Semester – VIII

Core Papers

Course No.	Name of the Course	Hrs./ Week	L	P	Credits
1	Fundamentals of IoT & Applications	5	5	0	5
2	Digital Forensics	5	5	0	5
3	Functional E - Business	5	5	0	5

Skill Based Papers

Course No.	Name of the Course	Hrs./ Week	L	P	Credits
4	Data Visualization with Power BI	6	4	2	5
5	Dynamic Web Page Designing	6	4	2	5

Transdisciplinary Online

Name of the Course	
15 week course	

PVKN GOVT. COLLEGE (AUTONOMOUS), CHITTOOR
(Re-Accredited by NAAC with 'A' Grade)

BOARD OF STUDIES
MINUTES OF THE MEETING 2024-25

IV YEAR VII SEMESTER B.COM (COMPUTER APPLICATIONS)

CONDUCTED
ON

25-07-2024 @ 12:00PM

DEPARTMENT OF COMPUTER APPLICATIONS

PVKN Govt. College (A), Chittoor

(Re-Accredited with 'A' Grade by NAAC)

Department of Computer Applications

BOARD OF STUDIES for 2024-25

From

Dr. S. Saravana,
In-charge, Dept. of Computer Applications,
P.V.K.N Govt. College (A),
Chittoor.

To

The Principal,
P.V.K. N Govt. College (A),
Chittoor.

Sir,

I submit that, we have conducted a department meeting and unanimously proposed to form a Board of Studies of our department with following persons as members

Category	Name of the Member
BOS Chairman	**Dr S. Saravana** Department in-charge Asst Professor in Computer Applications Department of Computer Applications PVKN Govt. College (A), Chittoor Mobile: 7013807419 Mail ID: ssaravana_ssi@yahoo.co.in
Faculty Members	1. **Smt K. Srilatha** Lecturer in Computer Applications PVKN Govt. College(A), Chittoor. Mobile: 7893082602 Mail ID: kadimi.srilatha80@gmail.com 2. **Sri S.K. Sathya Hari Prasad** Lecturer in Computer Applications PVKN Govt. College (A), Chittoor. Mobile: 9849959423 Mail ID: sathyahari74.shp@gmail.com
External members	
Two Subject Experts from Outside Parent University Nominated by Academic Council	1. **Dr A. Ravi Prasad** Lecturer in Computer Applications SVA Govt. Degree College (M), Srikalahasti, Tirupati District Mobile: 9666732325 Mail ID: dr.ravis007@gmail.com
	2. **Dr B. Kavitha** Lecturer in Computer Applications SG Govt. Degree College (M), Piler, Chittoor District Mobile: 9912316680 Mail ID: ballikavitha@yahoo.co.in
University Nominee	**Prof. M. Padmavathamma** SVU College of Science, S.V. University, Tirupati Mobile: 9346364594 EMail Id: Prof.padma@yahoo.com
Representative from Industry/Corporate sector/Allied area	**Sri Girish Kumar Kuppireddy,** Manageing partner M/S Sattva Infotech, Gandhi puram, Tirupathi EMail Id: girish7h@gmail.com Mobile: 9985979770
One meritorious Alumnus	**Sri B. Manikanta,** Business Operations-II (Global Trade) HP Inc. Mobile: 8712356571

	EMail Id: bmanikanta@hp.com

P.V.K.N GOVERNMENT COLLEGE, CHITTOOR (AUTONOMOUS)

(Re-Accredited with 'A' Grade by NAAC)

Department of COMPUTER APPLICATIONS

BOARD OF STUDIES MEETING 2024-25

Date: 25-07-2024 at 12:00PM through Google Meet

Agenda

1. Approval for Update/Revise/Modify the syllabus of UG (IV BCom (CA)) VII Semester paper entitled **"Fundamentals of IoT and Applications".**
2. Approval for Update/Revise/Modify the syllabus of UG (IV BCom (CA)) VII Semester paper entitled **"Digital Forensic".**
3. Approval for Update/Revise/Modify the syllabus of UG (IV BCom (CA)) VII Semester paper entitled **"Functional E-business".**
4. Approval for Update/Revise/Modify the syllabus of UG (IV BCom (CA)) VII Semester paper entitled ***"Data Visualization with Power BI ".***
5. Approval for Update/Revise/Modify the syllabus of UG (IV BCom (CA)) VII Semester paper entitled **" Dynamic web page designing ".**

PVKN Govt. College (A), Chittoor
Department of Computer Applications
BOARD OF STUDIES MEETING: 25-07-2024

MINUTES OF THE MEETING

The 12th meeting of BOS in Computer Applications was held on 25-**07-2024** through Blended (online & offline) mode at the Computer Lab, Department of Computer Applications, PVKN GC (A), Chittoor. The agenda has been placed before the committee for constructive suggestions for further improvement keeping in view the local needs / market demand / industry-needs / employment generation as per the UGC Regulations 2018 and NEP-2020.

