KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

(Sponsored by S.K.P.V.V. Hindu High Schools' Committee)

UG IV SEMESTER END EXAMINATIONS:: MAR 2025

TIME	03.03.2025 9 am - 11 am	04.03.2025 9 am - 11 am	05.03.2025 9 am - 12 noon	06.03.2025 9 am - 12 noon	07.03.2025 9 am - 12 noon	08.03.2025 9 am - 12 noon	10.03.2025 9 am - 12 noon
BSC HONOURS PHYSICS	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23PHY401 Electricity and Magnetism	R23PHY402 Modern Physics	R23PHY403 Introduction to Nuclear and Particle Physics	R23MCSC401 Data Base Management System	R23MCSC402 Object Oriented Software Engineering
BSC HONOURS MATHEMATICS	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23MAT401 Ring Theory and Problem Solving Sessions	R23MAT402 Introduction to Real Analysis and Problem solving Sessions	R23MAT403 Integral Transforms and Problem solving sessions	R23MCSC401 Data Base Management System	R23MCSC402 Object Oriented Software Engineering
BSC HONOURS COMPUTERS	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23MPHY401 Electricity and Magnetism R23MELE401 Electrical and Electronics Instumentation R23MMAT401 Ring Theory and Problem Solving Sessions R23MCHE401 Physical Chemistry -II (States of Matter, Phase rule and Surface Chemistry)	R23MPHY402 Modern Physics R23MELE402 Micro Processor System R23MMAT402 Introduction to Real Analysis and Problem Solving Sessions R23MCHE402 General and Physical Chemistry	R23CSC403 Data Communications and Computer Networks	R23CSC401 Data Base Management System	R23CSC402 Object Oriented Software Engineering
BSC HONOURS ELECTRONICS	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23ELE401 Electrical and Electronic Instrumentation	R23ELE403 Micro Processor System	R23ELE402 Micro Control System	R23MCSC401 Data Base Management System	R23MCSC402 Object Oriented Software Engineering
BSC HONOURS STATISTICS	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23STAT401 Sampling Techniques	R23STAT402 Design and Analysis of Experiments	R23STAT403 Numerical Analysis	R23MCSC401 Data Base Management System	R23MCSC402 Object Oriented Software Engineering
BSC HONOURS CHEMISTRY	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23CHE401 Physical Chemistry - II	R23CHE402 General and Physical Chemistry	R23CHE403 Nitrogen containing Organic Compounds and Spectroscopy	R23MCSC401 Data Base Management System	R23MCSC402 Object Oriented Software Engineering
BSC HONOURS DATA SCIENCE	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23DS403 Introduction to SQL and Advanced Tableau	R23DSMSTAT401 Design and Analysis of Experiments	R23DSMSTAT402 Numerical Analysis	R23DS401 Data Visualisation using Tableau	R23DS402 Data visualisation using Python
BSC HONOURS MICROBIOLOGY	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23MCHE401 Physical Chemistry II (States of Matter, Phase rule and surface chemistry)	R23MCHE402 General and Physical Chemistry	R23MB403 R DNA Technology, Bio Statistics and Bio Informatics	R23MB401 Molecular Biology and Microbial Genetics	R23MB402 Microbial Physiology and Metabolism
BSC HONOURS BIOTECHNOLOGY	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23MCHE401 Physical Chemistry II (States of Matter, Phase rule and surface chemistry)	R23MCHE402 General and Physical Chemistry	R23BT402 Bio informatics and Bio Statistics	R23BT403 Medical Biotechnology	R23BT401 Immunology
BSC HONOURS ARTIFICIAL INTELLIGENCE	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23AI401 Data warehousing and Data Mining	R23AI402 Machine Learning using Python	R23AI403 Introduction to AI	R23AIMCSC401 Web Full Stack Development	R23MCSC402 Object Oriented Software Engineering
B.VOC HONOURS SOFTWARE DEVELOPMENT	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23WT402 Interactive Web Development with JavaScript	R23WT403 Web Development using PHP and MYSQL	R23WT401 Data Communications and Computer Networks	R23MNCSC403 Data Visualisation using Tableau	R23MCSC402 Object Oriented Software Engineering
BA HONOURS POLITICAL SCIENCE	R23MDP401 Indian Philosophy	R23SDP402 Digital Marketing	R23PS401 Indian Government	R23PS402 Dynamics of Indian Political System	R23PS403 Indian Political Thought	R23MSOC401 Urban Sociology and Urban Development	R23MSOC402 Rural Sociology and Rural Development
BCOM HONOURS GENERAL	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23MCSC404 Interactive Web Development with JavaScript	R23COM402 Cost and Management Accounting	R23COM403 Auditing	R23COM401 Corporate Accounting	R23MCSC403 UI/UX Design
BCOM HONOURS TP	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23COMT401 Assessment of individuals and HUF	R23COMT402 Company Law	R23COMT403 Assessment of Firms, AOP and Societies	R23MNCSC401 Social Media Marketing	R23MNCSC402 Web Programming
BCOM HONOURS COMPUTERS	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23MCOM401 Talent Management	R23COM402 Cost and Management Accounting	R23BCOMP401 DBMS with Oracle	R23COM401 Corporate Accounting	R23MCOM402 Training and Development
BCA HONOURS	R23MDP401 Indian Philosophy	R23SDP402 Digital Marketing	R23BCA401 Advanced Java Web Technologies:Servlets, JSP and Hibernate	R23BCA402 Operating System	R23BCA403 Mobile Application Development using Android	R23MNCSC403 Data Visualisation using Tableau	R23MBCA402 Data visualisation using Python
BBA HONOURS GENERAL	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23BBA401 Marketing Management	R23BBA403 Financial Management	R23BBA402 Human Resource Management	R23MNCSC401 Social Media Marketing	R23MNCSC402 Web Programming
BBA HONOURS BUSINESS ANALYTICS	R23MDP401 Indian Philosophy	R23SDP401 Cyber Security	R23BBBA401 Marketing Management	R23BBBA402 Financial Management	R23BBACSC401 Data Mining & Warehousing	R23MNCSC401 Social Media Marketing	R23MNCSC402 Web Programming

Controller of Examinations 8/2/25

Principal 8/2/25

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

(Sponsored by S.K.P.V.V. Hindu High Schools' Committee)

IV SEMESTER SUPPLEMENTARY EXAMINATIONS :: MARCH 2025

DATE	TIME	B.SC									B.Com				BBA	BCA
		BIPC	M.P.CS	M.S.CS	M.E.CS	MCCS	CBZ	DATA SCIENCE	IOT	WEB TECHNOLOGIES & APP DEVELOPMENT	GEN	T.P	COMP	LOG		
03-03-2025	9 AM - 12 NOON	**Real Analysis** R20MAT401	**Real Analysis** R20MAT401	**Real Analysis** R20MAT401	**Real Analysis** R20MAT401	**Real Analysis** R20MAT401	**Plant Physiology and Metabolism** R20BOT401 (2021-22) R20BOT401A (2023-24)	**Data Processing and Visualization** R20DSDPV401 (2021-22) R20DSDPV401A (2023-24)	**Introduction to Microprocessor and Microcontroller** R20IOTELE401 (2021-22)	**Personality Enhancement & Leadership** R20ENG401 (2021-22) R20ENG401A (2023-24)	**Corporate Accounting** R20COM401 (2021-22) R20COM401A (2023-24)	**Corporate Accounting** R20COM401 (2021-22) R20COM401A (2023-24)	**Corporate Accounting** R20COM401 (2021-22) R20COM401A (2023-24)	**Corporate Accounting** R20COM401 (2021-22) R20COM401A (2023-24)	**Training and Development** R20DBA401 (2021-22) R20BBA401A (2023-24)	**Cyber Laws** R20BCA401 (2021-22) R20BCA401A (2023-24)
04-03-2025	9 AM - 12 NOON	**Linear Algebra** R20MAT402	**Linear Algebra** R20MAT402 (2021-22) R20MAT402A (2023-24)	**Linear Algebra** R20MAT402 (2021-22) R20MAT402A (2023-24)	**Linear Algebra** R20MAT402 (2021-22) R20MAT402A (2023-24)	**Linear Algebra** R20MAT402 (2021-22) R20MAT402A (2023-24)	**Cell Biology, Genetics and Plant Breeding** R20BOT402 (2021-22) R20BOT402A (2023-24)		**Introduction to ARM Micro Controller** R20IOTELE402 (2021-22)	**Enterpreneurship** R20ESP401 (2021-22) R20ESP401A (2023-24)	**Cost and Management Accounting** R20COM402 (2021-22) R20COM402A (2023-24)	**Cost and Management Accounting** R20COM402 (2021-22) R20COM402A (2023-24)	**Cost and Management Accounting** R20COM402 (2021-22) R20COM402A (2023-24)	**Cost and Management Accounting** R20COM402 (2021-22) R20COM402A (2023-24)	**Business Laws** R20BBA402 (2021-22) R20BBA402A (2023-24)	**Data Mining & Data Warehousing** R20BCA402 (2021-22) R20BCA402A (2023-24)
05-03-2025	9 AM - 12 NOON	**Electricity, Magnetism & Electronics** R20PHY401	**Electricity, Magnetism & Electronics** R20PHY401 (2021-22) R20PHY401A (2023-24)	**Sampling Techniques & Design of Experiments** R20STAT401 (2020-21) R20STAT401A (2023-24)	**Microprocessor Systems** R20ELE401 (2020-21) R20ELE401A (2023-24)		**Animal Physiology, Cellular Metabolism and Embryology** R20ZOO401 (2021-22) R20ZOO401A (2023-24)	**Sampling Techniques & Design of Experiments** R20DSSTAT401 (2021-22) R20DSSTAT401A (2023-24)	**Statistical Inference** R20IOTSTAT401 (2021-22)	**Numerical & Stacistical methods** R20WSMAT401 (2021-22) R20WSMAT401A (2023-24)	**Business Laws** R20COM403 (2021-22) R20COM403A (2023-24)	**Business Laws** R20COM403 (2021-22) R20COM403A (2023-24)	**Business Laws** R20COM403 (2021-22) R20COM403A (2023-24)	**Business Laws** R20COM403 (2021-22) R20COM403A (2023-24)	**Micro, Small and Medium Enterprises Management** R20BBA403 (2021-22) R20BBA403A (2023-24)	**Web Programming** R20BCA403 (2021-22) R20BCA403A (2023-24)
06-03-2025	9 AM - 12 NOON	**Modern Physics** R20PHY402	**Modern Physics** R20PHY402 (2021-22) R20PHY402A (2023-24)	**Applied Statistics** R20STAT402 (2021-22) R20STAT402A (2023-24)	**Microcontroller and Interfacing** R20ELE402 (2021-22) R20ELE402A (2023-24)		**Immunology and Animal Biotechnology** R20ZOO402 (2021-22) R20ZOO402A (2023-24)	**Applied Statistics** R20DSSTAT402 (2021-22) R20DSSTAT402A (2023-24)	**Advanced Numerical Analysis** R20IOTMAT401 (2021-22)	***	**Auditing** R20COM404 (2021-22) R20COM404A (2023-24)	**Auditing** R20COM404 (2021-22) R20COM404A (2023-24)	**Database Management System** R20BCOMP401 (2021-22) R20BCOMP401A (2023-24)	**Auditing** R20COM404 (2021-22) R20COM404A (2023-24)	**International Business** R20BBA404 (2021-22) R20BBA404A (2023-24)	**Design of Object Oriented Applications** R20BCA404 (2021-22) R20BCA404A (2023-24)
07-03-2025	9 AM - 12 NOON		**Data Structures** R20CSC401 (2021-22) R20CSC401A (2023-24)	**Data Structures** R20CSC401 (2021-22) R20CSC401A (2023-24)	**Data Structures** R20CSC401 (2021-22) R20CSC401A (2023-24)	**Data Structures** R20CSC401 (2021-22) R20CSC401A (2023-24)		**Advanced Java** R20DSAJ402 (2021-22) R20DSAJ402A (2023-24)		**Advanced Java** R20WSAJ401 (2021-22) R20WSAJ401A (2023-24)	**Goods and Services Tax** R20COM405 (2021-22) R20COM405A (2023-24)	**Goods and Services Tax** R20COM405 (2021-22) R20COM405A (2023-24)	**OOPS WITH JAVA** R20BCOMP402 (2021-22) R20BCOMP402A (2023-24)	**Goods and Services Tax** R20COM405 (2021-22) R20COM405A (2023-24)	**Cost and Management Accounting** R20BBA405 (2021-22) R20BBA405A (2023-24)	**Data Analytics using R** R20BCA405 (2021-22) R20BCA405A (2023-24)
08-03-2025	9 AM - 12 NOON		**Operating Systems** R20CSC402 (2021-22) R20CSC402A (2023-24)	**Operating Systems** R20CSC402 (2021-22) R20CSC402A (2023-24)	**Operating Systems** R20CSC402 (2021-22) R20CSC402A (2023-24)	**Operating Systems** R20CSC402 (2021-22) R20CSC402A (2023-24)		**Database Management System** R20DSDBMS404 (2021-22) R20DSDBMS404A (2023-24)	**Database Management System** R20IOTDBMS404 (2021-22)	**Software Engineering** R20WSSE401 (2021-22) R20WSSE401A (2023-24)	**Income Tax** R20COM406 (2021-22) R20COM406A (2023-24)	**Assessment of Individual, HUF and Partnership** R20COMT406 (2021-22) R20COMT406A (2023-24)	**Income Tax** R20COM406 (2021-22) R20COM406A (2023-24)	**Distribution Management** R20COML406 (2021-22) R20COML406A (2023-24)	**Financial Services** R20BBA406 (2021-22) R20BBA406A (2023-24)	**Object Oriented Software Engineering** R20BCA406 (2021-22) R20BCA406A (2023-24)
10-03-2025	9 AM - 12 NOON	**Inorganic, Organic and Physical Chemistry** R20CHE401				**Inorganic, Organic and Physical Chemistry** R20CHE401 (2021-22) R20CHE401A (2023-24)	**Inorganic, Organic and Physical Chemistry** R20CHE401 (2021-22) R20CHE401A (2023-24)	**Artificial Intelligence** R20DSAI403 (2021-22) R20DSAI403A (2023-24)	**Programming with 'R'** R20IOTPR401 (2021-22)	**Programming with R** R20WSPR401 (2020-21) R20WSPR401A (2023-24)						
11-03-2025	9 AM - 12 NOON	**Inorganic and Physical Chemistry** R20CHE402	***	***	***	**Inorganic and Physical Chemistry** R20CHE402 (2021-22) R20CHE402A (2023-24)	**Inorganic and Physical Chemistry** R20CHE402 (2021-22) R20CHE402A (2023-24)	***	***	***						

