



**UNIVERSITY OF CALICUT**

**Abstract**

BSc programme in Physics-CUCBCSS UG 2014-Core and Complementary Courses-Scheme and Syllabus- Approved- Implemented-w.e.f 2014 Admissions-Orders issued

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**G & A - IV - J**

U.O.No. 6902/2014/Admn

Dated, Calicut University.P.O, 17.07.2014

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*Read:-*1. U.O. No. 3797/2013/CU, dated 07.09.2013 (CBCSS UG Modified Regulations) (File.ref.no. 13752/GA IV J SO/2013/CU).

2. U.O. No. 5180/2014/Admn, dated 29.05.2014 (CBCSS UG Revised Regulations) (File.ref.no. 13752/GA IV J SO/2013/CU).

3. Item no. 1 of the minutes of the meeting of the Board of Studies in Physics UG held on 20.06.2014.

4.Item no. 34 of the minutes of the meeting of the Faculty of Science held on 27.06.2014.

5.Orders of the VC on 14.07.2014, in the file no, 18602/GA IV /J1/2013/CU.

**ORDER**

The Modified Regulations of Choice Based Credit Semester System for UG Curriculum w.e.f 2014 was implemented under the University of Calicut vide paper read as (1).

The Revised CUCBCSS UG Regulations has been implemented w.e.f 2014 admission, for all UG programme under CUCBCSS in the University, vide paper read as (2).

The Board of Studies in Physics UG approved the new syllabus for **B.Sc. Physics Core Course**, B.Sc. Applied Physics, and **Complimentary Courses** according to the new system, which is to be implemented w.e.f 2014 admissions vide paper read as (3).

The Faculty of Science has also approved the minutes of the Board vide paper read as (4).

The Hon'ble Vice Chancellor, considering the exigency, exercising the powers of the Academic Council has approved the items regarding syllabus implementation in the minutes of the concerned Boards of Studies mentioned in the minutes of the Faculty of Science, subject to ratification by the Academic Council, vide paper read as (5).

Sanction has, therefore, been accorded for implementing the Scheme and Syllabus of **BSc. programme in Physics Core and Complementary Courses** under CUCBCSS UG 2014, in the University, w.e.f 2014 Admissions.

Orders are issued accordingly.

(The syllabus is available in the website: [universityofcalicut.info](http://universityofcalicut.info))

Muhammed S  
Deputy Registrar

To

1. All Affiliated Colleges/SDE/Dept.s/Institutions under University of Calicut.
2. The Controller of Examinations, University of Calicut.
3. The Director SDE, University of Calicut.

Forwarded / By Order

Section Officer

**UNIVERSITY OF CALICUT**

**B.Sc. PHYSICS**

**(CORE AND COMPLIMENTARY PROGRAMMES)**

**SYLLABUS & MODEL QUESTION PAPERS**

**w.e.f 2014 admission onwards**

## B.Sc. DEGREE PROGRAMME (PHYSICS CORE)

### COURSE STRUCTURE

Semester	Course Code	Course Title	Total hours	Hours/ Week	Credits
I	A 01	Common Course I – English	72	4	4
	A 02	Common Course II – English	90	5	3
	A 07	Common Course III – Language other than English	72	4	4
	PH1 B01	Core course I - Methodology of Science and Physics	36	2	2
		Core Course V - Practical I	36	2	*
		1 <sup>st</sup> Complementary Course I - Mathematics	72	4	3
		2 <sup>nd</sup> Complementary Course I	36	2	2
		2 <sup>nd</sup> Complementary Course Practical I	36	2	*
	<b>Total</b>	<b>450</b>	<b>25</b>	<b>18</b>	
II	A 03	Common Course IV – English	72	4	4
	A 04	Common Course V – English	90	5	3
	A 08	Common Course VI – Language other than English	72	4	4
	PH2 B02	Core Course II - Properties of Matter, Waves and Acoustics	36	2	2
		Core Course V - Practical I	36	2	*
		1 <sup>st</sup> Complementary Course II - Mathematics	72	4	3
		2 <sup>nd</sup> Complementary Course II	36	2	2
		2 <sup>nd</sup> Complementary Course Practical II	36	2	*
	<b>Total</b>	<b>450</b>	<b>25</b>	<b>18</b>	
III	A 05	Common Course VI – English	90	5	4
	A 09	Common Course VIII - Language other than English	90	5	4
	PH3 B03	Core Course III – Mechanics	54	3	3
		Core Course VI– Practical I	36	2	*
		1 <sup>st</sup> Complementary Course III – Mathematics	90	5	3
		2 <sup>nd</sup> Complementary Course III	54	3	2
		2 <sup>nd</sup> Complementary Course Practical III	36	2	*
	<b>Total</b>	<b>450</b>	<b>25</b>	<b>16</b>	
IV	A 06	Common Course IX – English	90	5	4

