



# SUPPLEMENTARY MATERIAL

## FACULTY: SVB

**PROGRAM: B. PHARM**

**Course Code: PT 711**

**Course Name: Instrumental Methods of Analysis**

Date	Topic	Power Point presentation	Audio Visual Presentation	Study Material
3.09.2021	Introduction to UV-Visible Spectroscopy	To be given	<a href="https://youtu.be/4sICFvNqCl">https://youtu.be/4sICFvNqCl</a>	To be given



8.09.2021	Do (auxochrome, chromophore, Franck Condon Principle, energy band of UV and Visible rays)	<a href="https://docs.google.com/presentation/d/1DGGrqnlq9jh5ORbgaLosEOjZle njUdXU/edit?usp=sharing&amp;ouid=113327151975619503720&amp;rtpof=true&amp;sd=true">https://docs.google.com/presentation/d/1DGGrqnlq9jh5ORbgaLosEOjZle njUdXU/edit?usp=sharing&amp;ouid=113327151975619503720&amp;rtpof=true&amp;sd=true</a>	<a href="http://www.youtube.com/watch?v=EVHJuJQkbnw">http://www.youtube.com/watch?v=EVHJuJQkbnw</a>	<a href="https://drive.google.com/file/d/10U65qDGo-KTftnSea2wQBFmdt5IEPiey/view?usp=sharing">https://drive.google.com/file/d/10U65qDGo-KTftnSea2wQBFmdt5IEPiey/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1YBwuHLLyxhT-vRuM5ZUGentJiPekw-ge/view?usp=sharing">https://drive.google.com/file/d/1YBwuHLLyxhT-vRuM5ZUGentJiPekw-ge/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1lqZi3f27dLhG_iolHkpsixEXvW9OX6a9/view?usp=sharing">https://drive.google.com/file/d/1lqZi3f27dLhG_iolHkpsixEXvW9OX6a9/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1lqZi3f27dLhG_iolHkpsixEXvW9OX6a9/view?usp=sharing">https://drive.google.com/file/d/1lqZi3f27dLhG_iolHkpsixEXvW9OX6a9/view?usp=sharing</a> Amongst all these study materials, there is a study material published by Dr. Meenaketan Sahoo, IPT Shalipur. This is the most relevant one for your study
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10.09.2021	Do (Auxochrome and chromophore continued, various shifts such as bathochromic, hypsochromic shift, Hyperchromic shift, hypochromic shift, the influence of compound structures on that, the concept of lambda max and UV based characterization)	do	<a href="https://www.youtube.com/watch?v=mNnylmepHPc">https://www.youtube.com/watch?v=mNnylmepHPc</a>	The same study material will continue
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15.09.2021	Molecular orbital theory and applications to UV-Visible spectroscopy. Different types of transitions and chemistry responsible for these types of transitions	Continued	<a href="https://youtu.be/bkQxeqLGr98">https://youtu.be/bkQxeqLGr98</a>  <a href="https://youtu.be/97biMvsBHeU">https://youtu.be/97biMvsBHeU</a>	<a href="https://drive.google.com/file/d/1L6NXC0G7oU8GsSnM845-UjrCyFInZY2r/view?usp=sharing">https://drive.google.com/file/d/1L6NXC0G7oU8GsSnM845-UjrCyFInZY2r/view?usp=sharing</a>  <a href="https://docs.google.com/document/d/1JBoju2VzySXupFdpNsCLUO_hB02QbFER/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true">https://docs.google.com/document/d/1JBoju2VzySXupFdpNsCLUO_hB02QbFER/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true</a>  <a href="https://docs.google.com/document/d/1IkD6rN2CP9QR0hPd2O8WQyYgFdbvgkCg/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true">https://docs.google.com/document/d/1IkD6rN2CP9QR0hPd2O8WQyYgFdbvgkCg/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true</a>  <a href="https://drive.google.com/file/d/1Bhb9dJ_qGcjKVjKfc1MzH-Y5DKtOkDP6/view?usp=sharing">https://drive.google.com/file/d/1Bhb9dJ_qGcjKVjKfc1MzH-Y5DKtOkDP6/view?usp=sharing</a>
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16.09.2021	BREK bonds, Solvatochromism, Beer's Lambert's law	Do	<a href="https://youtu.be/V7kQFGUCF-w">https://youtu.be/V7kQFGUCF-w</a>  <a href="https://youtu.be/V7kQFGUCF-w">https://youtu.be/V7kQFGUCF-w</a>	<a href="https://docs.google.com/document/d/1TISvPln_lId1_WH-9o5PGk4N1n9Rnrc_/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true">https://docs.google.com/document/d/1TISvPln_lId1_WH-9o5PGk4N1n9Rnrc_/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true</a>  <a href="https://docs.google.com/document/d/1IkD6rN2CP9QR0hPd2O8WQyYgFdbvgkCg/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true">https://docs.google.com/document/d/1IkD6rN2CP9QR0hPd2O8WQyYgFdbvgkCg/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true</a>  For Beer's Lambert's Law: <a href="https://drive.google.com/file/d/1O0c3gFqN5iEXSfgyI_NBXAlr9m3rc7T0/view?usp=sharing">https://drive.google.com/file/d/1O0c3gFqN5iEXSfgyI_NBXAlr9m3rc7T0/view?usp=sharing</a>  <a href="https://drive.google.com/file/d/1OVcbxIMoHRWoo1FbEjaR5xc8_xD70eHo/view?usp=sharing">https://drive.google.com/file/d/1OVcbxIMoHRWoo1FbEjaR5xc8_xD70eHo/view?usp=sharing</a>  I strongly recommend "Practical Pharmaceutical Chemistry" vol II by A. H. Beckett, J. B. Stenlake for studying the Spectroscopy chapter. There is a general chapter for "spectroscopy" that you must read and come to UV-Visible spectroscopy. Then you study Book by
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22.09.2021	Beer's Lambert's Law, determination of extinction coefficient by a single point as well as graphical method, Introduction to various parameter affecting UV-Vis reading, introduction to instrumentation	Already given. Please go through the slides given	<a href="https://youtu.be/UIDBIZIIYwA">https://youtu.be/UIDBIZIIYwA</a>	do
24.09.20221	The instrumentation on UV-Vis Spectroscopy, different cells, Detectors, their working principles	Already given	<a href="https://www.youtube.com/watch?v=cVql5u_hReU">https://www.youtube.com/watch?v=cVql5u_hReU</a>	Check this study material from Beckett and Stanlake Vol-II  <a href="https://www.youtube.com/watch?v=cVql5u_hReU">https://www.youtube.com/watch?v=cVql5u_hReU</a>
25.09.2021	Spectrofluorimetry , Introduction to Jablonsky's diagram	To be given	<a href="https://youtu.be/Ss9Runx2Hpw">https://youtu.be/Ss9Runx2Hpw</a>	<a href="https://drive.google.com/file/d/1q_mLfnWug5f337OjpybquHanptkpzujw/view?usp=sharing">https://drive.google.com/file/d/1q_mLfnWug5f337OjpybquHanptkpzujw/view?usp=sharing</a>  <a href="https://drive.google.com/file/d/1q_mLfnWug5f337OjpybquHanptkpzujw/view?usp=sharing">https://drive.google.com/file/d/1q_mLfnWug5f337OjpybquHanptkpzujw/view?usp=sharing</a>
29.09.2021	Spectrofluometry (cont'd)	do	<a href="https://youtu.be/Ss9Runx2Hpw">https://youtu.be/Ss9Runx2Hpw</a>	
01.10.2021	Spectrophotometry, fluorophore, lifetime, filters	do	<a href="https://youtu.be/Ss9Runx2Hpw">https://youtu.be/Ss9Runx2Hpw</a>	