Controller of Examinations

Principal 8/2/25

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Voc (WT)	Max Marks	: 50
Subject	: English	Pass Mark	: 20
Title of Paper	: Personality Enhancement And Leadership	Duration	: 2 Hrs
Paper Code	: R20ENG401/R20ENG401A	Time	: 9am-11am
W.E.F	: 2021-22	Date	: 03/03/2025

SECTION-A

I. Answer any THREE of the following Questions **3X5=15M**

1. Explain meaning of personality.

2. Explain about Human personality.

3. Describe benefits of personality development.

4. Explain about psychodynamics.

5. Discuss the assumptions of the psychodynamics.

II. Answer any THREE of the following Questions **3X5=15M**

6. Explain the importance of Assessment.

7. What is Summative Assessment?

8. Discuss the tips for building self-confidence.

9. What is self-repot technology?

10. What is Formative Assessment?

II. Answer any FOUR of the following Questions **4X5=20M**

11. Explain the importance of Leadership.

12. Explain about effective Leadership.

13. What is team work?

14. Explain basic leadership skills.

15. Explain the leadership qualities of Abraham Lincoln.

16. Explain the leadership qualities of Mahatma Gandhi.

17. Write about leadership qualities of JRD Tata.

18. Discuss the leadership qualities of Prakasam Panthulu.

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hons (Mathematics)
Subject : Mathematics
Title of Paper : **Integral Transforms and Problem Solving Sessions**
Paper Code : R23MAT403
W.E.F : 2024-25

Max Marks : 60
Pass Mark : 24
Duration : 3 Hrs
Time : 9am to 12pm
Date : 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Solve $(D^2 - 2D + 2)y = 0$, y = Dy =1 when t = 0.

2. Solve $\frac{d^2x}{dt^2} + 2\frac{dx}{dt} + x = 3te^{-t}$ given x(0) = 4, $\frac{dx}{dt} = 0$ at t = 0.

3. Solve by using Laplace transforms, when x,y are both functions of t

$(D-2)x + 3y = 0, 2x + (D-1)y = 0$ if x(0) = 8 and y(0) = 3.

4. Solve $\frac{\partial y}{\partial t} = 2\frac{\partial y}{\partial x} + y, y(x,0) = 6e^{-3x}$ which is bounded for x > 0, t > 0.

5. Solve the integral equation $F(t) = t + 2\int_0^t \text{Cos}(t-u)\,F(u)du.$

6. Solve the integral equation $\int_0^t F(u)\ F(t-u)\,du = 16\,sin4t.$

7. Find the Fourier cosine transform of e^{-x^2}.

8. Find the finite Fourier sine and cosine transform of $f(x) = 1$.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Solve $(D^2 - 3D + 2)y = 1 - e^{2t}$, if y = 1, Dy = 0 when t = 0.

(OR)

10. Solve $ty'' + 2y' + ty = 0$ if y(0) = 1, y(π) = 0.

11. Solve $(D^2 - 3)x - 4y = 0,\ x + (D^2 + 1)y = 0$,t > 0 if x = y = Dy =0 when t =0, D^2

(OR)

12. Solve $\frac{\partial^2 y}{\partial x^2} - \frac{\partial^2 y}{\partial t^2} = xt$ where y = 0 = $\frac{\partial y}{\partial x}$ at t = 0 and y(0,t) = 0.

13. Solve the integral equation $2\,F(t) = 2 - t + \int_0^t \text{F}(t-u)F(u)\,du.$

(OR)

14. Using Laplace transform, solve $y(t) = 1 - e^{-t} + \int_0^t \text{y}(t-u)sinu\,du.$

15. State and Prove change of scale property for Fourier transform and modulation theorem.

(OR)

16. Find Fourier sine transform of $\frac{e^{-ax}}{x}$ and deduce that

$$\int_0^\infty \frac{e^{-ax} - e^{-bx}}{x} sinpx\,dx = \tan^{-1}\frac{p}{a} - \tan^{-1}\frac{p}{b}.$$

17. State and prove Parseval's identity for Fourier transform.

(OR)

18. Find the Finite sine and cosine transform of the function $f(x) = sinax$ in $(0,\pi)$.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hons (Mathematics, Computer Science) Max Marks : 60
Subject : Mathematics Pass Mark : 24
Title of Paper : **Introduction to Real Analysis and Problem Solving Sessions**
Duration : 3 Hrs
Paper Code : R23MAT402/R23MMAT402 Time : 9am to 12pm
W.E.F : 2024-25 Date : 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. State and prove sandwich theorem.

2. Prove that the sequence {s_n} is defined by $s_n = 1 + \frac{1}{1!} + \frac{1}{2!} + - - - - + \frac{1}{n!}$ is convergent.

3. Test for convergence of $\sum_{n=1}^{\infty}(\sqrt[3]{n^3+1} - n)$.

4. If $f: R \to R$ defined by f(x) = $\frac{|x-2|}{x-2}$ if x≠2 and f(x) = 0 if x = 2 then prove that $\lim_{x\to 2} f(x)$ does not exist.

5. If $f: [a, b] \to R$ is derivable at c ∈ [a, b] then prove that f is continuous at c.

6. Verify Rolle's theorem in [a,b] for the function f(x) = $(x-a)^m(x-b)^n$

7. If f(x) = x^2 on [0,1] and $p = \{0, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}, 1\}$ .Compute L (p, f) and U (p, f).

8. ~~If f is continuous on [a,b] then prove that f is integrable on [a,b].~~

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Prove that the sequence <S_n> is defined by $S_n = \left(1 + \frac{1}{n}\right)^n$ is convergent.

(OR)

10. State and prove Cauchy's general principle of convergence.

11. State and prove Cauchy's n^{th} root test.

(OR)

12. State and prove Leibnitz test.

13. Examine the continuity of the function f(x) = |x| + |x-1| at x = 0,1.

(OR)

14. If a function f is continuous on [a, b] then prove that it is uniformly continuous on [a, b].

15. State and prove Lagrange's Mean value theorem.

(OR)

16. State and prove Cauchy's mean value theorem.

17. State and prove fundamental theorem of integral calculus.

(OR)

18. Prove that $\frac{\pi^3}{24} \leq \int_0^{\pi} \frac{x^2}{5+3cosx} dx \leq \frac{\pi^3}{6}$

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Voc (WT , IT)	Max Marks	: 75
Subject	: Mathematics	Pass Mark	: 30
Title of Paper	: Numerical And Statistical Methods	Duration	: 3 Hrs
Paper Code	: R20WSMAT401/WSMAT401 /ITMAT401	Time	: 9am-12noon
W.E.F	: 2021-22	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Find a real root of the equation $x^3 + x^2 - 1 = 0$ by Iteration method.