	A 10	Common Course X - Language other than English	90	5	4
	PH4 B04	Core Course IV - Electrodynamics I	54	3	3
	PH4 B05	Core Course Practical V – Practical I	36	2	5
		1 <sup>st</sup> Complementary Course IV– Mathematics	90	5	3
		2 <sup>nd</sup> Complementary Course IV	54	3	2
		2 <sup>nd</sup> Complementary Course Practical IV	36	2	4
		Total	450	25	25
V	PH5 B06	Core Course VI - Electrodynamics II	54	3	3
	PH5 B07	Core Course VII - Quantum Mechanics	54	3	3
	PH5 B08	Core Course VIII - Physical Optics and Modern Optics	54	3	3
	PH5 B09	Core Course IX- Electronics (Analogue and Digital)	72	4	4
		Open Course – ( <i>course from other streams</i> )	54	2	2
		Core Course Practical XIV - Practical II	72	4	*
		Core Course Practical XV- Practical III	72	4	*
		Project	36	2	*
	Total	450	25	15	
VI	PH6 B10	Core Course X - Thermal and Statistical Physics	72	4	4
	PH6 B11	Core Course XI - Solid State Physics, Spectroscopy and Laser physics	72	4	4
	PH6 B12	Core Course XII - Nuclear Physics, Particle Physics and Astrophysics	72	4	4
	PH6 B13	Core Course XIII (Elective)	54	3	3
	PH6 B14	Core Course Practical XIV – Practical II	72	4	5
	PH6 B15	Core Course Practical XV – Practical III	72	4	5
	PH6 B16	Course XVI Project& Tour report	36	2	3
		Total	450	25	28
<b>Total Credits</b>					<b>120</b>

**Tour report may be evaluated with Practical III**

## CREDIT AND MARK DISTRIBUTION IN EACH SEMESTERS

**Total Credits: 120; Total Marks: 3600**

<i>Semester</i>	<i>Course</i>	<i>Credit</i>	<i>Marks</i>
<b>I</b>	Common course: English	4	100
	Common course: English	3	100
	Common course: Additional Language	4	100
	Core Course I: Methodology of Physics and Science	2	100
	Complementary course: Mathematics	3	100
	Complementary course: II	2	80
	<b>Total</b>	<b>18</b>	<b>580</b>
<b>II</b>	Common course: English	4	100
	Common course: English	3	100
	Common course: Additional Language	4	100
	Core Course II: Properties of matter ,Waves and Acoustics	2	100
	Complementary course: Mathematics	3	100
	Complementary course: II	2	80
	<b>Total</b>	<b>18</b>	<b>580</b>
<b>III</b>	Common course: English	4	100
	Common course: Additional Language	4	100
	Core Course III: Mechanics	3	100
	Complementary course: Mathematics	3	100
	Complementary course: II	2	80
	<b>Total</b>	<b>16</b>	<b>480</b>
<b>IV</b>	Common course: English	4	100
	Common course: Additional Language	4	100
	Core Course IV: Electrodynamics-1	3	100
	Core Course V: Physics Practical 1	5	150
	Complementary course: Mathematics	3	100
	Complementary course: II	2	80
	Complementary course: II Practical	4	80
	<b>Total</b>	<b>25</b>	<b>710</b>
<b>V</b>	Core Course VI: Electrodynamics II	3	100
	Core Course VII :Quantum Mechanics	3	100
	Core Course VIII: Physical Optics and Modern Optics	3	100
	Core Course IX: Electronics	4	100
	Open course	2	50
	<b>Total</b>	<b>15</b>	<b>450</b>
<b>VI</b>	Core Course X: Thermal and Statistical Physics	4	100
	Core Course XI: Solid State Physics ,Spectroscopy and Laser	4	100
	Core Course XII: Nuclear Physics ,Particle Physics and Astrophysics	4	100
	Core Course XIII: Elective	3	100
	Core Course XIV: Practical II	5	150
	Core Course XV: Practical III	5	150
	Core Course XVI: Project and Tour report	3	75 25
	<b>Total</b>	<b>28</b>	<b>800</b>
	<b>Grand Total</b>	<b>120</b>	<b>3600</b>