Resolutions

In the present BOS meeting, the following resolutions were made and unanimously approved and ratified by the committee. The decisions/changes wherever necessary, taken at the college level may be adopted in the consecutive academic years from the date of the BOS meeting conducted on 25-07.**2024**.

1. Resolved to follow the IV B. COM (CA)-VII Semester-Paper-I entitled **"FUNDAMENTAL OF IOT AND APPLICATIONS" (Theory)** revised and upgraded syllabus which is placed before the BOS committee.
2. Resolved to follow the III B. COM (CA)-VII Semester-Paper-VII entitled **"DIGITAL FORENSICS" (Theory)** revised and upgraded syllabus which is placed before the BOS committee.
3. Resolved to follow the III B. COM (CA)-VII Semester-Paper-VII entitled **"FUNCTIONAL E-BUSINESS" (Theory)** revised and upgraded syllabus which is placed before the BOS committee
4. Resolved to follow the III B. COM (CA)-VII Semester-Paper-VII entitled **"Data VISUALIZATION WITH POWER BI" (Theory, Practical)** revised and upgraded syllabus which is placed before the BOS committee
5. Resolved to follow the III B. COM (CA)-VII Semester-Paper-VII entitled **"DYNAMIC WEB PAGE DESIGNING" (Theory, practical)** revised and upgraded syllabus which is placed before the BOS committee
6. Resolved to follow the pedagogy of teaching / learning strategies as per the UGC guidelines.
   i. **Lecture method, Lecture cum demonstration method, Question-Answer method, Assignments, Seminars is part of the teaching – learning process.**
   ii. **Arrange Industrial visits to expose students to practical pursuits as a part of learning.**
   iii. **Student-centric methods like Presentations, Community service projects, internships, Quiz, Group-discussions, etc.**

iv. **Use of ICT tools and techniques, digital interactive boards to enhance the quality of teaching learning process.**

v. **Use of CCE-LMS to get e-content.**

To take the valuable suggestions of the BOS on academic and extra-curricular activities to be taken up at department level for strengthening the academic instruction to the students.

Signatures of the Members

Signature of the BOS Chairman

PVKN Govt. College (A), Chittoor

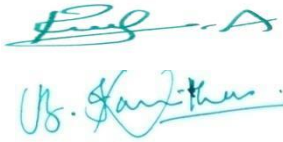
Department of Computer Applications

B.COM (COMPUTER APPLICATIONS)

COURSE STRUCTURE

SEMESTER	PAPER CODE	SUBJECT	HOURS	CREDITS	INTERNAL	EXTERNAL	TOTAL
FOURTH YEAR							
VII	**24-CAP-8C1**	Fundamentals of IoT & Applications	**5**	**5**	**25**	**75**	**100**
	24-CAP-8C2	Digital Forensics	**5**	**5**	**25**	**75**	**100**
	24-CAP-8C3	Functional E - Business	**5**	**5**	**25**	**75**	**100**
	24-CAP-8C4	Data Visualization with Power BI	**4**	**5**	**25**	**75**	**100**
	24-CAP-8C4P	Data Visualization with Power BI Lab	**2**		**-**	**50**	**50**
	24-CAP-8C5	Dynamic Web Page Designing	**4**	**5**	**25**	**75**	**100**
	24-CAP-8C5P	Dynamic Web Page Designing Lab	**2**		**-**	**50**	**50**
		Transdisciplinary Online	**15WEEKS**	**4**	**-**	**-**	**-**

Signatures of the Members



Signature of the BOS Chairman

PVKN.GOVT. COLLEGE (AUTONOMOUS), CHITTOOR
DEPARTMENT OF COMPUTER APPLICATIONS

B.COM [COMPUTER APPLICATIONS]

Programme Outcome (PO)

PO 1. Students gain knowledge in the fundamentals of Commerce and Finance by the completion of B.Com Programme.

PO 2 . Students will focus on specializations and practical exposures which would equip the student to face the modern-day challenges in commerce and business.

PO 3. Students trained professionals for the Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies, Warehousing etc., to meet the well trained manpower requirements

PO 4.Students present different type of works in academic and professional environments.

PO 5. Students will get communication and business management skills, especially in providing technical support. Manager, Selling Manager, Over all Administration abilities of the Company.

Program Specific Outcome (PSO)

SPO 1. This programme provides Students to become a Computer based Accountant in any Business organization.

SPO 2.This programme is useful for B.Com graduates to prepare e.filing income tax schedule and also get a job in this area.

SPO 3.This programme will give subject skills within various disciplines of Commerce, business, accounting, economics, finance, auditing and marketing and get jobs in this areas

SPO 4. This programme will provide students with success in competitive exams for Pursuing professional courses CA, CS, ICWA and staff selection commission.

SPO 5.This programme is useful to students to become successful Junior Accounts officers which only met for B.Com Graduates.

SPO 6.This programme provides jobs as programmer , soft skill developer and Computer operator.

