agreement

### Week 3: Writing Process and Essay Writing

- Prewriting techniques (brainstorming, outlining)
- Drafting and revising
- Peer review and feedback
- Structure of an essay (introduction, body, conclusion)
- Thesis statements
- Types of essays (narrative, descriptive, expository, persuasive)
- Conducting research and gathering information
- Citing sources and avoiding plagiarism
- Structuring a report

### Week 4: Creative Writing and Professional Writing

- Writing fiction and poetry
- Developing characters and plot
- Writing resumes and cover letters

- Crafting professional emails
- Writing business reports and proposals
- Writing for social media

### Week 5: Revision and Editing

- Self-editing techniques
- Peer editing and constructive criticism
- Finalizing drafts

## METHODS

Student volunteer from each class are made as a group and white board classes taken.

HOURS: 2HOURS\*15DAYS.

4:00PM TO 6:00PM

## SYLLABUS

1. Introduction of hepatitis.
2. Hepatitis - Incidence of prevalence.



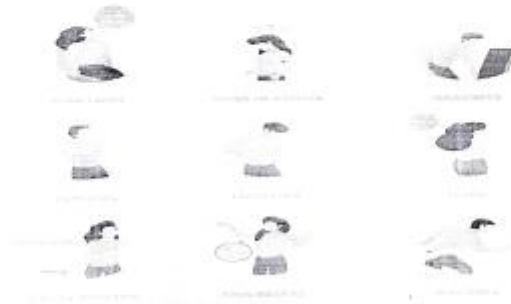
3. Types.

## Types of Hepatitis



### 4. Symptoms and signs.

#### SIGNS OF HEPATITIS



### 5. Diagnostic.

### HEPATITIS A



### HEPATITIS B



### HEPATITIS C



## 6. Management.

188C



**Approach to Diagnosis and Management of HEPATITIS**  
Hepatitis manifests as an acute or chronic liver disease that may cause mild or severe hepatic damage.<sup>1,2</sup>

Hepatitis is caused by hepatitis A virus and hepatitis B virus, among the four liver-related infectious diseases.

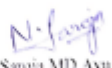



Hepatitis are attributable to hepatitis B virus, hepatitis C virus and the remainder to hepatitis A and hepatitis E.<sup>3</sup>

## 7. Preventive Measures.



- 8. Complications.
- 9. Case discussion.
- 10. Treatment.
- 11. Vaccine.

  
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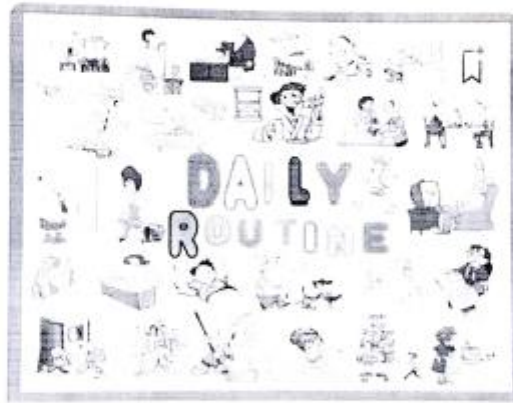
  
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Dept Of Health

Add On Course

Lifestyle modification from modern to ancient

Dept Of Health



2. DINACHARYA ADHYAYA – DAILY  
REGIMEN



## overview

Pleasures Whether it is something that we would like to admit to ourselves or not, it's true that our daily routines and habits (*dinacharya*) play an integral role in our long term health. Every decision made throughout the day impacts the way that we look and feel: the foods we eat, lifestyle choices we make, even the subtle thoughts we think. When it comes to making decisions to support our health it can often feel overwhelming. It takes awareness, discipline, and dedication to establish healthy habits that actually stick and that is why following an Ayurvedic self-care routine can be one of the best things you'll ever do for yourself.

Ayurveda, India's 5,000 year old medical system, empowers us to take our health into our own hands, by providing simple practices that can be easily implemented over time to ensure a happier, healthier life. Dinacharya is the Sanskrit term for daily Ayurvedic rituals which, when practiced regularly, help to support a life of optimal wellness through routine, detoxification and nourishment. When we are healthy and balanced, we are able to fulfill our dharma, our essential life's purpose, allowing us to feel our best and share our gifts with the world. Dinacharya should be practiced first thing in the morning in order to maintain connection to the circadian rhythms of nature. Current fast-paced societal norms keep us disconnected from nature due to our constant access to electricity, reliance on handheld devices, pressure to make the most of our days, social media, and the numerous other

disconnects we have become accustomed to having in our lives. Thankfully, through the ancient practice of dinacharya we can deepen our roots back to nature and begin to re-establish a connection with our authentic selves, while still enjoying the comforts and of the twenty-first century.