## COURSE STRUCTURE PHYSICS(CORE)

### Credit Distribution

Semester	Common course		Core course	Complementary course		Open course	Total
	English	Additional Language		Mathematics	Physics		
I	4+3	4	2	3	2	-	18
II	4+3	4	2	3	2	-	18
III	4	4	3	3	2	-	16
IV	4	4	3+5*	3	2+4*	-	25
V	-	-	3+3+3+4	-	-	2	15
VI	-	-	4+4+4+3+5* +5*+3**	-	-	-	28
<b>Total</b>	<b>22</b>	<b>16</b>	<b>56</b>	<b>12</b>	<b>12</b>	<b>2</b>	<b>120</b>

\*Practical \*\*Project

Tour Report to be evaluated with Practical Paper III

### Mark Distribution and Indirect Grading System

Mark system is followed instead of direct grading for each question. After external and internal evaluations marks are entered in the answer scripts. All other calculations, including grading, will be done by the university using the software. Indirect Grading System in 7 point scale is followed. Each course is evaluated by assigning marks with a letter grade (A<sup>+</sup>, A, B, C, D, E or F) to that course by the method of indirect grading.

### Mark Distribution

Sl. No.	Course	Marks
1	English	600
2	Additional Language	400
3	Core course: Physics	1750
4	Complementary course I: Mathematics	400
5	Complementary course II: Chemistry/....	400
6	Open Course	50
	<b>Total Marks</b>	<b>3600</b>

### Seven point Indirect Grading System

% of Marks	Grade	Interpretation	Grade Point Average	Range of Grade points	Class
90 and above	A <sup>+</sup>	Outstanding	6	5.5 - 6	First Class with distinction
80 to below 90	A	Excellent	5	4.5 - 5.49	
70 to below 80	B	Very good	4	3.5 - 4.49	First Class
60 to below 70	C	Good	3	2.5 - 3.49	
50 to below 60	D	Satisfactory	2	1.5 - 2.49	Second Class
40 to below 50	E	Pass/Adequate	1	0.5 - 1.49	Pass
Below 40	F	Failure	0	0 - 0.49	Fail

### Core Course Structure

**Total Credits: 56 (Internal: 20%; External: 80%)**

<i>Semester</i>	<i>Code No</i>	<i>Course Title</i>		<i>Hrs/Week</i>	<i>Total Hrs</i>	<i>Credit</i>	<i>Marks</i>
<b>I</b>	PH1B01	Core Course I: Methodology of Science and Physics		2	36	2	100
	-	Core Course V : Practical-I		2	36	-*	-
<b>II</b>	PH2B02	Core Course II: Properties of matter waves and Acoustics		2	36	2	100
	-	Core Course V : Practical-I		2	36	-*	-
<b>III</b>	PH3B03	Core Course III: Mechanics		3	54	3	100
	-	Core Course V : Practical-I		2	36	-*	-
<b>IV</b>	PH4B04	Core Course IV: Electrodynamics-I		3	54	3	100
	PH4B05	Core Course V : Practical-I		2	36	5	150
<b>V</b>	PH5B06	Core Course VI: Electrodynamics-II		3	54	3	100
	PH5B07	Core Course VII: Quantum Mechanics		3	54	3	100
	PH5B08	Core Course VIII: Physical Optics and Modern Optics		3	54	3	100
	PH5B09	Core Course IX: Electronics		4	72	4	100
		Core Course XIV: Practical II		4	72	-**	-
		Core Course XV: Practical III		4	72	-**	-
		Core Course XVI: Project Work		2	36	-**	-
<b>VI</b>	PH6B10	Core Course X: Thermal and statistical Physics		4	72	4	100
	PH6B11	Core Course XI: Solid State Physics, Spectroscopy and Laser		4	72	4	100
	PH6B12	Core Course XII: Nuclear Physics, Particle Physics and Astrophysics		4	72	4	100
	PH6B13(E1)	Core Course XIII: Elective***	1. COMPUTATIONAL PHYSICS	3	54	3	100
	PH6B13(E2)		2. MATERIALS SCIENCE				
	PH6B13(E3)		3. NANO SCIENCE AND TECHNOLOGY				
	PH6B14	Core Course XIV: Practical -II		4	72	5**	150
	PH6B15	Core Course XV: Practical-III		4	72	5**	150
	PH6B16	Core Course XVI: Project Work &Tour Report		2	36	3**	75 25
	<b>Total</b>						<b>56</b>

\* Exam will be held at the end of 4<sup>th</sup> semester

\*\* Exam will be held at the end of 6<sup>th</sup> semester

\*\*\* An institution can choose any one among the three courses.