SEMESTER-VIII

	PVKN Govt. College (Autonomous) **Chittoor** **DEPARTMENT OF COMPUTER APPLICATIONS**	**Program** IV B.com CA.
Course Code **24-CAP-8C1**	**TITLE OF THE COURSE** **FUNDAMENTALS OF IoT & APPLICATIONS**	**Semester-VIII**
Teaching	Hours Allocated: 45 Hrs (**Theory**)	**(5 Hrs./wk.)**
Pre-requisites	**FUNDAMENTALS OF IoT & APPLICATIONS**	Credits 5

COURSE OUTCOMES

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	Understand the various concepts, terminologies and architecture of IoT systems.	**SPO 3**	**C**
CO 2	Use sensors and actuators for the design of IoT.	**SPO 3**	**R**
CO 3	Understand and apply various protocols for design of IoT systems	**SPO 2**	**E**
CO 4	Use various techniques of data storage and analytics in IoT	**SPO 3**	**U**
CO 5	Understand various applications of IoT	**SPO 6**	**An**
CO 6	Understand APIs to connect IoT related technologies	**SPO 3**	**Ap**

L	T	P	C
5	0	0	5

Course Code:24-CAP-8C1 **Max Marks: 100**

Course: FUNDAMENTALS OF IoT & APPLICATIONS

Semester	Title of the Course	Number of Credits	Number of Hours
VIII	Fundamentals of IoT & Applications	5 (Theory: 5)	5 (Theory:5)

UNIT-I

Fundamentals of IoT: Introduction, Definitions & Characteristics of IoT, IoT Architectures, Physical & Logical Design of IoT, Enabling Technologies in IoT, History of IoT, About Things in IoT, The Identifiers in IoT, About the Internet in IoT, IoT frameworks, IoT and M2M.

UNIT-II

Sensors Networks: Definition, Types of Sensors, Types of Actuators, Examples and Working, IoT Development Boards: Arduino IDE and Board Types, RaspberriPi Development Kit, RFID Principles and components, Wireless Sensor Networks: History and Context, The node, Connecting nodes, Networking Nodes, WSN and IoT.

UNIT-III

Wireless Technologies for IoT: WPAN Technologies for IoT: IEEE 802.15.4, Zigbee, HART, NFC, Z-Wave, BLE, Bacnet, Modbus. IP Based Protocols for IoT IPv6, 6LowPAN, RPL, REST, AMPQ, CoAP, MQTT. Edge connectivity and protocols

UNIT-IV

Data Handling& Analytics: Introduction, Bigdata, Types of data, Characteristics of Big data, Data handling Technologies, Flow of data, Data acquisition, Data Storage, Introduction to Hadoop. Introduction to data Analytics, Types of Data analytics, Local Analytics, Cloud analytics and applications

UNIT-V

Applications of IoT: Home Automation, Smart Cities, Energy, Retail Management, Logistics, Agriculture, Health and Lifestyle, Industrial IoT, Legal challenges, IoT design Ethics, IoT in Environmental Protection.

Text Books:

1. HakimaChaouchi, — "The Internet of Things Connecting Objects to the Web" ISBN : 978-1- 84821-140-7, Wiley Publications
2. Olivier Hersent, David Boswarthick, and Omar Elloumi, — "The Internet of Things: Key Applications and Protocols", WileyPublications
3. Vijay Madisetti and ArshdeepBahga, — "Internet of Things (A Hands-on-Approach)", 1st Edition, VPT, 2014.
4. J. Biron and J. Follett, "Foundational Elements of an IoT Solution", O'Reilly Media, 2016.5. Keysight Technologies, "The Internet of Things: Enabling Technologies and Solutions for Design and Test", Application Note, 2016.

References

1. Daniel Minoli, — "Building the Internet of Things with IPv6 and MIPv6: The Evolving World of M2M Communications", ISBN: 978-1-118-47347-4, Willy Publications
2. Pethuru Raj and Anupama C. Raman, "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", CRC Press
3. Internet of Things by Surya Durbha, Jyothi Joglekar
4. Vijay Madisetti and ArshdeepBahga, — "Internet of Things (A Hands-on-Approach)", 1st Edition, VPT, 2014.
5. J. Biron and J. Follett, "Foundational Elements of an IoT Solution", O'Reilly Media, 2016.5. Keysight Technologies, "The Internet of Things: Enabling Technologies and Solutions for Design and Test", Application Note, 2016.

Online Web Resources

1. https://onlinecourses.nptel.ac.in/noc17_cs22/course
2. http://www.cse.wustl.edu/~jain/cse570-15/ftp/iot_prot/index.html

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion / Seminar
2. Try to solve MCQ's available online.
3.Others

	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	Program IV B.com CA.
Course Code 24-CAP-8C1	TITLE OF THE COURSE FUNDAMENTALS OF IoT & APPLICATIONS	Semester-VII
Teaching	BLUE PRINT	75 MARKS

BLUE PRINT FOR THE MODEL PAPER

S. No.	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section - A (very Short Questions)	5	2	10	5	2	10
2	Section - B (Short Questions)	8	5	40	5	5	25
3	Section – C (Essay Questions)	6	10	60	4	10	40
Total Marks				110	Total Marks		75