2. Use Newton – Raphson method, establish the iterative formula $x_{n+1} = \frac{1}{3}(2x_n + \frac{N}{x_n^2})$ to calculate the cube root of N.

3. Solve the equations $6x + 3y + 2z = 6, 6x + 4y + 3z = 0, 20x + 15y + 12z = 0$ by Gauss elimination method.

4. Find the Eigen values of the matrix $\begin{bmatrix} 1 & 2 & 3 \\ 0 & 2 & 3 \\ 0 & 0 & 2 \end{bmatrix}$.

5. Find the values of $\int_0^4 e^x dx$, by Simpson's $1/3^{rd}$ rule.

6. Using the table compute $\frac{dy}{dx}$ at x=1.

X	1	2	3	4	5	6
Y	1	8	27	64	125	216

7. Explain the types of correlation.

8. State and prove multiplicative theorem.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Find a real root of the equation $x^3 - x - 11 = 0$ by bisection method.

(OR)

10. Find a real root of the equation $f(x) = x^2 - 5x + 2 = 0$ by Newton-Raphson method.

11. Solve the equations $3x + 2y + 4z = 7, 2x + y + z = 7, x + 3y + 5z = 2$ by L U decomposition method.

(OR)

12. Find the Eigen values and Eigen vectors of the vectors $\begin{bmatrix} 8 & -6 & 2 \\ -6 & 7 & -4 \\ 2 & -4 & 3 \end{bmatrix}$.

[P.T.O]

13. Find the value of $sin52^{\circ}$ from the given table.

θ	45°	50°	55°	60°
$sin\theta$	0.7071	0.7660	0.8192	0.8660

(OR)

14. Using Lagrange's interpolation formula, find y at x=301

X	300	304	305	307
Y	2.4771	2.4829	2.4843	2.4871

15. Calculate Skewness of the following data

C.I	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
F	10	15	18	24	23	19	12	9

(OR)

16. Marks of 12 students in statistics and mathematics are given below find rank correlation coefficient them.

X	58	64	65	55	44	80	65	75	40	55	64	55
Y	52	48	45	62	45	68	62	82	44	45	74	62

17. If A,B and C are three events, show that

$$P(A \cup B \cup C) = P(A) + P(B) + P(C) - P(A \cap B) - P(B \cap C) - P(C \cap A) + P(A \cap B \cap C).$$

(OR)

18. Let A,B,C be three events such that P(A)=0.3,P(B)=0.4,P(C)=0.8, $P(A \cap B)=0.08$, $P(A \cap C)=0.28$,$P(A \cap B \cap C)=0.09$. If $P(A \cup B \cup C) \geq 0.75$ then show that $P(B \cap C)$ lies in the interval [0.23,0.48].

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Voc (WT)	Max Marks	: 60
Subject	: Mathematics	Pass Mark	: 24
Title of Paper	: Numerical And Statistical Methods	Duration	: 3 Hrs
Paper Code	: R20WSMAT401A	Time	: 9am-12noon
W.E.F	: 2023-24	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Find a real root of the equation $x^3 + x^2 - 1 = 0$ by iteration method.

2. Calculate square root of 8 by using Newton -Raphson method.

3. Solve the equations $6x + 3y + 2z = 6,\ 6x + 4y + 3z = 0,\ 20x + 15y + 12z = 0$ by Gauss elimination method.

4. Solve the equations 3x+3y+4z = 7, 2x+5y+7z = 52, 2x+y-z = 0 by Gauss Jordan method.

5. Evaluate $\int_0^4 e^x dx$ by Simpson's 1/3 rule.

6. By Lagrange's interpolation formula find f(4) from the following table.

X	0	1	2	3
f(x)	2	5	7	8

7. Explain the types of Correlation.

8. The probability for a contractor to get a road contract is 2/3 and to get a building contract is 5/9. The probability to get at least one contract is 4/5. Find the probability that he gets both contracts.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Find a real root of the equation $f(x) = x^3 - 2x - 5 = 0$ by Regula falsi method.

(OR)

10. Find a real root of the equation $f(x) = x^3 - x - 11 = 0$ by using Bisection method.

11. Solve the system of equations $2x + 2y + z = 2,\ x + 3y + 2z = 2,\ 3x + y + 2z = 2$ by LU decomposition method.

(OR)

12. Solve the equations $27x + 6y - z = 85,\ 6x + 15y + 2z = 72,\ x + y + 54z = 110$ by Gauss seidel method.

[P.T.O]

13. Find the value of $\sin 52^0$ from the given table.

θ	45^0	50^0	55^0	60^0
Sin θ	0.7071	0.7660	0.8192	0.8660

(OR)

14. Find the values of $\int_0^1 \frac{1}{1+x^2} dx$ by simpson's $\frac{1}{3}$ rule amd $\frac{3}{8}$ rule and hence obtain the approximate value of π in each case.

15. Calculate Mean and Median of the following data.

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
F	10	15	18	24	23	19	12	9

(OR)

16. Find the correlation coefficient of the following data.

X	1	3	4	5	7	8	10
F	2	6	8	10	14	16	20

17. State and Prove Baye's theorem.

(OR)

18. The probabilities of three events A,B,C are such that P(A) = 0.3, P(B) = 0.4, P(C)= 0.8, $P(A \cap B) = 0.08$, $P(A \cap C) = 0.28$, $P(A \cap B \cap C) = 0.09$ and $P(A \cup B \cup C) = 0.75$. Show that $P(B \cap C)$ lies in the interval [0.23,0.48].

10

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Mathematics, Computer Science)	Max Marks	: 60
Subject	: Mathematics	Pass Mark	: 24
Title of Paper	: **Ring Theory and Problem Solving Sessions**	Duration	: 3 Hrs
Paper Code	: R23MAT401/R23MMAT401	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Prove that the characteristic of a Boolean ring is 2.

2. Prove that a field has no zero divisors.

3. Prove that the intersection of two ideals of a ring R is an ideal of R.

4. If U is an ideal of a Ring R and $a,b \in R$, then prove that $a+U = b+U \Leftrightarrow a-b \in U$.

5. Prove that every Euclidian ring possesses unity element.

6. Prove that the homomorphic image of a ring is a ring.

7. If f is a homomorphism of a ring R in to R^1 then prove that kerf is an ideal of R.

8. Find the zeros of $f(x) = 1+x^2 \in Z_5[x]$ in Z_5.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Prove that every finite integral domain is a field.

(OR)

10. If P is a Prime then Z_p the ring of integers modulo p, is a field.

11. Let S be a non-empty subset of a ring R. Then prove that S is a subring of R iff $a-b \in S$, $ab \in S$ $\forall$ $a,b \in S$.

(OR)

12. If R is a commutative ring and $a \in R$ then $aR = Ra$ is an ideal of R.

13. Prove that the ring of integers Z is a principal ideal ring.

(OR)

14. Prove that every field is a Euclidian ring.

15. State and prove fundamental theorem of homomorphism of rings.

(OR)

16. If f is a homomorphism of a ring R into a ring R^1 then prove that f is an into isomorphism iff kerf = {0}.

17. State and prove factor theorem.

(OR)

18. Prove that $f(x) = x^4-22x^2+1 \in Z[x]$ is irreducible over Q.

Room No: _____ Regd No_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MPC, MPCS, MSCS, MECS, MCCS)	Max Marks	: 75
Subject	: Mathematics	Pass Mark	: 30
Title of Paper	: Linear Algebra	Duration	: 3Hrs
Paper Code	: R20MAT402	Time	: 9am to 12pm
W.E.F	: 2021-22	Date	: 04/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Show that (1,0,-1),(2,1,3),(-1,0,0), (1,0,1) are linearly dependent.

2. Prove that the intersection of two subspaces of a vector space V(F) is also a subspace of V.

3. If α,β,γ are linearly independent vectors in V(R) then show that $\alpha+\beta,\beta+\gamma,\gamma+\alpha$ are also linearly independent.

4. If $T:U(F)\to V(F)$ is a linear transformation then prove that the Null space N(T) is a subspace of U.

5. The mapping $T:V_2(R)\to V_2(R)$ defined by T(x,y)=(0,y) Show that T is a Linear Transformation.

6. Solve the system of equations x+3y-2z=0, 2x-y+4z=0,x-11y+14z=0.

7. State and prove Parallelogram law.

8. State and prove Parsvel's identity.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Prove that the union of two subspaces of a vector space V(F) is also a subspace of V(F) if and only if one is contained the other.

(OR)

10. Let V(F) be a vector space. If $\alpha_1,\alpha_2,.....\alpha_n$ are nonzero vectors of V then $S=\{\alpha_1,\alpha_2,\ldots\alpha_n\}$ is linearly dependent iff some $\alpha_k, 2\le k\le n$ is a linear combination of the preceding ones.

11. Let W be the subspace of a finite dimensional vector space V(F) then prove that

$$\dim\frac{V}{W}=\dim V-\dim W$$

(OR)

12. If W_1,W_2 are two subspaces of a finite dimensional vector space V(F) then prove that

$$\dim(W_1+W_2)=\dim W_1+\dim W_2-\dim(W_1\cap W_2)$$

[P.T.O]

13. State and prove Rank-Nullity Theorem.

(OR)

14. Verify Rank Nullity theorem for the linear transformation $T:V_3(R) \rightarrow V_3(R)$ defined by $T(a,b,c)=(a-b,2b+c,a+b+c)$.

15. State and prove Cayley-Hamilton theorem.

(OR)

16. Find the inverse of $A=\begin{bmatrix} 1 & 0 & 2 \\ 0 & 2 & 1 \\ 2 & 0 & 3 \end{bmatrix}$ by using the Cayley-Hamilton theorem.

17. If α, β are two vectors in an Unitary space then prove that

$$4\langle \alpha, \beta \rangle = \|\alpha+\beta\|^2 - \|\alpha-\beta\|^2 + i\|\alpha+i\beta\|^2 - i\|\alpha-i\beta\|^2$$

(OR)

18. State and prove schwarz's inequality.

13

Room No: _____ **Regd No**_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(MPC, MCCS, MSCS & MECS)	Max Marks	: 60
Subject	: Mathematics	Pass Mark	: 24
Title of Paper	: Linear Algebra	Duration	: 3Hrs
Paper Code	: R20MAT402A	Time	: 9am To 12pm
W.E.F	: 2022-23	Date	: 04/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. If $w_1 and\ w_2$ are two sub spaces of a vector space V(F) then prove that $w_1 \cap w_2$ is also a subspace of V(F).
2. Express the vector $\alpha = (1,-2,5)$ as a linear combination of the vectors $\alpha_1 = (1,1,1), \alpha_2 = (1,2,3), \alpha_3 = (2,-1,1)$.
3. Show that vectors (1,2,1), (2,1,0), (1,-1,2). form a basis of $\mathbb{R}^3$
4. If T is a linear transformation from U(F) into V(F) then prove that N(T), the Null space of T is a subspace of U.
5. Show that the function $T: V_2(R) \to V_2(R)$ defined by $T(x,y) = (0,y)$. is a linear Transformation.
6. Solve the system of equations $x + y + z = 6, x + 2y + 3z = 14, x + 4y + 7z = 30$.
7. State and prove Triangle Inequality.
8. State and prove Parallelogram Law.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Prove that the necessary and sufficient condition for a non empty subset W of a vector space V(F) to be a subspace of V is $a, b \in F$ and $\alpha, \beta \in W \Rightarrow a\alpha + b\beta \in W$.

