<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>L</th>
<th>T</th>
<th>P</th>
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<tr>
<td>1152EC109</td>
<td>OPTOELECTRONIC DEVICES</td>
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a) **Course Category**

Program Elective

b) **Preamble**

Optoelectronic devices provides to learn different types of optical emission, detection and optoelectronic integrated circuits and their applications.

c) **Prerequisite**

Nil

d) **Related Courses**

Optical and microwave engineering, Optical Communication Systems and Networks.

e) **Course Outcomes**

Upon the successful completion of the course, student will be able to:

<table>
<thead>
<tr>
<th>CO Nos.</th>
<th>Course Outcomes</th>
<th>Knowledge Level (Based on Revised Bloom’s Taxonomy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO1</td>
<td>Describe the fundamentals of optoelectronics</td>
<td>K2</td>
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<tr>
<td>CO2</td>
<td>Discuss the different types of display devices and operating principle of laser</td>
<td>K2</td>
</tr>
<tr>
<td>CO3</td>
<td>Classify the different types of photo detectors</td>
<td>K2</td>
</tr>
<tr>
<td>CO4</td>
<td>Explain about the modulators and switching devices</td>
<td>K2</td>
</tr>
<tr>
<td>CO5</td>
<td>Explain the integration methods, materials, OEIC transmitters receivers, guided wave devices and photonic integrated circuits</td>
<td>K2</td>
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</table>

f) **Correlation of COs with POs**

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<thead>
<tr>
<th></th>
<th>PO1</th>
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</table>
g) Course Content

UNIT I  FUNDAMENTALS OF OPTOELECTRONICS  9

UNIT II  DISPLAY DEVICES AND LASER  9

UNIT III  PHOTO DETECTORS  9

UNIT IV  MODULATION AND SWITCHING DEVICES  9

UNIT V  PHOTONICS & OPTOELECTRONIC INTEGRATED CIRCUITS  9

Total  45  Hrs

h) Learning Resources

Text Books
Reference Books
1. W. W. Wen, “VLSI Test Principles and Architectures Design for Testability”, Morgan Kaufmann

Online Resources
1. www.nptel.ac.in/courses/106103016