BLUE PRINT FOR THE QUESTION PAPER SETTING

Chapter Name	Very Short Question 2 Marks	Short questions 5 marks	Essay questions 10 marks	Marks allotted to the Chapter
UNIT - I	1	2	2	32
UNIT – II	1	2	1	22
UNIT – III	1	2	1	22
UNIT – IV	1	1	1	17
UNIT – V	1	1	1	17
Total No. of Questions	5	8	6	110

Signatures of the Members **Signature of the BOS chairman**

	PVKN Govt. College (Autonomous) **Chittoor** **DEPARTMENT OF COMPUTER APPLICATIONS**	**Program** IV B.com CA.
Course Code **24-CAP-8C1**	**TITLE OF THE COURSE** **FUNDAMENTALS OF IoT & APPLICATIONS**	**Semester-VIII**
Teaching	MODEL PAPER	**75MARKS**

SECTION-A

I. Answer any Five of the following. Each Question carries 2 Marks 5×2= 10 M

1. Define IOT?
2. What is Sensor?
3. WPAN?
4. What is Big data?
5. Write about Automation?

SECTION-B

II. Answer any Five of following. Each Question carries 5 Marks 5X5=25 M

6. Write the Identifiers of IOT?
7. What is the IOT framework?
8. Write about Working IOT Development Boards?
9. What is Edge connectivity and protocols?
10. What are the characteristics of Big Data?
11. Explain Smart city?
12. Cloud analytics?
13. What are the legal challenges of IOT?

SECTION-C

III. Answer any Four of the following. Each Question carries 10 Marks 4X10=40 M

14. What are the Technologies in IOT?
15. Write about Wireless Sensor Networks?
16. Explain IEEE802.15.4
17. What are the types of data and explain the Bigdata benefits?
18. Write the IOT ethics?
19. Explain Industrial IOT?

Signature of the Members

Signature of the BOS Chairman

	PVKN Govt. College (Autonomous) **Chittoor** **DEPARTMENT OF COMPUTER APPLICATIONS**	**Program** IV B.com CA.
Course Code **24-CAP-8C2**	**TITLE OF THE COURSE** **DIGITAL FORENSICS**	**Semester-VIII**
Teaching	Hours Allocated: 45 Hrs (**Theory**)	**(5 Hrs./wk.)**
Pre-requisites	**DIGITAL FORENSICS**	Credits 5

COURSE OUTCOMES

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	Know the basics of forensic	**SPO 3**	**C**
CO 2	Understanding computing investigation and procedures.	**SPO 3**	**R**
CO 3	Understand the different storage formats	**SPO 2**	**E**
CO 4	Know how to apply forensic analysis tools to recover important evidence for identifying computer crime.	**SPO 3**	**U**
CO 5	To be well-trained as next-generation computer crime investigators.	**SPO 6**	**An**

L	T	P	C
5	0	0	5

Course Code: **Max Marks: 100**

Course: DIGITAL FORENSICS

Semester	Title of the Course	Number of Credits	Number of Hours
VIII	Digital Forensics	5 (Theory: 5)	5 (Theory: 5)

Objective

1. To understand the basic digital forensics and techniques for conducting the forensic examination on different digital devices.
2. To understand how to examine digital evidence such as data acquisition, identification analysis.

Unit -I

Computer forensics fundamentals, Benefits of forensics, computer crimes, computer forensics evidence and courts, legal concerns and private issues.

Unit- II

Understanding Computing Investigations – Procedure for corporate High-Tech investigations, understanding data recovery work station and software, conducting and investigations.

Unit-III

Data acquisition- understanding storage formats and digital evidence, determining the best acquisition method, acquisition tools, validating data acquisitions, performing RAID data acquisitions, remote network acquisition tools, other forensics acquisitions tools.

Unit-IV

Processing crimes and incident scenes, securing a computer incident or crime, seizing digital evidence at scene, storing digital evidence, obtaining digital hash, reviewing case.

Unit-V

Current computer forensics tools- software, hardware tools, validating and testing forensic software, addressing data-hiding techniques, performing remote acquisitions, E-Mail investigations- investigating email crime and violations, understanding E-Mail servers, specialized E-Mail forensics tool.

Text Books:

1. Warren G. Kruse II and Jay G. Heiser, "Computer Forensics: Incident Response Essentials", Addison Wesley, 2002.
2. Nelson, B, Phillips, A, Enfinger, F, Stuart, C., "Guide to Computer Forensics and Investigations, 2nd ed., Thomson Course Technology, 2006, ISBN: 0-619-21706-5.