### **INTRODUCTION**

This is designed to maintain and connect us with our circadian rhythm or internal body clocks. In Ayurveda, the importance of consistent daily routine cannot be underestimated. It sets the tone for our entire day, bringing a sense of calm and well-being. It gives the body, mind, and spirit the chance to ground and cleanse. Dinacharya makes us understand the best time for our daily routines such as waking, exercise, bathing, meditation, prayers, meals, study, work, relaxation, and sound sleeping.

### **AIMS & OBJECTIVES**

#### **1. Rise and shine**

According to Dinacharya, it is important to wake up before the sun rises. The time between 4:30 – 5:00 am is considered to be an ideal time to wake up. This pre-dawn time is when the *Prana* is dominant, and the energy present in the environment will make it easy for you to wake up.

#### **2. Rinse**

Rinse your face with cold water to become alert for the coming day. You should also perform "Nasani" a technique prescribed by Ayurveda, which involves cleaning your sinuses, nasal

passage and mouth with the help of a tea pot like vessel called neti pot.

### **3. Cleansing of your senses**

To enhance all your senses in the morning, your sense organs should be cleaned thoroughly. Wash your eyes with rose water and ears with sesame oil, [prataruthana](#), and clean your tongue to enhance your taste buds and [dantadavana](#).

### **4. Meditate**

Meditation will help you concentrate on your goals, by maintaining a balance between your mind, body and soul. It will also calm your nervous system and will make you feel peaceful and steady.

### **METHODS**

**Student volunteers from each class are made as a group and white board classes taken.**

**HOURS: 2HOURS\*15DAYS**

**Timings: 4:00 PM TO 6:00PM**

### **SYLLABUS**

- 1.Introduction of daily regimen.**
- 2.prataruthana/getting up in the morning.**
- 3.Dantadavana/cleaning of teeth.**
- 4.Anjana/collyrium.**

5. Navana and Gandhusa.
6. Abhyanga/oil massage.
7. Vyayama/exercise.
8. Udvartana/Powder massage.
9. Snana/Bathing.
10. Usnaambu/snana
11. Contra/indicated for bath.
12. Sad vrta/Good and Healthy conduct.
13. Words of wisdom:Path of Righteousness.

*N. Singh*

*Principal*

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DEPARTMENT OF MATHEMATICS

(ADD-ON Course on Transportation and Game Theory)

### SYLLABUS

#### **THEORY:**

- **Module 1:** The Transportation and Assignment Problems: The Transportation Problem- A streamlined Simplex Method for the Transportation Problem.
- **Module 2:** The Assignment Problem.
- **Module 3:** Game Theory: The Formulation of Two Person- Zero sum Games- Solving Simple Games- A Prototype Example.
- **Module 4:** Games with Mixed Strategies- Graphical Solution Procedure- Solving by Linear Programming- Extensions.

Reference Books: Hanady A Taha, Operational Research: An introduction  
Gupta and Kapur, Operational Research

#### ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	8
Week-2	Module 2	6
Week-3	Module 3	8
Week-4	Module 4	8

  
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DEPARTMENT OF MATHEMATICS

(ADD-ON Course on Complex Analysis)

### SYLLABUS

#### **THEORY:**

- **Module 1:** Regions in the Complex Plane- Analytic Functions- Functions of a Complex Variable- Mappings- Mappings by the Exponential Function- Limits- Theorems on Limits- Limits involving the Point at Infinity- Continuity Derivatives.
- **Module 2:** Differentiation Formulas- Cauchy- Riemann Equations- Sufficient Conditions for Differentiability- Polar Coordinates- Harmonic Functions-The exponential function
- **Module 3:** Integrals: Derivatives of Functions  $w(z)$ - Definite Integrals of Functions  $w(z)$ .
- **Module 4:** Contours- Contour integrals- Some Examples- Examples with Branch Cuts- Upper Bounds for Moduli of Contour Integrals- Antiderivatives.