(OR)

10. If S and T are two subsets of a vectors V(F) then prove that (i) $S \subseteq T \Rightarrow L(S) \subseteq L(T)$ (ii) $L(S \cup T) = L(S) + L(T)$

11. If V(F) is a finite dimensional vector space then prove that any two basis of V have the same number of elements.

(OR)

12. If $w_1 and\ w_2$ are two sub spaces of a finite dimensional vector space V(F) then prove that $\dim((w_1 + w_2) = dimw_1 + dimw_2 - \dim(w_1 \cap w_2)$.

13. It T is a linear Transforms from U(F) into V(F) and U is a finite dimensional then prove that Rank(T)+Nullity(T) =dimU.

[P.T.O]

(OR)

14. Verify Rank and Nullity theorem for the linear transformation $T: R^3 \to R^3$ defined by

$$T(x, y, z) = (x - y, 2y + z, x + y + z).$$

15. Investigate for what values of λ, μ the system of equations $x + y + z = 6, x + 2y + 3z = 10, x + 2y + \lambda z = \mu$ have (i) No solution

(ii) An unique solution

(iii) An infinite number of solutions.

(OR)

16. State and prove Cayley –Hamilton theorem.

17. State and prove Bessel's inequality.

(OR)

18. If α *and* β are two vectors in an inner product space V(F) then prove that

$|< \alpha, \beta >| = \|\alpha\|\|\beta\|$ if and only if α *and* β are linearly dependent.

15

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MPCS , MECS , MSCS, MCCS)	Max Marks	: 60
Subject	: Mathematics	Pass Mark	: 24
Title of Paper	: Real Analysis	Duration	: 3 Hrs
Paper Code	: R20MAT401A	Time	: 9am - 12noon
W.E.F	: 2023-24	Date	: 03/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. State and Prove Sandwich theorem.

2. Prove the sequence $\{S_n\}$ by $S_n = 1 + \frac{1}{1!} + \frac{1}{2!} + \frac{1}{3!} + \cdots + \frac{1}{n!}$

3. Test the convergence of the series $\sum_{n=1}^{\infty}\left(\sqrt[3]{n^3+1} - n\right)$.

4. Find the constants a and b so that function $\begin{cases} 2x+1 \text{ if } x \leq 1 \\ ax^2 + b \text{ if } 1 < x < 3 \\ 5x + 2a \text{ if } x \geq 3 \end{cases}$, is continuous everywhere.

5. Verify Rolle's theorem in [a,b] for $f(x) = (x-a)^m(x-b)^n$.

6. Discuss the applicability of lagranges mean value theorem for f(x) = x (x-1)(x-2) on [0,1/2].

7. If $f(x) = x^2, \forall x \in [0,1]$ and $p = \left\{0, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}, 1\right\}$ then find $L(p,f)$ and $U(p,f)$.

8. Prove that if $f: [a,b] \to R$ is continuous on $[a,b]$ then f is R - integrable on $[a,b]$

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Prove that a monotone sequence is convergent if and only if it is bounded.

(OR)

10. State and prove Cauchy's general principle of convergence.

11. State and Prove Cauchy's nth root test.

(OR)

12. State and prove Leibnitz test.

13. Examine for continuity of the function f defined by $f(x) = |x| + |x-1|$ at $x = 0$ and 1.

(OR)

14. If $: [a,b] \to R$ is continuous on $[a,b]$ then prove that f is bounded on [a,b] and attains its bounds.

15. State and prove Rolle's theorem.

(OR)

16. State and prove Cauchy's mean value theorem.

17. State and prove Riemman's necessary and sufficient condition for R- integrability.

(OR)

18. State and prove First mean value theorem.

Room No: _____ **Regd No**_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MPC, MPCS, MSCS, MECS, MCCS)	Max Marks	: 75
Subject	: Mathematics	Pass Mark	: 30
Title of Paper	: Real Analysis	Duration	: 3Hrs
Paper Code	: R20MAT401	Time	: 9am-12noon
W.E.F	: 2021-22	Date	: 03/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Prove that $Lt\left[\frac{1}{(n+1)^2}+\frac{1}{(n+2)^2}+....+\frac{1}{(n+n)^2}\right]=0$ by using Sandwich theorem.

2. Prove that every convergent sequence is bounded.Is the converse true? Justify your answer.

3. Test for convergence $\sum_{n=1}^{\infty}\left(\sqrt{n+1}-\sqrt{n}\right)$

4. Discuss the continuity of $f(x)=\frac{x\left(e^{\frac{1}{x}}-e^{\frac{-1}{x}}\right)}{e^{\frac{1}{x}}+e^{\frac{-1}{x}}}$ for $x\neq 0$ and $f(0)=0$ at x=0.

5. Find 'c' of Cauchy's Mean value theorem for $f(x)=\sqrt{x}, g(x)=\frac{1}{\sqrt{x}}$ on [a,b] .

6. If f: [a,b]→R derivable at $c\in[a,b]$ then prove that f is continuous at c.

7. If $f(x)=x^2$ on [0,1] and $P=\left\{0,\frac{1}{4},\frac{2}{4},\frac{3}{4},1\right\}$ Compute L(P,f) and U(P,f).

8. Prove that $\frac{\pi}{4}\leq\int_0^{\frac{\pi}{4}}\sec x dx\leq\frac{\pi}{2\sqrt{2}}$ by applying mean value theorem.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Prove that the sequence $\{S_n\}$ defined by $S_n=\left(1+\frac{1}{n}\right)^n$ is convergent.

(OR)

10. State and prove Cauchy's general principle of convergence.

11. State and prove P-series test.

(OR)

12. State and prove Cauchy's n^{th} root test.

13. Examine the continuity of $f(x)=|x|+|x-1|$ at x=0,1.

(OR)

[P.T.O]

14. If f: [a,b]→R is continuous on [a,b] then prove that f is bounded on [a,b] and attains its bounds.

15. Show that $\frac{v-u}{1+v^2} < Tan^{-1}v - Tan^{-1}u < \frac{v-u}{1+v^2}$ for 0<u<v. Hence deduce that

$$\frac{\pi}{4}+\frac{3}{25} < Tan^{-1}\left(\frac{4}{3}\right) < \frac{\pi}{4}+\frac{1}{6}.$$

(OR)

16. State and prove Rolle's theorem.

17. State and prove the Necessary and sufficient condition for integrability.

(OR)

18. State and prove Fundamental theorem of integral calculus.

18

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MSCS, DS)	Max Marks	: 60
Subject	: Statistics	Pass Mark	: 24
Title of Paper	: Sampling Techniques And Design of Experiments	Duration	: 3 Hrs
Paper Code	: R20STAT401A/R20DSSTAT401A	Time	: 9am-12noon
W.E.F	: 2023-24	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain merits of simple random sampling.
2. Explain advantages of stratified random sampling.
3. Explain merits and demerits of systematic sampling.
4. Explain Cochran's theorem.
5. Explain experimental unit and experimental error.
6. Explain merits and demerits of RBD.
7. Define the factorial experiments.
8. Explain the advantages of factorial experiments.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Explain the comparison between SRSWR and SRSWOR.

(OR)

10. Prove that in SRSWOR, the sample mean square is an unbiased estimator of the population mean square

11. Prove that $V(\bar{y}_{st}) = \frac{N-n}{nN}\sum p_i s_i^2$.

(OR)

12. If the population consists of a linear trend, then prove that $V(\overline{y_{st}}) < V(\overline{y_{sys}}) < . V(\overline{y_{ran}})$.

13. Explain ANOVA one-way classification.

(OR)

14. As head of the department of a consumer's research organization you have the responsibility of testing and comparing life times of 4 brands of electric bulbs. Suppose you test the life time of 3 electric bulbs each of 4 brands, the data is given below, each entry represents the life time of an electric bulbs, measured in hundreds of hours.

[P.T.O]

A	B	C	D
20	25	24	23
19	23	20	20
21	21	22	20

15. Describe Latin square Design.

(OR)

16. Analyze the following RBD and find the conclusion.

Treatment		T_1	T_2	T_3	T_4
Blocks	B_1	12	14	20	22
	B_2	17	27	19	15
	B_3	15	14	17	12
	B_4	18	16	22	12
	B_5	19	15	20	14

17. Explain main effects and interactions of 2^n factorial design.

(OR)

18. Write the statistical analysis of 2^3 factorial experiments design.

Room No: _____ Regd No _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(IOT)	Max Marks	: 75
Subject	: Statistics	Pass Mark	: 30
Title of Paper	: Statistical Inference	Duration	: 3Hrs
Paper Code	: R20IOTSTAT401	Time	: 9am-12noon
W.E.F	: 2021-22	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain merits and demerits of Systematic Sampling.

2. Distinguish between point and interval estimation.

3. Relation between t and F Distribution.

4. Describe the following Null hypothesis, alternative hypothesis and power.

5. Define one tailed and two tailed test.

6. Explain the test or a single standard deviation.

7. Explain the paired t-test for difference means.

8. Explain the t -test for single mean.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. In SRSWOR the sample mean square is an unbiased estimator pf the population mean.

(OR)

10. If the population consists of a linear trend, then P.T
$\text{Var}(\bar{y}_{st})_{opt} \leq \text{Var}(\bar{y}_{st})_{prop} \leq \text{Var}(\bar{y}_n)_{ran}$

11. Relation between F and chi square distribution

(OR)

12. Write the characteristic of good estimator

13. State and prove Neyman -Pearson lemma.

(OR)

14. Obtain best critical region for testing $H_0: p=p_0$ against $H_1: p=p_1$ in a binomial population

15. Explain test procedure for large sample of two population standard deviations.

(OR)

16. A dice is thrown 900 times and a face of 3 or 5 is observed 335 times. Test whether the dice is unbiased.

[P.T.O]

17. Explain t -test for equality of the population means.

(OR)

18. Two Treatments have applied on 500 agricultural plots and data given below. Test whether treatments are independent.

	Treatment -1	
Treatment -II	208	92
	32	168

22

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MSCS, DS)	Max Marks	: 75
Subject	: Statistics	Pass Mark	: 30
Title of Paper	: Sampling Techniques and Design of Experiments	Duration	: 3 Hrs
Paper Code	: R20STAT401/R20DSSTAT401	Time	: 9am – 12noon
W.E.F	: 2021-22	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain Merits of simple random sampling.

