

Page 1 of 1

BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

**SIVARAM VIHAR, GHATAKESWAR HILLS
MOHADA, BERHAMPUR (GM.)**



STUDENT'S ATTENDANCE REGISTER

| Time | 9:05 | 9:55 | 10:45 | 11:35 | 12:25 |
|------|------|-------|-------|-------|-------|
| Day | 9:55 | 10:45 | 11:35 | 12:25 | 1:15 |
| Mon | | ✓ | | | |
| Tue | ✓ | | | | |
| Wed | | | | | |
| Thu | | ✓ | | | |
| Fri | ✓ | | | | |
| Sat | | | | | |

Year/ Session : 2023 (winter)

Semester from Date: 01/08/2023 To Date : 30/11/2023

Semester & Branch

VTH & Electronics and tele communication

Subject with Code

Wave Propagation and Broadband communication

Name of the Faculty Member

Sanjiv Kumar Saha

No of Weeks:

No of Class Allotted/Week :

4

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|--------|-------------|------------|---|
| August | 1st week | 1/08/2023 | Effects of environment such as reflection, refraction, interference, diffraction. |
| | | 03/08/2023 | Classification of waves based upon mode of propagation. |
| | | 04/08/2023 | Determination of critical frequency, maximum usable frequency, skip distance, fading. |
| | Second week | 07/08/2023 | Direct propagation & Troposphere Scatter propagation, actual height and virtual height. |
| | | 08/08/23 | Radiation mechanism of antenna and maxwell eqn. |

Signature of the faculty:

Sahu
01/08/23

Signature of the Principal/Course Co-ordinator/HOD:

Prakash
01/08/23

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-------|----------|------------|---|
| | | 10/08/2023 | Determination of Antenna gain, directive gain, Directivity. |
| | | 11/08/2023 | effective aperture, input impedance, Polarization. |
| | 3rd week | 14/08/2023 | Radiator resistance, Bandwidth, Beamwidth, radiation pattern. |
| | | 17/08/2023 | Antenna and Types of Antenna, monopole, dipole and omnidirectional antenna. |

Signature of the Faculty: [Signature] 1.08/23

Signature of the Principal/Course Co-ordinator/HOD: [Signature]

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|----------|------|--|--|
| August | | 18/08/23 | Yagi and Rhombus antenna. |
| | 4th | 21/08/23 | Dipole antenna and horn antenna. |
| | | 22/08/23 | Basic concept of smart antenna. |
| | | 24/08/23 | Fundamental of transmission line. |
| | 5th | 25/08/23 | Equivalent circuit of transmission line & RF equivalent circuit. |
| 28/08/23 | | Characteristic impedance calculation of transmission line. | |

Nature of the Faculty: D. Sahu
1.08.23

Signature of the Principal/Course Co-ordinator/HOD: P. K. M.
01/08/23

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-----------|------|-----------|--|
| | | 29/08/23 | method of calculation of impedance & simple numerical. |
| | | 31/08/23 | dosier in transmission line. |
| September | 1st | 1/09/23 | Standing wave - SWR, VSWR reflection coefficient and simple numerical. |

Month
September

September

1st

Signature of the Faculty:

D. Sahas
11/08/23

Signature of the Principal/Course Co-ordinator/HOD:

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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-----------|------|-----------|---|
| September | Q 24 | 04/09/23 | Quarter wave & half wave length line. |
| | | 05/09/23 | Impedance matching stubs - Single & double. |
| | | 07/09/23 | Primary and secondary constant of π -mation line. |
| | | 08/09/23 | Defline. - Aspect ratio, rectangular switching, Fletcher Horizontal resolution. |

Signature of the Faculty:

Asah
11/08/2023

Signature of the Principal/Course Co-ordinator/HOD:

K. Arjun
11/08/2023

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-----------|-----------------|-----------|--|
| September | 3 rd | 11/09/23 | Video bandwidth, Interlaced Scanning Composite video signal, Synchronization Pulse |
| | | 12/09/23 | TV transmitter, Block diagram & function of each block. |
| | | 14/09/23 | Detail about Monochrome TV receiver. |
| | | 15/09/23 | Colour TV signal, (I&Q, U&V signal) |

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Sahu
01/08/2023

Signature of the Principal/Course Co-ordinator/HOD:

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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|-----------|------|-----------|---|
| September | 4th | 18/09/23 | Types of television by technology Cathode ray TVs, Plasma display. |
| | | 21/09/23 | Digital light processing, liquid crystal display. |
| | | 22/09/23 | Organic light-emitting diode, quantum light-emitting diode. |
| | | 25/09/23 | Discusses the principle of operation - LCD display, large screen display |
| | | 26/09/23 | CATV system & types & network |
| | | 28/09/23 | Digital TV technology - digital TV signal |

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01/08/23

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1/8/23

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|---------|----------|------------|---|
| October | 1st week | 03/10/2023 | Transmission of digital TV signal |
| | | 05/10/2023 | TV receiver video programme processor unit |
| | | 06/10/2023 | Principle of colour TV systems. |
| | 2nd week | 09/10/23 | Discussion about micro wave guide. |
| | | 10/10/23 | operation and rectangular wave guide and its advantage. |
| | | | |

Signature of the Faculty:

A. Sahu
01/08/23

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1/8/23

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|---------|-----------------|-----------|--|
| October | 12/10/23 | | Discussion about micro wave & EM wave. |
| | 14/10/23 | | Propagation of EM wave through waveguide. |
| | 3rd 16/10/23 | | Discussion of TE ₂ TM mode of EM wave. |
| | 17/10/23 | | Circular wave guide. |
| | 19/10/23 | | Operational cavity resonator. |

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D. Sahu
01/08/2023

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B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|----------|------|-----------|---|
| November | 5th | 30/10/23 | working of directional coupler |
| | 1st | 31/10/23 | working of Isolator & circulator |
| | | 2/11/23 | microwave tube principle |
| | 2nd | 3/11/23 | working of klystron |
| | | 6/11/23 | principle of operation of travelling wave tubes |
| | | 7/11/23 | principle of operation of cyclotron |

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01/08/2023

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1/08/23

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|----------|------|-----------|--|
| November | 3rd | 9/11/23 | Principle of working of tunnel diode. |
| | | 10/11/23 | Principle of working of Gunn diode. |
| | | 13/11/23 | Fundamental of Broadband communication. |
| | | 14/11/23 | Component and network architecture of Broad band communication system. |
| | | 16/11/23 | Cable broad band network, architecture and importance. |
| | | 17/11/23 | Future of broad band telecommunication Internet based network. |

Signature of the Faculty:

D. Sahu
01/08/2023

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1/8/23

B.I.E.T., COURSE PLAN

| Month | Week | Class Day | Theory/Practical Topic |
|--|-----------------|-----------|---|
| <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 2em; font-weight: bold;">November</div> | 4 th | 20/11/23 | SONET (Synchronous-optical network). |
| | | 21/11/23 | Advantage and disadvantages of SONET. |
| | | 23/11/23 | ISDN, device, Interface and service. |
| | | 24/11/23 | Architecture and application of ISDN device. |
| | 5 th | 28/11/23 | B-ISDN - Interface and terminal. |
| | | 30/11/23 | Protocol architecture application of B-ISDN device. |

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Signature of the Faculty: *D. Sahu*
01/08/23

Signature of the Principal/Course Co-ordinator/HOD: *[Signature]*