**Reference Books:** Joseph Bak and Donald J Newman, Complex analysis

Lars V Ahlfors, Complex Analysis

B Choudary, The Elements Complex Analysis

James Ward Brown and Ruel V.Churchill, Complex analysis and applications

### ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	7
Week-2	Module 2	8
Week-3	Module 3	7
Week-4	Module 4	8

  
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DEPARTMENT OF MATHEMATICS

(ADD-ON Course on Laplace Transforms)

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### SYLLABUS

#### **THEORY:**

- **Module 1:**  
Definition of Integral transform – Definition of Laplace Transform-linear property-piecewise continuous function
- **Module 2:** Existence of Laplace transform-functions of exponential order and of class A-first and second shifting theorems of Laplace transform
- **Module 3:** Change of scale property-Laplace transform of derivatives-initial value theorem-final value theorem
- **Module 4:** Laplace transform of integrals-Multiplication by power of t-Division by t-Evaluation of integrals-Laplace transform of periodic functions and some special functions

#### **Reference Books:**

Operational Mathematics by R.V. Churchill, McGraw Hill Company  
Integral Transforms by A.R. Vasishtha and Dr.R.K.Gupta

#### ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	7
Week-2	Module 2	8
Week-3	Module 3	7
Week-4	Module 4	8



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DEPARTMENT OF MATHEMATICS

(ADD-ON Course on Graph Theory)

### SYLLABUS

#### **THEORY:**

- **Module 1:** Graphs: A gentle introduction, Definitions and Basic Properties
- **Module 2:** Isomorphism, Paths and circuits: Eulerian circuits
- **Module 3:** Hamiltonian cycles
- **Module 4:** The Adjacency Matrix Shortest Path Algorithms

#### **Reference Books:**

- Rudolf Lidl and Gunter Pilz, Applied Abstract Algebra
- S Pirzada, Introduction to Graph Theory

### ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	8
Week-2	Module 2	7
Week-3	Module 3	7
Week-4	Module 4	8

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DEPARTMENT OF MATHEMATICS

(ADD-ON Course on Logic and Sets)

### SYLLABUS

#### **THEORY:**

- **Module 1:** Basic connectives and truth tables, Logical equivalence, Laws of logic, Logical implication
- **Module 2:** Rules inference, The use of quantifiers, Quantifiers, Definitions and proofs of theorems.
- **Module 3:** Sets and subsets, set operations and the laws of set theory, Counting and Venn diagrams, A first word on probability.
- **Module 4:** The axioms of probability, Conditional probability, Independence, Discrete random variables.

#### **Reference Books:**

- P R Halmos, Naïve Set theory
- E Kamke, Theory of Sets

#### ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	7
Week-2	Module 2	8
Week-3	Module 3	7
Week-4	Module 4	8

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DEPARTMENT OF PHYSICS

(ADD-ON Course in Particle Physics)

(Course Code: TSWRAFPDCW-PHY-ADD ON COURSE-001)

### SYLLABUS

- **Module 1: Matters and forces, measuring and counting**  
An overview of the objects studied in particle physics, namely matter, forces and space-time. Discussion on how one characterizes the strength of an interaction between particles using the concept of cross section.
- **Module 2: Accelerators and detectors**  
Basic facts about particle acceleration and detection. Discussion on how charged particles and photons interact with matter and how these interactions are used to detect particles and measure their properties. Over view on particle detectors.
- **Module 3: Hadrons and strong interaction**  
Structure of hadrons and the properties of strong interactions. Internal structure of these baryons. Concept of form factors and structure functions which lead to tell about hadron structure. Color and the strange features of strong interactions.
- **Module 4: Electro-weak interactions**  
Weak interactions and the Higgs mechanism. Discuss on the discrete transformations of charge, space and time reversal.