## CORE COURSE THEORY: EVALUATION SCHEME

The evaluation scheme for each course contains two parts: viz., internal evaluation and external evaluation. Maximum marks from each unit is prescribed in the syllabus.

### 1. INTERNAL EVALUATION

20% of the total marks in each course are for internal evaluation. The colleges shall send only the marks obtained for internal examination to the university.

**Table 1: Components of Evaluation**

<i>Sl. No.</i>	<i>Components</i>	<i>Marks</i>
1	Attendance	5
2	Test papers: I & II	5 + 5
3	Assignment	2
4	Seminar/ Viva	3
<i>Total Marks</i>		20

**Table 2: Percentage of Attendance and Eligible Marks**

<i>% of attendance</i>	<i>Marks</i>
Above 90%	5
85-89%	4
80-84%	3
76-79%	2
75%	1

**Table 3: Pattern of Test Papers**

<i>Duration</i>	<i>Pattern</i>	<i>Total number of questions</i>	<i>Number of questions to be answered</i>	<i>Marks for each question</i>	<i>Marks</i>
1.5 Hours	One word	4	4	1	4
	Short answer	5	4	2	8
	Paragraph	5	4	3	12
	Problem	4	2	3	6
	Essay	2	1	10	10
<i>Total Marks*</i>					40

\*90% and above = 5, 80 to below 90% = 4.5, 70 to below 80% = 4, 60 to below 70% = 3.5, 50 to below 60% = 3, 40 to below 50% = 2, 35 to below 40% = 1, below 35% = 0

### 2. EXTERNAL EVALUATION

External evaluation carries 80% marks. University examinations will be conducted at the end of each semester.

**Table 1: Pattern of Question Paper**

<i>Duration</i>	<i>Pattern</i>	<i>Total number of questions</i>	<i>Number of questions to be answered</i>	<i>Marks for each question</i>	<i>Marks</i>
3 Hours	One word or one phrase or true or false	10	10	1	10
	Short answer(one or two Sentence)	7	7	2	14
	Paragraph/half page	7	5	4	20
	Problems	7	4	4	16
	Essay	4	2	10	20
<i>Total Marks</i>					80

## **CORE COURSE PROJECT: EVALUATION SCHEME**

Project evaluation will be conducted at the end of sixth semester.

### **Project:**

1. Project work should be done as an extension of topics in the syllabus.
2. Project can be experimental / theoretical or done in collaboration (association) with a recognised lab or organisation.
3. Project work may be done individually or as group of maximum of six students.
4. A supervisor has to guide a batch of maximum 24 students. For an additional batch another supervisor has to be appointed. However the existing work load should be maintained.

### **Guidelines for doing project**

The project work provides the opportunity to study a topic in depth that has been chosen or which has been suggested by a staff member. The students first carryout a literature survey Which will provide the background information necessary for the investigations during the research phase of the project.

The various steps in project works are the following:-

- a) Wide review of a topic.
- b) Investigation on an area of Physics in systematic way using appropriate techniques.
- c) Systematic recording of the work.
- d) Reporting the results with interpretation in written and oral forms.

### **Use of Log Book**

- During the Project the students should make regular and detailed entries in to a personal laboratory log book through the period of investigation.
- The log book will be a record of progress on project and will be useful in writing the final report. It contains experimental conditions and results, ideas, mathematical expressions, rough work and calculation, computer file names etc. All entries should be dated.
- The students are expected to have regular meeting with their supervisor to discuss progress on the project and the supervisor should regularly write brief comments with dated signature.
- **The log book and the written report must be submitted at the end of the project.**

**Table 1: Internal Evaluation**

<i>Sl. No</i>	<i>Criteria</i>	<i>Marks</i>
1	Punctuality &Log book	3
2	Skill in doing project work/data	3
3	Scheme Organisation of Project Report	4
4	Viva-Voce	5
<i>Total Marks</i>		15