Reference Books:

1. Vacca, J, *Computer Forensics, Computer Crime Scene Investigation*, 2nd Ed, Charles River Media, 2005, ISBN: 1-58450-389. Cyber Forensics by Dejey

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the

syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion / Seminar
2. Try to solve MCQ's available online.
3. Others

	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	Program IV B.com CA.
Course Code 24-CAP-8C2	TITLE OF THE COURSE DIGITAL FORENSICS	Semester-VIII
Teaching	BLUE PRINT	75 MARKS

BLUE PRINT FOR THE MODEL PAPER

S. No.	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section - A (very Short Questions)	5	2	10	5	2	10
2	Section - B (Short Questions)	8	5	40	5	5	25
3	Section – C (Essay Questions)	6	10	60	4	10	40
Total Marks				110	Total Marks		75

BLUE PRINT FOR THE QUESTION PAPER SETTING

Chapter Name	Very Short Question 2 Marks	Short questions 5 marks	Essay questions 10 marks	Marks allotted to the Chapter
UNIT - I	1	2	2	32
UNIT – II	1	2	1	22
UNIT – III	1	2	1	22
UNIT – IV	1	1	1	17
UNIT – V	1	1	1	17
Total No. of Questions	5	8	6	110

Signatures of the Members **Signature of the BOS chairman**

	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	**Program** IV B.com CA.
Course Code **24-CAP-8C2**	**TITLE OF THE COURSE** **DIGITAL FORENSICS**	**Semester-VIII**
Teaching	MODEL PAPER	**75 MARKS**

SECTION-A

I. Answer any Five of the following. Each Question carries 2 Marks 5×2= 10 M

1. What is computer Forensic?
2. Define data recovery?
3. Data Acquisition?
4. Digital Hash?
5. Email server?

SECTION-B

II. Answer any Five of the following. Each Question carries 5 Marks 5X5=25 M

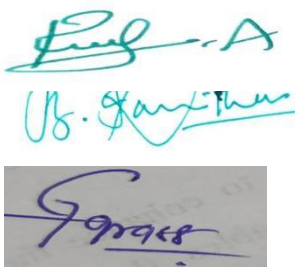
6. What are the benefits of Forensics?
7. Write about LEgal concerns?
8. Explain data recovery and software?
9. What is RAID data acquisition?
10. What is Storing Digital evidence?
11. Write about EMail forensic tools?
12. What are data hiding techniques?
13. Explain a remote network?

SECTION-C

III. Answer any Four of the following. Each Question carries 10 Marks 4X10=40 M

14. Explain in detail about computer crimes?
15. Write the procedure for corporate High-Tech investigations?
16. Explain validating the data acquisitions?
17. Explain the seizing of digital evidence at the scene?
18. Write about Email investigations?
19. Explain the E-Mail servers?

Signature of the Members **Signature of the BOS Chairman**



	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	**Program** IV B.com CA.
Course Code **24-CAP-8C3**	**TITLE OF THE COURSE** **FUNCTIONAL E-BUSINESS**	**Semester-VIII**
Teaching	Hours Allocated: 45 Hrs (**Theory**)	**(5 Hrs./wk.)**
Pre-requisites	**FUNCTIONAL E-BUSINESS**	Credits 5

COURSE OUTCOMES

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	To understand the use of Computers in decision making	**SPO 3**	**C**
CO 2	To provide an insight into various processing and information systems.	**SPO 3**	**R**
CO 3	Analyzing records according to management policy.	**SPO 2**	**E**
CO 4	Systems to give practical exposure in various reporting methods and Internet Accessibility	**SPO 3**	**U**
CO 5	Maintaining database and processing software.	**SPO 6**	**An**

L	T	P	C
5	0	0	5

Course Code: **Max Marks: 100**

Course: FUNCTIONAL E-BUSINESS

Semester	Title of the Course	Number of Credits	Number of Hours
VIII	Functional E-Business	5 (Theory: 5)	5 (Theory: 5)

UNIT – I : E-BUSINESS– An Introduction:

Introduction, E-Commerce – definition, History of E-commerce, types of E-Commerce B to B etc. Comparison of traditional commerce and e-commerce. E-Commerce business models – major B to B, B to C model, Consumer-to-Consumer (C2C), Consumer-to-Business (C2B) model, Peer to-Peer (P2P) model – emerging trends. Advantages/ Disadvantages of ecommerce, web auctions, virtual communities, portals, e-business revenue models.

UNIT – II: SECURITY FOR E-BUSINESS

Security threats – An area view – implementing E-commerce security – encryption – Decryption, Protecting client computers E-Commerce Communication channels and web servers Encryption, SSL protocol, Firewalls, Cryptography methods, VPNs, protecting, networks, policies and procedures.

UNIT- III: E-PAYMENTS:

E-payment systems – An overview. B to C payments, B to B payments. Types of E- payment system – Credit card payment, debit cards, accumulating balance, online stored value payment systems, digital cash, digital (electronic) wallets, agile wallet, smart cards and digital cheques. Secure Electronic Transaction (SET) protocol.RFID Concepts.

UNIT - IV: E-BUSINESS MARKETING TECHNOLOGIES

E-Commerce and marketing B to B and B to C marketing and branding strategies. Web transaction logs, cookies, shopping cart database, DBMS, SQL, data mining, CRM (customer relationship Management) system – permission marketing, affiliate marketing, viral marketing.