#### Reference Books:


- > Ideas and Methods in Modern Theoretical Physics\* by Abhay Kumar Singh
- > Particle Physics: An Introduction\* by Shibaji Banerjee
- > Introduction to Elementary Particles\* by C. P. Bhattacharya
- > Particle Physics: A Very Short Introduction\* by Frank Close

### ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	7
Week-2	Module 2	7
Week-3	Module 3	8
Week-4	Module 4	8

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in Basic electronics training)

(Course Code: TSWRAFPDCW-PHY-ADD ON COURSE-002)

SYLLABUS

**THEORY:**

- **Module 1:** Introduction to Electronics and Electrical devices  
Definitions, formulas, Units, Dimensions, symbols.
- **Module 2:** Uses of Electronics components for basic electronic devices  
Use of resistors and capacitors in a circuit, charging and discharging of capacitors, Uses of transistors transistor connections, Uses of diodes, filter circuits, Zener diodes as voltage regulator

**PRACTICAL:**

- **Module 3:** Electronics & Electrical Components Identification  
Resistors, Capacitors, Inductors, Batteries, switches, Diodes, Transistors
- **Module 4:** Skill Development  
Soldering of electronic components, Bread board connection, Power supplies with batteries, Readings in multimeters

Reference Books:

1. Principles of electronics – V. K Mehta – S. Chand publishers
2. Physics Paper VII, Basic Electronics- B. Basava raju, Himalaya Publications
3. Principles of Basic electronics – Vivek

ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1: Introduction to Electronics and Electrical devices	7
Week-2	Module 2: Uses of Electronics components for basic electronic devices	8
Week-3	Module 3: Electronics & Electrical Components Identification	7
Week-4	Module 4: Skill Development	8

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in Varying and Alternating currents)

(Course Code: TSWRAFPDCW-PHY-ADD ON COURSE-003)

### SYLLABUS

#### **THEORY:**

##### **Module 1:**

**Understanding fundamental circuit concepts:** Covering basic electrical principles such as voltage, current, resistance, and power in varying and alternative circuits.

**Analysis Techniques for AC Circuits:** Teaching methods to analyze alternating current (AC) circuits using phasor diagrams, impedance concepts, and frequency domain analysis.

##### **Module 2:**

**Component behavior in AC circuits:** Exploring the behavior of passive components (resistors, capacitors, and inductors) in alternating current circuits, including impedance calculations and frequency response.

**Power in AC Circuits:** Discussing concepts such as real power, reactive power, and apparent power in AC circuits, along with power factor correction.

**Resonance and Frequency Response:** Studying resonance phenomena in RLC circuits, and frequency response of circuits containing reactive elements.

##### **Module 3:**

**Transformers and Coupled Circuits:** Understanding transformers, mutual inductance, and coupled circuits in alternating current systems.

**Three-Phase Systems:** Introduction to three-phase AC power systems

#### **PRACTICAL:**

##### **Module 4:**

**Skill Development:** Connection of LCR series and parallel circuit, Hand on experience with AC motors

#### **Reference Books:**

1. Principles of electronics - V. K Mehta - S. Chand publishers
2. Physics Paper VII, Basic Electronics- B. Basava raju, Himalaya Publications
3. Principles of Basic electronics - Vivek
4. Introduction to Electrodynamics, 3rd edition, by David J. Griffiths

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in Renewable energy & Energy harvesting)

(Course Code: TSWRAFPDCW-PTIV-ADD ON COURSE-004)

### SYLLABUS

- **Module 1: Principles of Solar Radiation and collection**  
Non-renewable energy resources - principles of power generation and transmission. Role and potential of new and renewable sources, the solar energy option, environmental impact of solar power, physics of the sun, the solar constant
- **Module 2: Solar Energy Storage and Applications**  
Solar energy collectors - Flat plate and concentration collectors. Solar Applications - solar heating/ cooling technique, solar distillation and drying, photovoltaic energy conversion.
- **Module 3: Wind and Bio-Mass Energy**  
Resources and potentials, horizontal and vertical axis windmills, performance characteristics. Principles of Bio-conversion, Energy from waste, types of bio-gas digesters, gas yield, combustion characteristics of bio-gas, utilization for cooking, LPG and CNG
- **Module 4: Geothermal and Ocean Energy**  
Resources, types of wells, methods of harnessing the energy, potential in India. Tidal and wave energy, Potential and conversion techniques.

#### Reference Books:

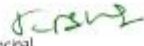
1. Non-Conventional Energy Sources - G.D Rai, Khanna publishers
2. Renewable Energy Resources - Twidell & Wier, CRC press (Taylor & Francis)
3. Renewable energy sources and emerging technologies - D.p. Kothari, K.C. Singhal.

### ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	8
Week-2	Module 2	8
Week-3	Module 3	7
Week-4	Module 4	7

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in AC Circuit Analysis)

(Course Code: TSWRAFPDCW-PHY-ADD ON COURSE-005)

### SYLLABUS

#### **THEORY:**

- **Module 1:**  
Growth and decay of currents in LR, CR and LCR circuits-Critical damping.
- **Module 2:**  
Alternating current, relation between current and voltage in pure R, C and L-vector diagrams  
- Power in ac circuits.
- **Module 3:** LCR series and parallel resonant circuit-Q-factor. Basics of AC & DC motors - single phase, three phase

#### **PRACTICAL:-**


- **Module 4:**  
Skill Development: Circuit connections with inductor, resistor capacitor, Hand on experience with AC, DC motors.

#### **Reference Books:**

1. Physics Paper VII, Basic Electronics- B. Basava raju, Himalaya Publications
2. Introduction to Electrodynamics, 3rd edition, by David J. Griffiths
3. Principles of Basic electronics – Vivek
4. Principles of electronics – V. K. Mehta – S. Chand publishers

### ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	7
Week-2	Module 2	8
Week-3	Module 3	7
Week-4	Module 4	8

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in Applied Optics)

(Course Code: TSWRAFPDCW-PHY-ADD ON COURSE-006)

SYLLABUS

- **Module 1: Principles of LASER**  
Emission and absorption of radiation. -Einstein Relations- Pumping Mechanism- optical feedback- Laser rate equation for two, three and Four level Lasers, pumping threshold condition- principle of Laser beams, classification of LASER Systems.
- **Module 2: Classification of LASER Systems**  
Gas, Liquid and Solid Lasers He-Ne and Argon Lasers, their energy level schemes- Ruby Laser and YAG laser, Ga-As Laser and their applications in various fields.
- **Module 3: Holography**  
Basic principle of Holography- Recording of amplitude and phase. The recording medium- reconstruction of original wave front- image formation by wave front reconstruction.
- **Module 4: Optical Fibers**  
Fiber types and their structures, Ray optic representation, Acceptance angle and numerical aperture. Step index and graded index fibers. Single mode and multi-mode fibers. Fiber material for glass fibers and plastic fibers.

**Reference Books:**


1. Optical Fiber Communication- John M senior
2. Principles of Lasers-by O. Svelto
3. Modern Optics by Grant Fowles
4. Fundamentals of Optics by Jenkins & White


ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	7
Week-2	Module 2	7
Week-3	Module 3	8
Week-4	Module 4	8

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in Solid State Physics)

(Course Code: TSWRAFPDC W-PHY-ADD ON COURSE-007)

### SYLLABUS


- **Module 1:**  
Magnetic Properties of Matter: Dia-, Para-, Ferri- and Ferromagnetic Materials. Classical Langevin Theory of dia-and Paramagnetic Domains. Curie's law, Weiss's Theory of Ferromagnetism and Ferromagnetic Domains. Discussion of B-H Curve. Hysteresis and Energy Loss.
- **Module 2:**  
Dielectric Properties of Materials: Polarization. Local Electric Field at an Atom. Depolarization Field. Electric Susceptibility, Polarizability. Clausius Mosotti Equation. Classical Theory of Electric Polarizability.
- **Module 3:**  
Elementary band theory: Kronig Penny model. Band Gap. Brillouin zones, effective mass of electron. Conductor, Semiconductor (P and N type) and insulator. Conductivity of Semiconductor, mobility, Hall Effect, Electric Conductivity by four probe method & Hall coefficient.
- **Module 4:**  
Superconductivity: Experimental Results. Critical Temperature. Critical magnetic field. Meissner effect. Type I and type II Superconductors, London's Equation and Penetration Depth. Isotope effect. Idea of BCS theory. D.C and A.C Josephson effects.