**Table 2: External Evaluation****Individual presentation is compulsory and individual Log book should be submitted**

<i>Sl. No</i>	<i>Criteria</i>	<i>Marks</i>
1	Content and relevance of the project, Methodology, Reference, Bibliography	12
2	Project Presentation, Quality of analysis, statistical tools, findings, recommendations	18
3	Project Report (written copy) and Log Book	10
4	Viva-voce	20
<i>Total Marks</i>		60

**STUDY TOUR**

**Minimum two days visit to National research Institutes, Laboratories** and places of scientific importance. **Study tour report** has to be submitted with photos and analysis along with Practical Paper III for evaluation

**Distribution of marks EXTERNAL**

No	Items	External (20)
1	Hand written Report	10
2	Outcome/Analysis	6
3	Photos ( five photos)	4
<b>TOTAL</b>		<b>20</b>

**Practical Evaluation (Core)**

<b>Internal</b>		<b>External</b>		<b>Marks for Python Programming</b>
<b>Items</b>	<b>Marks</b>	<b>Items</b>	<b>Marks</b>	
Record	6	Record with 20 expts Max.one mark for each expt	20	20
Regularity in getting the expts done	6	Formulae, Theory, Principle/ Programme	30	20
Attendance	6	Adjustments& setting / Algorithm	20	20
Test 1	6	Tabulation, Observation and performance/ Execution	30	40
Test 2	6	Calculation, result, graph, unit/ Result	15	15
		Viva	5	5
<b>Total</b>	<b>30</b>	<b>Total</b>	<b>120</b>	<b>120</b>

<b>CORE COURSE – XIII (ELECTIVE) :</b>		
<b>1</b>	PH6 B13 (E1)	COMPUTATIONAL PHYSICS
<b>2</b>	PH6 B13 (E2)	MATERIALS SCIENCE & THIN FILMS
<b>3</b>	PH6 B13 (E3)	NANO SCIENCE AND TECHNOLOGY

<b>OPEN COURSES OFFERED BY PHYSICS DEPARTMENT (For students from other streams)</b>		
<b>1</b>	PH5 D01(1)	NON CONVENTIONAL ENERGY SOURCES
<b>2</b>	PH5 D01(2)	AMATEUR ASTRONOMY AND ASTROPHYSICS
<b>3</b>	PH5 D01(3)	ELEMENTARY MEDICAL PHYSICS

**PHYSICS COMPLEMENTARY COURSE STRUCTURE**  
**Total Credits: 12 (Internal: 20%; External: 80%)**

<i>Semester</i>	<i>Code No</i>	<i>Course Title</i>	<i>Hrs/Week</i>	<i>Total Hrs</i>	<i>Credit</i>	<i>Marks</i>
<b>I</b>	PH1C01	Complementary Course I: Properties of matter and Thermodynamics	2	36	2	80
	-	Complementary Course V: PHYSICS Practical	2	36	-*	-
<b>II</b>	PH2C02	Complementary Course II: Mechanics, Relativity, Waves and Oscillations	2	36	2	80
	-	Complementary Course V: PHYSICS Practical	2	36	-*	-
<b>III</b>	PH3C03	Complementary Course III: Optics ,Laser, Electronics and Communication	3	54	2	80
	-	Complementary Course V: PHYSICS Practical	2	36	-*	-
<b>IV</b>	PH4C04	Complementary Course IV: Electricity ,Magnetism and Nuclear Physics	3	54	2	80
	PH4C05	Complementary Course V: PHYSICS Practical	2	36	4*	80
<b>Total</b>					<b>12</b>	<b>400</b>

\* Examination will be held at the end of 4<sup>th</sup> semester

## **COMPLEMENTARY COURSE THEORY: EVALUATION SCHEME**

The evaluation scheme for each course contains two parts: *viz.*, internal evaluation and external evaluation. Maximum marks from each unit is prescribed in the syllabus.

### **1. INTERNAL EVALUATION**

20% of the total marks in each course are for internal evaluation. The colleges shall send only the marks obtained for internal examination to the university.