UNIT – V: CYBER LAWS

Legal Aspects of E-Business, Internet frauds – Cyber Laws. IT Act 2000 salient features. Guidelines on cyber securities to be included

Text Books:

1. Marippa M, E – Commerce, 13th edition
2. R.G.Saha, E – Business, HPH, 10th edition.

REFERENCES:

1. M. Suman – E – Commerce & Accounting
2. Kalakota Ravi and A. B. Whinston : "Frontiers of Electronic Commerce", Addison
Watson R T :"Electronic Commerce – the strategic perspective." The Dryden press
3. .Agarwala K.N and DeekshaArarwala: "Business on the Net – Whats and Hows of E Commerce"
4. Agarwala and Ararwala : "Business on the Net – Bridge to the online store front,"
Murthy CSV: "E. Commerce" Himalaya Publishing House Pvt.Ltd

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion / Seminar
2. Try to solve MCQ's available online.
3. Others

	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	Program IV B.com CA.
Course Code 24-CAP-8C3	TITLE OF THE COURSE FUNCTIONAL E-BUSINESS	Semester-VIII
Teaching	BLUE PRINT	75 MARKS

BLUE PRINT FOR THE MODEL PAPER

S. No.	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section - A (very Short Questions)	5	2	10	5	2	10
2	Section - B (Short Questions)	8	5	40	5	5	25
3	Section – C (Essay Questions)	6	10	60	4	10	40
Total Marks				110	Total Marks		75

BLUE PRINT FOR THE QUESTION PAPER SETTING

Chapter Name	Very Short Question 2 Marks	Short questions 5 marks	Essay questions 10 marks	Marks allotted to the Chapter
UNIT - I	1	2	2	32
UNIT – II	1	2	1	22
UNIT – III	1	2	1	22
UNIT – IV	1	1	1	17
UNIT – V	1	1	1	17
Total No. of Questions	5	8	6	110

Signatures of the Members **Signature of the BOS chairman**

	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	**Program** IV B.com CA.
Course Code **24-CAP-8C3**	**TITLE OF THE COURSE** **FUNCTIONAL E-BUSINESS**	**Semester-VIII**
Teaching	MODEL PAPER	**75MARKS**

SECTION-A

I. Answer any Five of the following. Each Question carries 2 Marks 5×2= 10 M

1. E- business?
2. What is cryptography?
3. Define RFID?
4. Define Cookie?
5. What is Cyber law?

SECTION-B

II. Answer any Five of following. Each Question carries 5 Marks 5X5=25 M

6. What are the characteristics of E business?
7. Write about Web Auctions?
8. Implementation of E commerce Security?
9. What is encryption?
10. Define DBMS?
11. Write about Affiliate marketing?
12. Explain Internet Frauds?
13. What is cyber security?

SECTION-C

III. Answer any Four of following. Each Question carries 10 Marks 4X10=40 M

14. Explain the types of E-commerce?
15. What are E-business revenue models?
16. Explain the Cryptography methods?
17. Write a note on VPN's?
18. Explain the shopping cart database?
19. Explain the salient features of IT ACT 2000?

Signature of the Members **Signature of the BOS Chairman**

	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	**Program** IV B.com CA.
Course Code **24-CAP-8C4**	**TITLE OF THE COURSE** **DATA VISUALIZATION TO POWER BI**	**Semester-VIII**
Teaching	Hours Allocated: 45 Hrs (**Theory**)	**(5 Hrs./wk.)**
Pre-requisites	**DATA VISUALIZATION TO POWER BI**	Credits 5

COURSE OUTCOMES

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	Understand the concept Power Pivot and interface with excel analytic way	**SPO 3**	**C**
CO 2	Write the algorithms for combine data quickly from a variety of sources into your model	**SPO 3**	**R**
CO 3	Prepare the data various sources, clean, merge, filter data and calculated methods	**SPO 2**	**E**
CO 4	Compose and choose the model, relationships between in themodels, user friendly models	**SPO 3**	**U**
CO 5	Define BI environment, data clean, shaping, table relationships and analysis techniques	**SPO 6**	**An**

L	T	P	C
4	0	2	5

Course Code: **Max Marks: 100**

Course: DATA VISUALIZATION TO POWER BI

Semester	Title of the Course	Number of Credits	Number of Hours
VIII	Data Visualization to Power BI	5 (Theory: 4 + Practical: 1)	6 (Theory: 4 + Practical: 2)

UNIT – I: Introduction Power Pivot

Introduction of Pivot - Use Power Pivot –x Velocity in-memory analytics engine-Exploring the Data Model Management interface-Analyzing data using a pivot table

UNIT – II: Power BI Data Import and Data Cleaning

Working with Data - Import data from relational databases -Import data from text files - Import data from a data feed -Import data from other sources, Discover and import data from various sources

UNIT – III: Data Cleaning Techniques

Data Munging - Getting, cleaning, and shaping data, Cleanse data - Merge, shape, and filter data - Group and aggregate data –Insert calculated columns.