2. Explain Merits of systematics sampling.

3. Explain Neyman's and proportion allocation.

4. Explain Experimental unit and experimental error.

5. Define ANOVA and its assumptions.

6. Explain RDB with their Layout.

7. Advantages of Factorial experiments.

8. Explain Main effects and interaction effects of factorial experiments

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain the comparison between srswr and srswor

(OR)

10. In srswr, the sample mean square is unbiased estimator of population mean

11. If the population consists of a linear trend, then P.T

Var $(\bar{y}_{st})_{opt} \leq$ Var $(\bar{y}_{st})_{prop} \leq$ Var $(\bar{y}_{n})_{ran}$

(OR)

12. With usual notation prove that

Var $_{opt} \leq$ Var $_{prop} \leq$ Var $_{ran}$

13. Explain ANOVA Two-way classification

(OR)

14. Calculate Anova one way classification for the following data.

A	10	12	13	11	10	14	15	13
B	9	11	10	12	13			
C	11	10	15	14	12	13		

[P.T.O]

15. Describe Latin square design.

(OR)

16. Calculate RBD missing plot technique for the following data.

Treatments	Blocks			
	1	**2**	**3**	**4**
1	18	27	22	20
2	20	15	21	11
3	15	21	14	19
4	32	20	-----	22
5	20	25	26	24

17. An experiment was planned to study the effect of sulphate are potassium and sulphur phosphate on the yield of potatoes all the combinations of 2 levels of super phosphate (Zero cent p_0 and 5 cent p_1) and two levels of potash Zero cent k_0 and 5 cent k_1) were studied in a randomized block design with 4 replicates for each the (1/70) yields (lb. per plot = 1 (70 obtained).

Blocks	Yield (lb per block)			
I	1 23	K 25	P 22	KP 38
II	P 40	1 26	K 36	KP 38
III	1 29	K 20	PK 30	P 20
IV	KP 34	K 31	P 24	1 28

(OR)

18. Write the statistical analysis of 2^3 factorial experimental design.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Statistics)	Max Marks	: 60
Subject	: Statistics	Pass Mark	: 24
Title of Paper	: **Sampling Techniques**	Duration	: 3 Hrs
Paper Code	: R23STAT401	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 05/03/2025

SECTION-A

I. Answer any FOUR of the following Questions **5X4=20M**

1. Define sampling distribution.

2. Explain mixed sampling.

3. Define SRSWOR.

4. Explain merits of simple random sampling.

5. Explain Nyman's and proportional allocations.

6. Explain merits and demerits of systematic sampling.

7. Explain Quota Sampling.

8. Explain vision of NSSO.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Explain the Principle steps of sampling.

(OR)

10. Explain sampling and non-sampling errors.

11. Prove that in SRSWOR, the sample mean square is an unbiased estimator of the population mean square.

(OR)

12. In SRSWOR, prove that $V(\bar{y}) = \frac{N-n}{nN} S^2$.

13. Prove that $V(\bar{y}_{st}) = \frac{N-n}{nN} \sum p_i s_i^2$.

(OR)

14. With usual notation prove that $V_{opt} < V_{prop} < V_{ran}$.

15. If the population consists of a linear trend, then prove that $V(\overline{y_{st}}) < V(\overline{y_{sys}}) < V(\overline{y_{ran}})$.

(OR)

16. Explain the concept of cluster sampling.

17. Explain roles and responsibilities of CSO.

(OR)

18. Explain NSC and its roles.

25

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Statistics & DS)	Max Marks	: 60
Subject	: Statistics	Pass Mark	: 24
Title of Paper	: **Design and Analysis of Experiments**	Duration	: 3 Hrs
Paper Code	: R23STAT402/R23DSMSTAT401	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 06/03/2025

SECTION-A

I. Answer any FOUR of the following Questions **5X4=20M**

1. Define ANOVA and explain its assumptions.

2. Explain Assignable causes and chance causes of variation.

3. Explain merits and demerits of CRD.

4. Explain Local control.

5. Explain merits and demerits of RBD.

6. Explain merits and demerits of LSD.

7. Write applications of LSD.

8. Explain advantages of factorial experiments.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Explain ANOVA One-way classification.

(OR)

10. Three processes A, B and C are tested to see whether their outputs equivalent. the following observations of output are made

A	10	12	13	11	10	14	15	13
B	9	11	10	12	13			
C	11	10	15	14	12	13		

11. Describe Completely Randomized Design.

(OR)

12. The following data involves four treatments A,B,C and D are applied to 20 animals and the observations of gain in the weight of the animals are observed. Analyze the data using CRD.

A	50	66	42	38	30	
B	120	40	68	84		
C	35	65	124	92	61	104
D	142	34	46	84	76	

[P.T.O]

13. Explain one missing observation in RBD.

(OR)

14. Analyze the following randomized block design after estimating missing value.

	Blocks			
	1	2	3	4
1	18	27	22	20
2	20	15	21	11
3	15	21	14	19
4	32	20	-	22
5	20	25	26	24

15. Explain one missing observation in LSD.

(OR)

16. Explain relative efficiency of LSD over RBD.

17. Explain main effects and interactions of 2^2 factorial design.

(OR)

18. Explain Yate's procedure with an example.

27

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Statistics & Data Science)	Max Marks	: 60
Subject	: Statistics	Pass Mark	: 24
Title of Paper	: **Numerical Analysis**	Duration	: 3 Hrs
Paper Code	: R23STAT403/R23DSMSTAT402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Prove that $(1+\Delta)(1-\nabla) = 1$ and $E\nabla = \Delta$

2. If $u_0 = 3,\ u_1 = 12,\ u_3 = 200,\ u_4 = 100,\ u_5 = 8$. Find $\Delta^5 u_0$.

3. Using Gauss forward interpolation formula find f(25) given that

f(20) = 14, f(24) = 32, f(28) = 35, f(32) = 40.

4. Use stirling's formula to find f(25) from the data.

X	10	20	30	40
f(x)	1.1	2	4.4	7.9

5. Find the third divided difference of the function $f(x) = x^3+x+2$ for the arguments 1,3,6,11.

6. Construct a divided difference table from the following data

X	1	2	4	7	12
f(x)	22	30	82	106	216

7. Using the following table compute $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$ at x = 1.

X	1	2	3	4	5	6
Y	1	8	27	64	125	216

8. Evaluate $\int_0^1 \frac{dx}{1+x}$ correct to 3 decimal places by using trapezoidal rule with h = 0.5.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Prove that (i) $\mu^2 = 1 + \frac{1}{4}\delta^2$ (ii) $\Delta - \nabla = \delta^2$.

(OR)

10. Find the missing terms of the following data.

X	1	2	3	4	5	6	7	8
Y	1	8	-	64	-	216	343	512

[P.T.O]

11. The population of a country in the decimal census were under. Estimate the population for the year 1895.

Year(x)	1891	1901	1911	1921	1931
Population(Y)	46	66	81	93	101

(OR)

12. Use Stirling's formula to find y_{28} , given y_{20} =49225, y_{25} = 48316, y_{30} = 47236, y_{35} = 45926, y_{40} = 44306.

13. Using Newton's divided difference formula to find the value of f(9) from the data

X	5	7	11	13	17
f(x)	150	392	1452	2366	5202

(OR)

14. Using Lagrange's interpolation formula find y at x = 301.

X	300	304	305	307
Y	2.4771	2.4829	2.4843	2.4871

15. By using the derivative of Stirling's formula, find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$ at x=1.6 from the data.

X	1.0	1.2	1.4	1.6	1.8	2.0	2.2
Y	2.7183	3.3201	4.0552	4.9530	6.0496	7.3891	9.0250

(OR)

16. Find the value of $f^1(0.04)$ from the following table using Bessel's formula.

X	0.01	0.02	0.03	0.04	0.05	0.06
f(x)	0.1023	0.1047	1.1071	0.1056	0.1122	0.1148

17. Evaluate $\int_1^7 \frac{1}{x} dx$ by using Simpson's $^1/_3$ rule and Simpson's $^3/_8$ rule.

(OR)

18. Evaluate $\int_4^{5.2} log x \, dx$ by using Weddle's rule.

Room No: _____ Regd No 29

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(MSCS & Data Science)	Max Marks	: 75
Subject	: Statistics	Pass Mark	: 30
Title of Paper	: Applied Statistics	Duration	: 3Hrs
Paper Code	: R20STAT402/R20DSSTAT402	Time	: 9am to 12pm
W.E.F	: 2020-21	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Uses of time series.

2. Define the seasonal components.

3. Obtain seasonal indices by using Simple averages method to the following data.

Year	Quarters	I	II	III	IV
2003		40	45	36	42
2004		50	54	42	48
2006		56	58	48	52

4. Explain the fitting of Gompertz curve.

5. Explain the yule's method.

6. Explain simple index number.

7. Define General fertility rate.

8. Explain Abridged life table.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Define Time series and Explain various components of Time series.

(OR)

10. Fit a second-degree parabola to the following data and estimate the trend values of sales.

Year	2005	2006	2007	2008	2009
Sales (in thousand Rs.)	10	12	14	10	8

11. Explain Link relative method.

(OR)

[P.T.O]

12. Obtain ratio to trend method the following data.

Quarters/ Year	I	II	III	IV
2005	35	45	41	39
2006	40	58	54	48
2007	72	88	64	96
2008	82	98	80	100
2009	112	108	86	94

13. Fitting of Gompertz curve to the following data and obtain the trend values.

Time period	1	2	3	4	5	6	7	8	9
Value of the variable	2	14	8	12	20	30	3	40	4

(OR)

14. Explain Method of Three selected time points.

15. Explain construction of index numbers.

(OR)

16. Construct cost of living index numbers for the year 2010 to the following data:

Item	Price (R.s) in		Weight
	2006	**2010**	
A	50	75	10%
B	60	75	25%
C	200	240	20%
D	80	100	40%
E	800	1000	5%

17. Explain sources of vital statistics

(OR)

18. Explain Measures of population growth.

Room No: _____ Regd No 31

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.SC(MSCS, DS)	Max Marks	: 60
Subject	: Statistics	Pass Mark	: 24
Title of Paper	: Applied Statistics	Duration	: 3Hrs
Paper Code	: R20STAT402A/R20DSSTAT402A	Time	: 9am to 12 P.M
W.E.F	: 2022-23	Date	: 06/03/2023

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain Mathematical Model in a time series.