#### Reference Books:

1. Introduction to Solid State Physics, Charles Kittel, 8th Edition, 2004, Wiley India Pvt. Ltd.
2. Solid State Physics, M.A. Wahab, 2011, Narosa Publications
3. Solid State Physics – S. O. Pillai (New Age Publication)
4. Modern Physics by R. Murugesham
5. Elements of Solid-State Physics, J.P. Srivastava, 2nd Edition, 2006, Prentice-Hall of India

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in Basic electronics training)


(Course Code: TSWRAFPDCW-PHYV-ADD ON COURSE-008)


SYLLABUS

- **Module 1:**  
Basic electricity principles: Voltage, current, resistance and power - Ohm's law Series, parallel and series-parallel combinations of resistances - AC electricity and DC electricity - Familiarization with multimeter, voltmeter and ammeter  
Electrical circuits: Main electric circuit elements and their combination - Rules to analyze DC sourced electrical circuits current and voltage drop across the DC circuit elements - single-phase and three-phase alternating current sources - Rules to analyze AC sourced electrical circuits - Real, imaginary and complex power components of AC source Power factor - saving energy and money
- **Module 2:**  
Generators and Transformers: DC power sources, AC/DC generators - Inductance, capacitance and impedance Operation of transformers.  
Electric motors: Single-phase, three phase & DC motors-Basic design Interfacing DC or AC sources to control heaters and motors Speed & power of AC motor  
Solid state devices: Resistors, inductors and capacitors - Diode and rectifiers - Components in series or parallel Response inductors and capacitors with DC or AC sources
- **Module 3:**  
Electrical protection: Relays, fuses and disconnect switches - Circuit breakers - Overload devices - Ground-fault protection - Grounding and isolating - Phase reversal - Surge protection, Interfacing DC or AC sources to control elements
- **Module 4:**  
Electrical wiring: Different types of conductors and cables - Basics of wiring - Star and Delta connection voltage drop and losses across cables and conductors Instruments to measure current, voltage and power in DC and AC circuits Insulation - Solid and stranded cable, conduit, cable trays - Splices: wire nuts, crimps, terminal blocks, split bolts and solder Preparation of extension board.


Reference Books:

1. A text book in electrical technology - B. L. Thereja - S. Chand & Co.
2. A text book of electrical technology - A. K. Thereja
3. Performance and design of AC machines - M. G. Say ELBS Edn

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in Quantum mechanics and Applications)

(Course Code: TSWRAFPDCW-PHY-ADD ON COURSE-009)

SYLLABUS

- **Module 1:**  
Schrodinger equation & the operators; Time dependent Schrodinger equation and dynamical evolution of a quantum state; Properties of Wave Function. Interpretation of Wave Function Probability and probability current densities in three dimensions; Conditions for Physical Acceptability of Wave Functions. Normalization. Linearity and Superposition Principles. Hermitian operator, Eigen values and Eigen functions. Position, momentum and Energy operators; commutator of position and momentum operators; Expectation values of position and momentum. Wave Function of a Free Particle.
- **Module 2:**  
Time independent Schrodinger equation-Hamiltonian, stationary states and energy eigen values; expansion of an arbitrary wave function as a linear combination of energy eigen functions; General solution of the time dependent Schrodinger equation in terms of linear combinations of stationary states; Application to spread of Gaussian wave-packet for a free particle in one dimension; wave packets, Fourier transforms and momentum space wave function; Position - momentum uncertainty principle.
- **Module 3:**  
General discussion of bound states in an arbitrary potential- continuity of wave function, boundary condition and emergence of discrete energy levels; application to one-dimensional problem-square well potential; Quantum mechanics of simple harmonic oscillator-energy levels and energy eigen functions ground state, zero-point energy & uncertainty principle.
- **Module 4:**  
One dimensional infinitely rigid box- energy eigen values and eigen functions, normalization; Quantum dot as example; Quantum mechanical scattering and tunnelling in one dimension across a step potential & rectangular potential barrier.

Reference Books:

1. Quantum Mechanics, G. Aruldas, 2nd Edn. 2002, PHI Learning of India.
2. A Text book of Quantum Mechanics, P. M. Mathews and K. Venkatesan, 2nd Ed., 2010, McGraw Hill
3. Introduction to Quantum Mechanics, D.J. Griffiths, 2nd Ed. 2005, Pearson • Quantum Physics-S. Gasiorowicz (Wiley India) 2013

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in Digital Electronics)

(Course Code: TSWRAFPDCW-PHY-ADD ON COURSE-010)

### SYLLABUS

- **Module 1:**  
Number Systems: Decimal, Binary, Octal and Hexadecimal.  
Conversion: Binary to Decimal, Octal to Decimal, Hexadecimal to Decimal, Decimal to Binary, Decimal to Octal and Decimal to Hexadecimal.  
Binary coded decimal, Excess-3 code, grey code, ASCII code.
- **Module 2:**  
Logic gates: OR, AND, NOT, EX-OR, NAND, NOR, Universal gates.  
Combinations Digital circuits: Half adder and Full adder.
- **Module 3:**  
Boolean algebra: Boolean laws, De-Morgan's theorems, Sum of products, Product of sums and Karnaugh maps. Multiplexers and Demultiplexers.  
Flip-Flops: RS flip-flop, D flip-flop, JK flip-flop and MS flip-flop.
- **Module 4:**  
Registers: Types of Registers.  
Counters: Synchronous and Asynchronous counters and their differences.