UNIT – IV: Power BI Data Model

Creating data Model - Explain what a data model is – Create relationships between tables in the model - Create and use a star schema - Understand when and how to be normalize the data -Create and use linked tables

UNIT – V: **Power BI Visuals and DAX**

Adding calculations and measures-Incorporating time-based analysis

Textbooks

1. PowerBI 2021 – volume 3 (English, Paperback, FsilvaRoger) by PowellBrett, ISBN: 9798711316824
2. Microsoft PowerBI Desktop – Creating Visual Reports by HutchinsonJeff, ISBN: 9781081588908
3. Mastering Microsoft PowerBi by Fsilva Roger, ISBN: 9781788297233, 9781788297233, publisher: PacktPublishing Limited

Reference Books

1. Microsoft PowerBI Desktop – Creating Visual Reports by HutchinsonJeff, ISBN: 9781081588908
2. Beginning PowerBI: A Practical Guide to Self Service Data Analytics with Excel 2016 and PowerBI Desktop Second Edition by Dan Clark.

Online Web Resources:

1.https://books.google.co.in/books?id=Da8DgAAQBAJ&newbks=0&printsec=frontcover&hl=en&source=newbks_fb&redir_esc=y#v=onepage&q&f=false

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion / Seminar
2. Try to solve MCQ's available online.
3. Case Studies
4. Others

Practical List

1. Loading data in power BI
2. Data model in power BI
3. Data visualisation in power BI
4. Advanced data visualisation in power BI
5. Basic data munging
6. Advanced data munging
7. Data Wrangling
8. Measures and Quick Measures
9. Basic Dax Formulas

Note: The list of experiments need not be restricted to the above list. Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.

	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	Program IV B.com CA.
Course Code 24-CAP-8C4	TITLE OF THE COURSE DATA VISUALIZATION TO POWER BI	Semester-VIII
Teaching	BLUE PRINT	75 MARKS

BLUE PRINT FOR THE MODEL PAPER

S. No.	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section - A (very Short Questions)	5	2	10	5	2	10
2	Section - B (Short Questions)	8	5	40	5	5	25
3	Section – C (Essay Questions)	6	10	60	4	10	40
Total Marks				110	Total Marks		75

BLUE PRINT FOR THE QUESTION PAPER SETTING

Chapter Name	Very Short Question 2 Marks	Short questions 5 marks	Essay questions 10 marks	Marks allotted to the Chapter
UNIT - I	1	2	2	32
UNIT – II	1	2	1	22
UNIT – III	1	2	1	22
UNIT – IV	1	1	1	17
UNIT – V	1	1	1	17
Total No. of Questions	5	8	6	110

Signatures of the Members **Signature of the BOS chairman**

	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	Program IV B.com CA.
Course Code 24-CAP-8C4	TITLE OF THE COURSE DATA VISUALIZATION TO POWER BI	Semester-VIII
Teaching	MODEL PAPER	75MARKS

SECTION-A

I. Answer any Five of the following. Each Question carries 2 Marks 5×2= 10 M

1. Power pivot?
2. What is the meaning of data?
3. What is aggregate data?
4. Define schema?
5. Power BI?

SECTION-B

II. Answer any Five of following. Each Question carries 5 Marks 5X5=25 M

6. What are the characteristics of Power BI?
7. Write a note on Interface?
8. Write a short note on Cleanse data?
9. Explain the group data and aggregated data?
10. Explain the Star schema?
11. How to normalize the data?
12. Benefits of Power BI?
13. What are the features of Data visualization and power BI?

SECTION-C

III. Answer any Four of following. Each Question carries 10 Marks 4X10=40 M

14. Explain the velocity in memory analytics?
15. Import data from relational databases ?
16. What are the data cleaning techniques?
17. Explain the Power BI data model?
18. What are the measures of calculating the data in power BI visuals and DAX?
19. Explain the data model used in the Power BI?

Signature of the Members **Signature of the BOS Chairman**

	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	**Program** IV B.com CA.
Course Code **24-CAP-8C5**	**TITLE OF THE COURSE** **DYNAMIC WEB PAGE DESIGNING**	**Semester-VIII**
Teaching	Hours Allocated: 45 Hrs (**Theory**)	**(5 Hrs./wk.)**
Pre-requisites	**DYNAMIC WEB PAGE DESIGNING**	Credits 5

COURSE OUTCOMES

Si.No	On completing the course, the student will be able to:	PSOs addressed	Cognitive levels
CO 1	Understand the basics of web design and web design process	**SPO 3**	**C**
CO 2	Understand the basics of web design and web design process.	**SPO 3**	**R**
CO 3	Understand the ASP and VB script, ASP objects, and server side components.	**SPO 2**	**E**
CO 4	Knowledge on web services ActiveX data objects, ADO.NET model, and developing data base applications.	**SPO 3**	**U**
CO 5	Knowledge on working with ADO.NET and SQL server and creating web application using it.	**SPO 6**	**An**

L	T	P	C
4	0	2	5

Course Code: **Max Marks: 100**

Course: DYNAMIC WEB PAGE DESIGNING

Semester	Title of the Course	Number of Credits	Number of Hours
VIII	Data Visualization to Power BI	5 (Theory: 4 + Practical: 1)	6 (Theory: 4 + Practical: 2)

UNIT – I: INTRODUCTION TO WEB DESIGN

Introduction to web design : what is web design – the web design process – frames – LINKING :text – buttons – icons & graphics – search & designing – text : fonts –text layout – colors – imagesand backgrounds – cookies

UNIT – II: ASP AND VB SCRIPT

Introduction to ASP VB Script –active server objects: Applications, server, session, response,request - active server components: server side components.

