

## M.Tech. Program in Applied Optics and Laser Technology

**Minimum Eligibility Criteria:** B.E/ B.Tech. (Mechanical/ Electrical/ Electronics and Communication/ Instrumentation and Control/Production and Industrial Engineering/ Biotechnology/ Engineering Physics/Metallurgy engineering and Material Science/Aerospace Engineering/Space science Engineering/) or M.Sc. (Physics/ Astronomy/ Material Science/ Applied optics/ Biotechnology).

### Categories of Admission:

**Indian Students:** This program is restricted only to Indian Nationals under the following admission categories:

- (i) Teaching Assistantship (TA)
- (ii) (Non-TA); Sponsored candidate (SW) on full-time basis from highly reputed R and D organizations such as DRDO, ISRO, BHEL, C-DAC, ADE, ADA, etc. and highly reputed Industries; (iii) Defense Forces (DF): Candidates sponsored by the Defense Forces; (iv) Regular institute staff (IS) of IIT Indore on part-time basis only.

### Qualifying Examination:

**Indian students:** Valid GATE in ECE, EE, IN, ME, Ph, PI, AE & MT.

*Candidates of Non-TA, SW, DF and IS categories will not be provided any scholarship.*

**Duration of Program:** 2 years on full-time basis.

**Selection criteria:** GATE Score and / or Interview. (Valid GATE score compulsory for Non-TA category)

**Total Intake:** 15 TA + Non-TA category + SW + DF + IS

### 1<sup>st</sup> Year, Semester-I

Course Code	Course Title	Contact Hours (L-T-P)	Credit
Core -1 (AA)*	Advanced Optics	2-0-2	3
Core -2 (PH- 745)	Laser Physics	2-1-0	3
Core -3 (ME)*	Laser Material Processing	2-0-2	3
Core 4 (MEMS)	MM 645 Multiphysics modelling	2-0-2	3
ZZ XXX	Elective-1	2-1-0	3
ME 697	PG seminar course	0-2-0	2
HS 641	English Communication	3-0-0	NP/PP
<b>Total Credit</b>			<b>17</b>

**1<sup>st</sup> Year: Semester-II**

<b>Course Code</b>	<b>Course Title</b>	<b>Contact Hours (L-T-P)</b>	<b>Credit</b>
Core -5 (PHY)*	Principles and applications of Optical Spectroscopy	2-0-2	3
Core -6 (ME 658/458)	Laser Based Measurements and Micro Manufacturing	2-1-0	3
Core -7 (BSBE)*	Biophotonics and Optical Imaging Techniques	2-0-2	3
ZZ XXX	Elective-2	2-1-0	3
ZZ XXX	Elective-3	2-1-0	3
ZZ XXX	Elective-4	2-1-0	3
<b>Total Credit</b>			<b>18</b>

\*Laboratory from RRCAT

**2<sup>nd</sup> Year: Semester-III**

<b>Course Code</b>	<b>Course Title</b>	<b>Contact Hours (L-T-P)</b>	<b>Credit</b>
ME 799	M.Tech Research Project stage-1 (with at least 1 supervisor from IIT Indore and RRCAT)	0-0-36	18

**2<sup>nd</sup> Year: Semester IV**

<b>Course Code</b>	<b>Course Title</b>	<b>Contact Hours (L-T-P)</b>	<b>Credit</b>
ME 800	M.Tech Research Project stage-2 (with at least 1 supervisor from IIT Indore and RRCAT)	0-0-36	18