2. Explain the moving average method to find the trend value.

3. Explain method of simple averages for measuring seasonal functions.

4. Explain the Hotelling method.

5. Explain the fitting of Gompertz curve.

6. Explain Fixed and Chain based index numbers.

7. Explain Abridged life table.

8. Explain the uses of Vital Statistics

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain the components in the Time series.

(OR)

10. Below are given the figures of production (in thousand quintals) of a sugar factory.

Year	1973	1975	1976	1977	1978	1979	1982
Production	77	88	94	85	91	98	90

Fit a straight line by the least squares method and tabulate the trend values.

11. The data below gives the average quarter prices of a commodity for five years.

Calculate the seasonal variation indices by the method of link relatives.

Year / Quarter	1979	1980	1981	1982	1983
I	30	35	31	31	34
II	26	28	29	31	36
III	22	22	28	25	26
IV	31	36	32	35	33

(OR)

12. Explain Ratio to Moving Average Method to find the Seasonal index.

[P.T.O]

13. Given the three selected points U_1, U_2, U_3 corresponding to $t_1 = 2$, $t_2 = 30$ and $t_3 = 58$ as follows.

$t_1 = 2$, $U_1 = 55.8$

$t_2 = 30$, $U_2 = 138.6$

$t_3 = 58$, $U_3 = 151.8$

Fit the logistic curve by the method of selected points.

(OR)

14. Explain the method of 3 selected time points for fitting modified exponential curves.

15. Explain the criteria of a good index numbers.

(OR)

16. Prepare price index numbers for 1980 with 1971 as base year from the following data by using

(iv) Laspeyre's

(v) Paasche's and

(vi) Fisher's method (correct upto 4 places of decimal).

Article

Year	I		II		III		IV	
	P	Q	P	Q	P	Q	P	Q
1971	12.50	9	9.63	4	7.75	6	5.00	5
1980	12.75	9	7.75	6	8.80	10	6.50	7

(P : :Price , Q : Quantity)

17. Explain measurement of Mortality Rates.

(OR)

18. Explain complete life table and its construction.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Physics)	Max Marks	: 60
Subject	: Physics	Pass Mark	: 24
Title of Paper	: **Introduction to Nuclear and Particle Physics**	Duration	: 3 Hrs
Paper Code	: R23PHY403	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. What are the limitations of liquid drop model?
2. Write the properties of baryons.
3. Write the properties of mesons.
4. Write a short note on nuclear reaction cross-section.
5. What is a nuclear accelerator? Explain the types.
6. Mention the applications of Synchrocyclotron.
7. Write the applications of particle physics in high – energy Astro Physics.
8. A nucleus of mass number 125 has radius 6 fermi. Find the radius of a nucleus having mass number 64.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain the basic properties of nucleus.

(OR)

10. What are magic numbers? How these are explained in shell model?

11. Discuss in detail about the types of interactions between elementary particles.

(OR)

12. Explain the properties of leptons, baryons and masons.

13. Explain construction and working of Geiger – Muller counter with neat diagram.

(OR)

14. Explain construction and working of cloud chamber with neat diagram.

15. Explain the construction and working of cyclotron. Mention any two applications.

(OR)

16. Explain the construction and working of Synchrocyclotron. Mention any two applications.

17. Explain the application of Nuclear and particle physics in Radiation therapy and imaging techniques.

(OR)

18. Explain the application of Nuclear and particle physics in nuclear reactors and power generation.

Room No: _____ Regd No_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(MPCS)	Max Marks	: 60
Subject	: Physics	Pass Mark	: 24
Title of Paper	: Modern Physics	Duration	: 3Hrs
Paper Code	: R20PHY402A	Time	: 9am-12noon
W.E.F	: 2023-24	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Write the characteristics of Raman effect
2. Write a short note on phase and group velocities
3. Explain Bohr complimentary principle.
4. Explain about magic numbers
5. What is isotopic effect on super conductivity.
6. Calculate the wavelength separation between the unmodified line of wavelength 4000A ^{0} and modified line when a magnetic field flux density 1 Weber/m^2 is applied in normal Zeeman effect
7. Find the de Broglie wave length of an electron when the electron is accelerated through a potential difference of 6400V.
8. For an atom atomic weight is 27 taking the value of r_0 as 1.3 fermi. Calculate the value of radius of nucleus.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain Zeeman Effect. Explain experimental arrangements of Zeeman effect.

(OR)

10. What is Raman Effect? Describe an experimental arrangement for the study of Raman effect.
11. What are matter waves. Derive the expression for wave length of matter waves.

(OR)

12. Explain Heisenberg uncertainty principle. Explain the construction and working of γ_ray microscope
13. Derive schrodinger time dependent wave equation.

(OR)

14. What are the basic postulates of Quantum mechanics? And derive schrodinger time independent wave equation.

[P.T.O]

15. Explain Liquid drop model and its draw backs.

(OR)

16. Describe the construction and working of cloud chamber with neat diagram.

17. Explain properties of Nano materials in detail.

(OR)

18. What is Meissner effect? Write about Type I and Type II super conductors.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MPC, MPCS)	Max Marks	: 75
Subject	: Physics	Pass Mark	: 30
Title of Paper	: Modern Physics	Duration	: 3 Hrs
Paper Code	: R20PHY402	Time	: 9am to 12pm
W.E.F	: 2021-22	Date	: 06/03/2025

SECTION-A

I. Answer ALL the following Questions **5X10=50M**

1. Write briefly about the various quantum numbers associated with vector atom model.

(OR)

2. What is Raman Effect? Describe an experimental set up to study Raman Effect.

3. Describe Davisson-Germer experiment with a neat diagram and necessary theory.

(OR)

4. Explain Heisenberg's uncertainty principle for position and momentum and extend it for energy and time.

5. What is physical significance of wave function? Derive time-dependent Schrodinger's wave equation.

(OR)

6. Deduce Schrodinger wave equation for a particle in one dimensional infinite box.

7. Explain Liquid drop model for the nucleus. What are the drawbacks in this model?

(OR)

8. Explain the construction and working of Wilson's Cloud Chamber with a neat diagram.

9. Explain the properties of Nano materials in detail.

(OR)

10. Explain Meissner effect? Write about type-I and type-II superconductors?

SECTION-B

II. Answer any THREE of the following Questions **3X5=15M**

11. Explain L-S and J-J coupling schemes.

12. Explain the structure of Sodium D-line.

13. Derive expressions for wave length of matter waves.

14. Explain Heisenberg uncertainty principle for position and momentum.

15. Explain about magic numbers.

16. Explain briefly about BCS theory.

[P.T.O]

SECTION-C

III. Answer any TWO of the following Questions **2X5=10M**

17. In the normal Zeeman effect, the frequency separation between two consecutive spectral lines is 8.3×10^{8} Hz. Find the magnetic field? ($\mu_B = 9.3 \times 10^{-24}$ JT^{-1})

18. Calculate de-Broglie wavelength associate with a proton moving with a velocity equal to $1/20^{th}$ of the velocity of light (mass of the proton is 1.67×10^{-27} Kg).

19. If the uncertainty in the position of an electron is 2×10^{-10}m. Find the uncertainty in the velocity.

20. A neutron breaks in to a proton and an electron. Calculate the mass defect in the reaction. (m_p=1.6725x10^{-27}Kg, me=9x10^{-31}Kg, m_n =1.6747x10^{-27}Kg).

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Physics & Computer Science)	Max Marks	: 60
Subject	: Physics	Pass Mark	: 24
Title of Paper	: **Modern Physics**	Duration	: 3 Hrs
Paper Code	: R23PHY402/R23MPHY402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Mention the drawbacks of Bohr's theory.

2. Write about molecular rotational and vibrational spectra.

3. Explain Heisenberg uncertainty principle.

4. Write the Physical interpretation of wave function.

5. Explain briefly about BCS theory.

6. The critical field for niobium is 1 X 10^4 A/m at 8 K and 2 X 10^5 A/m at 0 K. Calculate the transition temperature of the element.

7. The Exciting line in an experiment is 5460 A° and the strokes line is at 5520 A°. Find the wavelength of anti-strokes line.

8. Calculate the de-Broglie wavelength associated with a golf ball of 50g moving with velocity of 20m/sec.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Explain the quantum numbers associated with vector atom model.

(OR)

10. Explain Zeeman effect. Explain an experimental arrangement for the study of Zeeman effect.

11. Discuss in detail about IR, UV-Visible and Raman spectroscopy techniques.

(OR)

12. What is Raman Effect? Describe an experimental arrangement for the study of Raman effect.

13. What are Matter waves? Explain de Broglie's hypothesis for matter waves. Derive expressions for wavelength of matter waves.

(OR)

14. Describe Davisson and Germer experiment with a neat diagram and necessary theory.

15. Write the Physical interpretation of wave function. Derive Schrodinger time dependent wave equation.

(OR)

16. Write the basic postulates of quantum mechanics and derive Schrodinger time independent wave equation.

17. What is Meissner effect? Explain briefly about BCS theory.

(OR)

18. Discuss briefly about London's equation and penetration depth.

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MPC, MPCS)	Max Marks	: 75
Subject	: Physics	Pass Mark	: 30
Title of Paper	: Electricity, Magnetism And Electronics	Duration	: 3 Hrs
Paper Code	: R20PHY401	Time	: 9am-12noon
W.E.F	: 2019-20	Date	: 05/03/2025

SECTION-A

I. Answer ALL the following Questions **5X10=50M**

1. Define electric potential. Derive an expression for potential due to a charged spherical shell.

(OR)

2. Define D, P and E and deduce relation between them. Hence derive the relationship between dielectric constant and susceptibility.

3. State and explain Biot and Savart's law. Derive an expression for magnetic induction at a point due to a long solenoid?

(OR)

4. Define mutual inductance. Derive the equation for the coefficient of mutual inductance of two coils.

5. Given the theory of LCR parallel ac resonant circuit and Obtain an expression for the resonance frequency.

(OR)

6. Write Maxwell's equations in differential form. Derive an equation of electromagnetic waves.

7. Explain the working of P–N junction diode & write it V –I characteristics.

(OR)

8. Explain the working of Zener diode & write it V-I characteristics.

9. State and prove Demorgan's theorem.

(OR)

10. Explain about AND, OR, NOT, NAND, NOR gates with their truth tables.

SECTION-B

II. Answer any THREE of the following Questions **3X5=15M**

11. Derive coulomb's law from Gauss's law.

12. What is Hall effect and mention its application.

13. State and explain Faraday's law of electric magnetic induction.

14. Write a short note on Q-factor.

15. Explain NOR gate as a universal gate.

16. Explain the working of PNP and NPN transistors.

[P.T.O]

SECTION-C

III. Answer any TWO of the following Questions **2X5=10M**

17. Calculate the energy stored in a spherical capacitor of 10 cm radius charged to a potential of 200volt.

18. A solenoid of length 20 cm and radius 2 cm is closely wound with 200 turns. Calculate the magnetic field intensity at either end of solenoid when the current in the windings is 5 amp.