#### Reference Books:

1. Digital Electronics by Gothman
2. Digital principles and applications by Malvino and Leac
3. Electronic devices and circuits - S. Shalivahan and N. Sureshkumar 2<sup>nd</sup> Edn, Mc Graw Hill, Pvt. Ltd., 2007
4. Op-Amps and Linear Integrated circuits P. Ramakanth and Gaykward, 4th edition PHI,2000

#### ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	8
Week-2	Module 2	7
Week-3	Module 3	8
Week-4	Module 4	7

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in Aberrations and Fiber Optics)

(Course Code: TSWRAFPDCW-PHY-ADD ON COURSE-011)

SYLLABUS

- **Module 1:**  
Aberrations: Introduction – Monochromatic aberrations, spherical aberration, methods of minimizing spherical aberration, coma, astigmatism and curvature of field, distortion.
- **Module 2:**  
Chromatic aberration -the achromatic doublet – Removal of chromatic aberration of a separated doublet.
- **Module 3:**  
Fiber Optics: Introduction – Optical fibers – Types of optical fibers – Step and graded index fibers – Rays and modes in an optical fiber – Fiber material – Principles of fiber communication and advantages of fiber communication.
- **Module 4:**  
Signal attenuation in optical fibers, Absorption, Scattering and bending losses in fibers, core and cladding losses, Material dispersion, wave guide dispersion, intermodal distortion and pulse broadening.

Reference Books:

1. Optics by Ajoy Ghatak, The McGraw-Hill companies
2. Optical Fiber Communication- John M senior
3. Optics and Spectroscopy, R. Manugesan and Kiruthiga Siva Prasath, S. Chand & Co

ACTION PLAN

Week	Topic to be covered	Number of hours
Week-1	Module 1	8
Week-2	Module 2	6
Week-3	Module 3	8
Week-4	Module 4	8

  
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DEPARTMENT OF PHYSICS

(ADD-ON Course in Nano Science)

(Course Code: TSWRAFPDCW-PHY-ADD ON COURSE-012)

**SYLLABUS**

- Module 1: Length scales in physics and Nano structures:**  
1D, 2D and 3D nano structures (nanodots, thin films, nanowires, nanorods), Band structure and density of states of materials at nano scale, Size effects in nano systems, Quantum confinement in 3D, 2D and 1D nano structures and its consequences
- Module 2: Synthesis of Nano structure materials:**  
Top-down and Bottom-up approach, Photolithography, Ball milling, Gas phase condensation, Vacuum deposition, Physical vapor deposition, Thermal evaporation, E-beam evaporation, Pulsed Laser deposition, Chemical vapour deposition, Sol-Gel, Electro deposition, Spray pyrolysis, Hydrothermal synthesis, Preparation through colloidal methods, MBE growth of quantum dots
- Module 3: Characterization:**  
X-Ray diffraction, Optical microscopy, Scanning Electron Microscope (SEM), Transmission Electron Microscope (TEM) - Atomic Force Microscopy (AFM), Scanning Tunneling Microscope
- Module 4: Applications:** Applications of nano particles, quantum dots, nanowires and thin films for photonic devices (LED, solar cells)

**Reference books:**

1. Introduction to Nanoscience and Technology: K.K. Choudhary, A.N. Benerjee \_ pfl Learning Pvt. Ltd.
2. Nanotechnology: Richard Booker, Earl Boysen \_ John Wiley and Sons
3. Springer Handbook of Nanotechnology - Bharath Bhushan, Springer-verlag, Berlin, 2004.

**ACTION PLAN**

Week	Topic to be covered	Number of hours
Week-1	Module 1	8
Week-2	Module 2	8
Week-3	Module 3	8
Week-4	Module 4	6

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