**Table 1: Components of Evaluation**

<i>Sl. No.</i>	<i>Components</i>	<i>Marks</i>
1	Attendance	4
2	Test papers: I & II	4 + 4
3	Assignment	2
4	Viva-Voce	2
<i>Total Marks</i>		16

**Table 2: Percentage of Attendance and Eligible Marks**

<i>% of attendance</i>	<i>Marks</i>
Above 90%	4
85-89%	3.2
80-84%	2.4
76-79%	1.6
75%	0.8

**Table 3: Pattern of Test Papers**

<i>Duration</i>	<i>Pattern</i>	<i>Total number of questions</i>	<i>Number of questions to be answered</i>	<i>Marks for each question</i>	<i>Marks</i>
1.5 Hours	One word	4	4	1	4
	Short answer	4	4	2	8
	Paragraph/half page	4	2	3	6
	problems	4	2	3	6
	Essay	2	1	8	8
<i>Total Marks*</i>					32

\*Marks: 80% and above = 2, 60 to below 80% = 1.5, 50 to below 60% = 1, 35 to below 50% = 0.5, below 35% = 0.

## **2. EXTERNAL EVALUATION**

External evaluation carries 80% marks. University examinations will be conducted at the end of each semester.

**Table 1: Pattern of Question Papers**

<i>Duration</i>	<i>Pattern</i>	<i>Total number of questions</i>	<i>Number of questions to be answered</i>	<i>Marks for each question</i>	<i>Marks</i>
3 Hours	One word/one phrase/true or false	10	10	1	10
	Short answer-one or two sentences	7	7	2	14
	Paragraph/Half page	5	3	4	12
	Problems	5	3	4	12
	Essay-within two pages	4	2	8	16
<i>Total Marks</i>					64

### **Practical Evaluation (Complimentary)**

Internal		External	
Record	4	Record with 20 expts Max. ½ mark for one expt	10
Regularity	3	Formulae, Theory, Principle	12
Attendance	3	Adjustments, setting	12
Test I	3	Tabulation & Observation	16
Test II	3	Calculation, graph, result, unit	10
		Viva	4
<b>Total</b>	<b>16</b>	<b>Total</b>	<b>64</b>

**OPEN COURSE STRUCTURE**  
**(FOR STUDENTS OTHER THAN B.Sc. Physics)**  
**Total Credits: 2 (Internal 20%; External 80%)**

<i>Semester</i>	<i>Code No</i>	<i>Course Title</i>	<i>Hrs/Week</i>	<i>Total Hrs</i>	<i>Marks</i>
<b>V</b>	PH5D01	Open Course 1: Non conventional Energy Sources	2	36	50
	PHYD02	Open Course 2: Amateur Astronomy and Astrophysics			
	PHYD03	Open Course 3: Elements of Medical Physics			

**OPEN COURSE: EVALUATION SCHEME**

The evaluation scheme contains two parts: *viz.*, internal evaluation and external evaluation.

**Maximum marks from each unit are prescribed in the syllabus.**

**Problems are not required**

**1. INTERNAL EVALUATION**

20% of the total marks are for internal evaluation. The colleges shall send only the marks obtained for internal examination to the university.

**Table 1: Components of Evaluation**

<i>Sl. No.</i>	<i>Components</i>	<i>Marks</i>
1	Attendance	2.5
2	Test papers: I & II	2.5 + 2.5
3	Assignment / Viva	2.5
<i>Total Marks</i>		10

**Table 2: Percentage of Attendance and Eligible Marks**

<i>% of attendance</i>	<i>Marks</i>
Above 90%	2.5
85-89%	2
80-84%	1.5
76-79%	1
75%	0.5

**Table 3: Pattern of Test Papers ( Internal)**

<i>Duration</i>	<i>Pattern</i>	<i>Total number of questions</i>	<i>Number of questions to be answered</i>	<i>Marks for each question</i>	<i>Marks</i>
1 Hour	One word	4	4	1	4
	Short answer	2	1	2	2
	Paragraph	4	2	3	6
	Essay	2	1	8	8
<i>Total Marks</i>					20

\*Marks: 80% and above = 2.5, 60 to below 80% = 2, 50 to below 60% = 1.5, 40 to below 50% = 1, 35 to below 40% = 0.5, below 35% = 0.

## **2. EXTERNAL EVALUATION**

External evaluation carries 80% marks. University examination will be conducted at the end of 5<sup>th</sup> semester.

**Table 1: Pattern of Question Paper**

<i>Duration</i>	<i>Pattern</i>	<i>Total number of questions</i>	<i>Number of questions to be answered</i>	<i>Marks for each question</i>	<i>Marks</i>
	One word/One Phrase/True or false	6	6	1	6
	Short answer- one or two sentence	5	5	2	10
	Paragraph- half page	6	4	4	16
	Essay- within two pages	3	1	8	8
<i>Total Marks</i>					40