19. In a series LCR circuit R=100 ohm, L=0.5H and C=40 μF. Calculate the resonant frequency.

20. In a transistor base current and emitter current are 0.08mA and 9.6mA respectively. Calculate collector current, α and β.

Room No: _____ **Regd No**_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MPCS)	Max Marks	: 60
Subject	: Physics	Pass Mark	: 24
Title of Paper	: Electricity, Magnetism & Electronics	Duration	: 3Hrs
Paper Code	: R20PHY401A	Time	: 9am – 12noon
W.E.F	: 2022-23	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Derive coulomb's law from Gauss's law.

2. Write the differences between Polar and Non-polar dielectrics.

3. State and explain Faraday's law and Lenz's law.

4. Write a short note on Q-factor.

5. Explain NOR gate as an universal gate.

6. A solenoid of length 20 cm and radius 2 cm is closely wound with 200 turns. Calculate themagnetic field intensity at either end of solenoid when the current in the windings is 5 amp.

7. In a transistor base current and emitter current are 0.08 m A and 9.6 m A calculate collector current α and β.

8. Using 2's complimental subtract $(100111)_2$ from $(110011)_2$.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Define electric potential and find the potential due to uniformly charged sphere.

(OR)

10. Define Capacitance of capacitor. Derive an expression for the capacitance of a parallel plate condenser containing a dielectric between the plates.

11. Derive an expression for magnetic induction due to solenoid?

(OR)

12. Define mutual inductance. Derive the equation for the coefficient of mutual inductance of two coils.

13. Given the detailed theory of L-C-R series circuit carrying AC and explain resonance condition.

(OR)

14. State and prove poynting theorem.

15. Explain the working of P – N junction diode. Draw I-V characteristics of a P-N junction diode and explain them.

(OR)

16. Define alpha, beta and gamma. Derive the expressions for the relations between them.

17. State and prove Demorgan's theorem.

(OR)

18. Explain the operation of AND, OR, NOT, X-OR gate with their truth tables.

42

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hons (Physics & Computer Science) Max Marks : 60
Subject : Physics Pass Mark : 24
Title of Paper : **Electricity and Magnetism** Duration : 3 Hrs
Paper Code : R23PHY401/R23MPHY401 Time : 9am - 12noon
W.E.F : 2024-25 Date : 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Derive coulomb's law from Gauss's Law
2. Write the limitations of Ohms Law
3. State and explain Biot-Savart's law.
4. State and explain Faraday's laws of electromagnetic induction.
5. Write a short note on Power factor.
6. The dielectric constant of a medium is 4. Electric field is 10^6 V/m. Calculate electric displacement and polarization.
7. What is the self-inductance of a 50cm long solenoid with 2cm diameter and having 200 turns?
8. In a series RLC circuit R=100 ohms, L = 0.5H, C=40μF. Calculate the resonant frequency and Q- factor.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. State and Prove Gauss law in electrostatics.

(OR)

10. Derive an expression for the electric field intensity due to uniformly charged sphere.
11. State and Prove Superposition theorem.

(OR)

12. State and Prove Norton's theorem.
13. State and explain Biot-Savart's law. Derive an expression for magnetic induction at a point due to a long solenoid.

(OR)

14. What is mutual induction? Define coefficient of mutual induction and obtain an expression for coefficient of mutual inductance between two coils.
15. State and prove Poynting theorem.

(OR)

16. Derive the differential form of Maxwell's equation from their integral form
17. Give the theory of LCR series ac resonant circuit and obtain an expression for the resonant frequency.

(OR)

18. Give the theory of LCR parallel ac resonant circuit and obtain an expression for the resonant frequency.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MPC, MCCS , CBZ)	Max Marks	: 75
Subject	: Chemistry	Pass Mark	: 30
Title of Paper	: Inorganic And Physical Chemistry	Duration	: 3 Hrs
Paper Code	: R20CHE402	Time	: 9am-12noon
W.E.F	: 2021-22	Date	: 11/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain the structure of $[Co(NH_3)_6]^{3+}$ ion based on Valance Bond Theory?

2. Explain about the Geometrical isomerism in square planar complexes?

3. Write a short note on Ligand Substitution Reactions in Metal Complexes?

4. Explain the determination of the chemical composition of the metal complex by Job's method?

5. Explain Thermodynamic derivation of Gibb's Phase Rule?

6. Define the terms Equivalent Conductance and Molar Conductance?

7. What is meant by Single electrode potential?

8. Explain about Order and Molecularity of a reaction?

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain the structural isomerism of complex compounds with examples?

(OR)

10. Write the postulates of crystal field theory? Explain the splitting of d-orbitals in octahedral complexes?

11. Explain about the trans effect? Write any two applications of trans effect?

(OR)

12. Explain the toxic nature of Mercury and Cadmium? Write a note on use of chelating agents in medicines?

13. Explain the phase diagram of one component system?

(OR)

14. What is the Reduced phase rule? Apply phase rule to Pb-Ag system?

15. What is the transport number? How is the transport number of an ion calculated by Hittorf's Method?

(OR)

16. Explain about the Conductometric titrations?

17. Derive an expression for rate constant and half life period of First order reaction?

(OR)

18. Explain collision theory and activated complex theory of bimolecular reactions?

44

Room No: _____ **Regd No** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(MCCS, CBZ)	Max Marks	: 60
Subject	: Chemistry	Pass Mark	: 24
Title of Paper	: Inorganic and Physical Chemistry	Duration	: 3Hrs
Paper Code	: R20CHE402A	Time	: 9am-12noon
W.E.F	: 2022-23	Date	: 11/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Write the postulates of valance bond theory.
2. What are inner and outer orbital complexes
3. Define labile and inert complexes with examples.
4. Write a note on chelate effect.
5. Write a note on freezing mixtures.
6. Derive Nernst equation
7. What are strong and weak electrolytes and give any two examples for each.
8. Describe collision theory.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain the splitting of d-orbitals in tetrahedral complexes.

(OR)

10. Explain the geometrical Isomerism in coordination compounds.

11. Define trans effect and explain the theories of trans effect.

(OR)

12. Write the biological functions of Hemoglobin and myoglobin

13. Explain phase diagram for water system.

(OR)

14. Explain phase diagram of Pb-Ag system.
15. Give the elementary treatment of Debye Huckel Onsagar's equation for strong electrolytes.

(OR)

16. Define transport number? Write experimental methods for the determination of transport number by Hittorf's method.
17. Derive the rate expression for 2^{nd} order reaction involving same reactants?

(OR)

18. Describe general methods for determination of order of a reaction?

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MPC, MCCS, CBZ)	Max Marks	: 75
Subject	: Chemistry	Pass Mark	: 30
Title of Paper	: Inorganic ,Organic And Physical Chemistry	Duration	: 3 Hrs
Paper Code	: R20CHE401	Time	: 9am to 12pm
W.E.F	: 2021-22	Date	: 10/03/2025

SECTION-A

I. Answer ALL the following Questions **5X5=25M**

1. Write the classification of organometallic compounds?

2. Write interconversion of Arabinose to Glucose ?

3. What is iso electric point and Zwitter ion?

4. Write the acidity of Pyrrole and Furan,Thiophene?

5. Write Nef reaction and mannish reaction?

6. Write the basicity of amines?

7. Write a short note on Jablonski diagram?

8. Derive $C_P - C_V = R$

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. What is Hepatacity? Describe the 18 electron rule of mononuclear metal carbonyls and polynuclear metal carbonyls with suitable examples?

(OR)

10. What is synergic effect? Write the MO diagram of CO?

11. Write the open chain structure of Glucose?

(OR)

12. Write the interconversions of the following?

1) Ruff's degradations 2) Glucose to Fructose

13. Write any two preparations and Chemical properties of Amino acids

(OR)

14. Write the preparations methods of Furan, Thiophene, Pyrrole?

15. Write the preparation and chemical properties of Nitro Alkanes?

(OR)

16. Explain the Hinsberg Separation Method?

17. What is Quantum yield? Explain the photochemical combination of Hydrogen –Chlorine and Hydrogen-Bromine ?

(OR)

18. 1) Explain about Kirchoff's Equation?

2) Write Different statements of second law of thermodynamics?

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hons (Chemistry) Max Marks : 60
Subject : Chemistry Pass Mark : 24
Title of Paper : **Nitrogen Containing Organic Compounds and Spectroscopy**
Duration : 3 Hrs
Paper Code : R23CHE403 Time : 9am to 12pm
W.E.F : 2024-25 Date : 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain the Gabriel synthesis for the preparation of primary amines.

2. Briefly explain the Schmidt reaction.

3. Define Iso electric point.

4. Define Zwitter ion.

5. What are the two forms involved in the tautomerism of nitroalkanes.

6. Write a note on Pyridine synthesis

7. Write a note on Chromophore and Auxochrome

8. Explain electronic transitions in molecules.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. How can Hinsberg's method be used to distinguish between primary, secondary, and tertiary amines?

(OR)

10. Describe Hofmann's exhaustive methylation and Carbyl amine reaction.

11. Write a note on classification of Amino acids.

(OR)

12. What are amino acids? Write any three general methods of preparation of amino acids.

13. How are nitroalkanes typically prepared?

(OR)

14. Write a note on following recations
(i) Nef Reaction (ii) Micheal addition reaction

15. Write a note on Basicity and nucleophile substitution reactions of Pyridine.

(OR)

16. What is the effect of halogenation and sulphonation on furan, thiophene and pyrole?

17. Write a note on Wood Ward Fischer rule.

(OR)

18. Discuss the fundamental modes of vibrations in IR Spectroscopy.

47

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hons (Chemistry/Computer Science/Microbiology/Biotechnology)

Subject : Chemistry
Title of Paper : **General and Physical Chemistry**
Paper Code : R23CHE402/R23MCHE402
W.E.F : 2024-25

Max Marks : 60
Pass Mark : 24
Duration : 3 Hrs
Time : 9am to 12pm
Date : 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Write a note on Na^+ - K^+ pump

2. Write Biological important functions of Na and Mg elements

3. Write a note on the cisplatin as an anti-cancer agent

4. Write a note on the toxicity of cadmium

5. What are the factors which influence to rate of reaction?

6. Derive the expression of first order reaction

7. What are weak and strong electrolytes

8. Write a note on buffer solution & write Henderson's equation.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Write a note on the enzymes carbonic anhydrase and carboxy peptidase.

elements with **(OR)**

10. Write about the classification of biological significance

11. Discuss the structure and functions of myoglobin

(OR)

12. What are toxic metals? Write a note on toxicity of Lead and Arsenic

13. Explain general methods for determination of order of a reaction

(OR)

14. Derive the rate expression for the second order reaction when the concentration of the two reactants are equal.

15. Derive Michaelis Menten equation

(OR)

16. Explain the Lock and Key model enzyme catalysis

17. Explain the solubility product and write the applications of solubility product

(OR)

18. Describe theories of Acid-Base indicators.

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hons (Chemistry/Computers/Microbiology/Biotechnology)

Max Marks : 60

Subject : Chemistry

Pass Mark : 24

Title of Paper : **Physical Chemistry-II**

Duration : 3 Hrs

Paper Code : R23CHE401/R23MCHE401

Time : 9am-12noon

W.E.F : 2024-25

Date : 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Write short notes on Inversion temperature.