UNIT– III: ASP.NET

Introduction to ASP.Net: what is ASP.Net – setting up for ASP.Net – Programming basics: basicsof programming –program flow – effective coding techniques –processing ASP.Net applications.Web founds and ASP.Net – ASP.Net and state – scope – ASP.Net objects and components.

UNIT - IVWEB SERVICES AND ASP.NET WITH SQL SERVER 15 hours

Web services and ASP.Net –ASP.Net and SQL server –using SQL server –using database in ASP.Net applications – ActiveX data objects –ADO.Net object model.

UNIT – V : ADO AND ADO.NET

Introduction to ADO- working with ADO connection object, command object and record setobjects – over view of ADO and ADO.Net – ADO.Net providers , process – editing data withADO.Net – ADO and SQL server.

Text Books:
1 The Complete reference WEB design by ThomosA Powel TMH Publications 2000 Edn. 2 Using Active server pages by Scot Johnson PHI SplEdn.
3 ASP.Net a beginners guide by Dave Merces TMH 2002 Edn.
4 ADO & ADO.Net programming by Mike Yenderloy BPB publications 2002 Edn.
Reference Books:
1. Internet and Web Design, ITL Education, Macmillan India Ltd.
2. Web Technologies by Uttam K. Roy
RECOMMENDED CO-CURRICULAR ACTIVITIES:
(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)
A. Measurable
1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity
B. General
1. Group Discussion / Seminar
2. Try to solve MCQ's available online.
3. Others

Practical List

1. Introduction to ASP: Write a simple "Hello World" program using ASP to display a message on a web page.
2. Basic HTML Forms: Create a web page that contains a form with various input fields such as text, radio buttons, checkboxes, and select lists.
3. Handling Form Data: Write an ASP program that retrieves and displays the data submitted through the form created in the previous lab.
4. Creating a Database: Use ASP to create a database and populate it with data.
5. Retrieving Data from a Database: Write an ASP program that retrieves data from the database created in the previous lab and displays it on a web page.
Note: The list of experiments need not be restricted to the above list. Detailed list of programming/software tool based exercises can be prepared by the concerned faculty members.

	PVKN Govt. College (Autonomous) Chittoor DEPARTMENT OF COMPUTER APPLICATIONS	Program IV B.com CA.
Course Code 24-CAP-8C5	TITLE OF THE COURSE DYNAMIC WEB PAGE DESIGNING	Semester-VIII
Teaching	BLUE PRINT	75 MARKS

BLUE PRINT FOR THE MODEL PAPER

S. No.	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section - A (very Short Questions)	5	2	10	5	2	10
2	Section - B (Short Questions)	8	5	40	5	5	25
3	Section – C (Essay Questions)	6	10	60	4	10	40
Total Marks				110	Total Marks		75

BLUE PRINT FOR THE QUESTION PAPER SETTING

Chapter Name	Very Short Question 2 Marks	Short questions 5 marks	Essay questions 10 marks	Marks allotted to the Chapter
UNIT - I	1	2	2	32
UNIT – II	1	2	1	22
UNIT – III	1	2	1	22
UNIT – IV	1	1	1	17
UNIT – V	1	1	1	17
Total No. of Questions	5	8	6	110

Signatures of the Members **Signature of the BOS chairman**

	PVKN Govt. College (Autonomous) **Chittoor** **DEPARTMENT OF COMPUTER APPLICATIONS**	**Program** IV B.com CA.
Course Code **24-CAP-8C5**	**TITLE OF THE COURSE** **DYNAMIC WEB PAGE DESIGNING**	**Semester-VIII**
Teaching	MODEL PAPER	**75 MARKS**

SECTION-A

I. Answer any Five of the following. Each Question carries 2 Marks 5×2= 10 M

1. What is a Dynamic Web page?
2. Define ASP?
3. What is the scope of ASP.net?
4. What is ADO.net?
5. Define Command object?

SECTION-B

II. Answer any Five of following. Each Question carries 5 Marks 5X5=25 M

6. What are the characteristics of search and designing the text?
7. What is meant by VB Script?
8. Explain the ASP.net?
9. What are the applications of ASP.net?
10. Write about SQL Server?
11. Explain the web services?
12. ActiveX data objects?
13. write about ADO in detail?

SECTION-C

III. Answer any Four of the following. Each Question carries 10 Marks 4X10=40 M

14. Creation of images and background?
15. What are the applications of ASP and VB script?
16. What are the basic features of effective coding techniques?
17. How to use the database in ASP.net applications?
18. Working with an ADO connection object?
19. Explain the command object and record set objects?

Signature of the Members **Signature of the BOS Chairman**