

**Bachelor of Vocational Degree (B.Voc) in Software Development**  
**Under**  
**UGC's National Skill Qualification Framework(NSQF)**  
**Annada College**  
**VINOBA BHAVE UNIVERSITY, HAZARIBAG**  
**COURSE STRUCTURE**

**Semester - 1<sup>st</sup>**

Paper Code	Title	Credit	VI	Marks
B.VOC 1001	Fundamentals of Computer	4.0		100
B.VOC 1002	C Programming	4.0		100
B.VOC 1003	Database Management System	4.0		100
B.VOC 1004	Communication Skill	6.0		100
B.VOC 1005	Fundamentals of Mathematics	6.0		100
<b>Sessional</b>				
B.VOC PI 006	C Programming Lab	2.0		50
B.VOC P1007	Database Management System Lab	2.0		50
B.VOC P1008	Fundamentals of Computer Lab	2.0		50

**Semester - 2<sup>nd</sup>**

Paper Code	Title	Credit	Marks
B.VOC 2001	Data Structure using C	4.0	100
B.VOC 2002	Object Oriented Programming using Java	4.0	100
B.VOC 2003	Data Communication & Computer Networks	4.0	100
B.VOC 2004	Financial Accounting	6.0	100
B.VOC 2005	Principle of Management	6.0	100
<b>Sessional</b>			
B.VOC P2006	Java Programing Lab	2.0	50
B.VOC P2007	Data Structure Lab	2.0	50
B.VOC P2008	Accounting Lab	2.0	50

## Semester - 3<sup>rd</sup>

Paper Code	Title	Credit	Marks
B.VOC 3001	Web Development	4.0	100
B.VOC 3002	Python Programming	4.0	100
B.VOC 3003	Software Engineering	4.0	100
B.VOC 3004	Numerical Analysis	6.0	100
B.VOC 3005	Environmental Science	6.0	100
<b>SESSIONAL</b>			
B.VOC P3006	Python Lab	2.0	50
B.VOC P3007	Web Development Lab	2.0	50
B.VOC P3008	Software Engineering Lab	2.0	50

## Semester - 4<sup>th</sup>

Paper Code	Title	Credit	Marks
B.VOC 4001	Advanced Java	4.0	100
B.VOC 4002	Cloud Computing	4.0	100
B.VOC 4003	Computer Organization	4.0	100
B.VOC 4004	Operating System	6.0	100
B.VOC 4005	Artificial Intelligence	6.0	10
<b>Sessional</b>			
B.VOC P4006	Advanced Java Lab	2.0	50
B.VOC P4007	Linux Lab	2.0	50
B.VOC P4008	Mini Project	2.0	50

## Semester - 5<sup>th</sup>

Paper Code	Title	Credit	Marks
B.VOC 5001	Dot NET Framework	4.0	100
B.VOC 5002-A	Elective 1: Data Warehousing & Data Mining	4.0	100
B.VOC 5002-B	Elective 1: Android Programming	4.0	100
B.VOC 5003-A	Elective 2: Internet of Things	4.0	100
B.VOC 5003-B	Elective 2: Network Security	4.0	100
B.VOC 5004	Software Quality Assurance	6.0	100
B.VOC 5005	Operation Research	6.0	100
Note : One paper from each elective. Sessional			
B.VOC P5006	Dot NET Lab	2.0	50
B.VOC P5007	Elective 1 Lab	2.0	50
B.VOC P5008	Elective 2 Lab	2.0	50

## Semester -6<sup>th</sup>

B.VOC PROJ-6001	Project	30.0	650
-----------------	---------	------	-----