08.10.2021	Spectrofluorimetry , Mathematical expression, quantum yield, role of chemical substituents on fluorescence, applications	<a href="https://drive.google.com/drive/folders/1XsxDqq01b9CvKFxsTxJd0mNcYJpL_MO?usp=sharing">https://drive.google.com/drive/folders/1XsxDqq01b9CvKFxsTxJd0mNcYJpL_MO?usp=sharing</a>  (within this folder find all the links)	<a href="https://youtu.be/1DVnyz93zc">https://youtu.be/1DVnyz93zc</a>	<a href="https://drive.google.com/file/d/1p978SqMfve0hCfGQCPm24qT9ksb9xA/view?usp=sharing">https://drive.google.com/file/d/1p978SqMfve0hCfGQCPm24qT9ksb9xA/view?usp=sharing</a>  (Extract from Beckett and Stanlake)
22.10.2021	Gas chromatography	To be given	<a href="https://youtu.be/oNnNZbCuh14">https://youtu.be/oNnNZbCuh14</a>	
27-10-2021	Gas Chromatography	<a href="https://docs.google.com/presentation/d/1jdFkA20MQB1SOAQiPEx0OGEfcky9MxA/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true">https://docs.google.com/presentation/d/1jdFkA20MQB1SOAQiPEx0OGEfcky9MxA/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true</a>  <a href="https://drive.google.com/file/d/1ECYX494WdtW31ya2pfriXsu3oUpzEO7H/view?usp=sharing">https://drive.google.com/file/d/1ECYX494WdtW31ya2pfriXsu3oUpzEO7H/view?usp=sharing</a>  <a href="https://docs.google.com/presentation/d/1iFqRI4BZ0YTrTOG9b7xAL0mF_VoVRjE/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true">https://docs.google.com/presentation/d/1iFqRI4BZ0YTrTOG9b7xAL0mF_VoVRjE/edit?usp=sharing&amp;oid=113327151975619503720&amp;rtpof=true&amp;sd=true</a>	<a href="https://www.youtube.com/watch?v=cX912nPJCm4">https://www.youtube.com/watch?v=cX912nPJCm4</a>	<a href="https://www.youtube.com/watch?v=cX912nPJCm4">https://www.youtube.com/watch?v=cX912nPJCm4</a>  The above link is a very good complete book on gas chromatography. Please refer to this book for GC notes



28-10-2021	Gas chromatography (cont'd)	do	<a href="http://www.youtube.com/watch?v=W8ERyCE5IHs">http://www.youtube.com/watch?v=W8ERyCE5IHs</a>	do
12-11-2021	Gas Chromatography, column, instrumentation, detectors	do	<a href="https://youtu.be/VMCnSwGG0wo">https://youtu.be/VMCnSwGG0wo</a>	do