2. Define the terms critical temperature, critical pressure and critical volume.

3. Write any six applications of liquid crystals.

4. Define unit cell. Space lattice and lattice point.

5. Write short notes on Miller indices.

6. State phase rule and Explain the different in it.

7. Write short notes on Freezing mixtures.

8. Write a note on applications of adsorption.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Deduce the relation between critical constants and VanderWaals constants.

(OR)

10. State and Explain law of corresponding states.

11. Explain the determination of viscosity of a given liquid by Ostwald's viscometer.

(OR)

12. What are liquid crystals and explain their classifications.

13. Derive Bragg's equation and write its applications.

(OR)

14. Write an essay on Crystal defects.

15. Explain the phase rule to NaCl-H_2O system.

(OR)

16. Explain the phase diagram of water system.

17. Explain Frenndlich and Langmuir adsorption isotherms.

(OR)

18. What are Colloids? Write brief notes on classification of colloids.

Room No: _____ Regd No_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(CBZ)	Max Marks	: 60
Subject	: Botany	Pass Mark	: 24
Title of Paper	: Cell Biology, Genetics And Plant Breeding	Duration	: 3Hrs
Paper Code	: R20BOT402A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 04/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Cell theory

2. Differentiate between prokaryotic and eukaryotic cells.

3. Euchromatin and Heterochromatin

4. Supplementary genes

5. Test cross and back cross

6. RNA

7. Translation

8. Emasculation

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain the ultra-structure of plasma membrane and various theories on its organization

(OR)

10. Give a brief account on ultra-structure of chloroplast.

11. Discuss about the chromosomal aberrations.

(OR)

12. Describe the organization of DNA in chromosome.

13. Explain the Mendel's law of inheritance.

(OR)

14. Discuss about the Maternal inheritance.

15. Describe the structure of DNA

(OR)

16. Write briefly about regulation of gene expression in Prokaryotes.

17. Discuss about the scheme of plant hybridization.

(OR)

18. Give a brief account on DNA markers in plant breeding

50

Room No: _____ Regd No_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(CBZ)	Max Marks	: 60
Subject	: Zoology	Pass Mark	: 24
Title of Paper	: Immunology and Animal Biotechnology	Duration	: 3Hrs
Paper Code	: R20ZOO402A	Time	: 9am to 12pm
W.E.F	: 2022-23	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Types of Vaccines
2. Haptens
3. Cryopreservation
4. Super Ovulation
5. Types of Fermentations
6. Stem cell applications
7. Recombinant DNA technology
8. PCR

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Define Immunity? And write about adaptive immunity.

(OR)

10. Discuss about the Organs of Immune system.
11. Define Hypersensitivity. Write about Hypersensitivity

(OR)

12. Describe the structure and functions of Antibody.
13. Write about the stem cells and their applications.

(OR)

14. Write an essay on production and applications of mAb.
15. Explain different types of Vectors in biotechnology.

(OR)

16. Define Transgenesis. Write about transgenic animals.
17. Describe the DNA finger printing technology. Add a note on its importance.

(OR)

18. Write about Southern & Western blotting techniques.

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Biotechnology)	Max Marks	: 60
Subject	: Biotechnology	Pass Mark	: 24
Title of Paper	: **Bioinformatics and Biostatistics**	Duration	: 3 Hrs
Paper Code	: R23BT402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

Draw labelled diagrams wherever necessary.

1. Write about scope of computers in Biological research

2. Explain basic concepts in Bioinformatics

3. Write about visualization of proteins using database

4. What is MICROARRAY

5. Write in detail about normal Distribution

6. Explain about Standard Error

7. Write about student T test for small samples

8. Write a short notes on Test Hypothesis

SECTION-B

II. Answer any FIVE of the following Questions **5X8=40M**

Draw labelled diagrams wherever necessary.

9. Explain briefly about Bioinformatics versus computational Biology

(OR)

10. Write down the definition, nature & scope of Bioinformatics.

11. Give an account on Computer Aided Drug Design (CADD)

(OR)

12. Explain the concept of GENOMICS & PROTENOMICS

13. Explain computational phylogenetics along with applications

(OR)

14. Explain in detail about PHYLIP software

15. Explain about measurement of central tendency (Mean. Median, Mode)

(OR)

16. Write a brief account on Poisson & Binomial distribution

17. Explain about Computer applications in Biotechnology

(OR)

18. Give a brief account on CHI^2 test for correlation & regression

51

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Microbiology)	Max Marks	: 60
Subject	: Microbiology	Pass Mark	: 24
Title of Paper	: **R DNA Technology, Biostatistics and Bioinformatics**	Duration	: 3 Hrs
Paper Code	: R23MB403	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**
Draw labelled diagrams wherever necessary.

1. Write short notes on BAC.

2. Write short notes on YAC.

3. Discuss the applications in Genetic engineering.

4. Write about NCBI.

5. Write short notes on Southern Blotting.

6. Write about ChIP with examples.

7. Write short notes on STANDARD DEVIATION.

8. Write a short notes on Data presentation.

SECTION-B

II. Answer any FIVE of the following Questions **5X8=40M**
Draw labelled diagrams wherever necessary.

9. What are the basic principles of Genetic engineering steps in Gene cloning

(OR)

10. Explain in detail about Transformation of DNA.

11. Explain about C-DNA library and Genomic DNA library.

(OR)

12. Explain in detail about Hybridoma technology.

13. Explain principle and types of Blotting techniques with applications.

(OR)

14. Explain in detail about labelling of DNA.

15. Explain about GenBANK, PDB, NDB, UIPORT, SWISSPORT.

(OR)

16. Write a brief account on sequence alignment.

17. Write about measurement of central tendency.

(OR)

18. Explain about Sample and data population.

53

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Biotechnology)	Max Marks	: 60
Subject	: Biotechnology	Pass Mark	: 24
Title of Paper	: **Medical Biotechnology**	Duration	: 3 Hrs
Paper Code	: R23BT403	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 08/05/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

Draw labelled diagrams wherever necessary.

1. Diseases caused by microbial sources.

2. Pathogenic Islands.

3. Characteristics of infectious disease.

4. Transmission of pathogens.

5. Pneumonia.

6. Synthetic vectors- liposomes.

7. Stem cell-based drug discovery.

8. Hepatitis.

SECTION-B

II. Answer any FIVE of the following Questions **5X8=40M**

Draw labelled diagrams wherever necessary.

9. Define chromosomal aberrations? Write types of chromosom aberrations?

(OR)

10. Write about anti-microbial compounds and their mode of action?

11. Write about epidemiology, pathogenicity, diagnosis, prevention Tuberculosis?

(OR)

12. Write about Write about epidemiology, pathogenicity, diagnos prevention of Typhoid?

13. Write about sexually transmitted diseases?

(OR)

14. Give detailed account on Mycosis?

15. Write an essay on types of Gene therapy?

(OR)

16. Write about biological vectors used in gene therapy.

17. Write about DNA and RNA based diagnosis?

(OR)

18. Write about Drug screening and Toxicology?

54

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Microbiology)	Max Marks	: 60
Subject	: Microbiology	Pass Mark	: 24
Title of Paper	: **Molecular Biology and Microbial Genetics**	Duration	: 3 Hrs.
Paper Code	: R23MB401	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

Draw labelled diagrams wherever necessary.

1. With reference to E. coli? Replication

2. Types of plasmids.

3. Concept of introns and exons.

4. Charging of t RNA.

5. Uses of mutations.

6. Principles and significance of vaccination.

7. Factors affecting transformation.

8. Applications of conjugation.

SECTION-B

II. Answer any FIVE of the following Questions **5X8=40M**

Draw labelled diagrams wherever necessary.

9. Write about experiments to prove DNA as a genetic material?

(OR)

10. Explain prokaryotic genome organization with reference to E.coli

11. Write about mechanism of Transcription in prokaryotes?

(OR)

12. Write down the given hypothesis

a) One gene One Enzyme b) One gen one product

13. Write an essay on Lac Operon mechanism in prokaryotes?

(OR)

14. Write an essay about salient features of Genetic Code?

15. Write an essay on Molecular basis of mutations?

(OR)

16. Write any four DNA repair mechanisms?

17. Write an essay on the mechanism of Transformation?

(OR)

18. Write an essay on the mechanism and types of Transduction?

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Biotechnology)	Max Marks	: 60
Subject	: Biotechnology	Pass Mark	: 24
Title of Paper	: **Immunology**	Duration	: 3 Hrs
Paper Code	: R23BT401	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 10/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**
Draw labelled diagrams wherever necessary.

1. T-Cells

2. History and scope of immunology.

3. Factors affecting antigenicity.

4. Brief description of Interleukins.

5. General features of Hypersensitivity.

6. Principles and significance of vaccination.

7. ELISA.

8. RIA.

SECTION-B

II. Answer any FIVE of the following Questions **5X8=40M**
Draw labelled diagrams wherever necessary.

9. Write about Innate immunity mechanism?

(OR)

10. Write about secondary lymphoid organs?

11. Define Antibody? Write about types of antibodies?

(OR)

12. Define Antigenicity? Write about types of antigens?

13. Write about the structure and functions of Class I, II, MHC Molecules?

(OR)

14. Write an essay on Humoral immunity?

15. Write an essay on types of Hypersensitivity?

(OR)

16. Write an essay on types of Vaccines?

17. Write about Radial immunodiffusion and Double immunodiffusion?

(OR)

18. Write an essay on Hybridoma Technology?

Room No: _____ Regd No: 56

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Microbiology)	Max Marks	: 60
Subject	: Microbiology	Pass Mark	: 24
Title of Paper	: **Microbial Psychology and Metabolism**	Duration	: 3 Hrs
Paper Code	: R23MB402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 10/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

Draw labelled diagrams wherever necessary.

1. Write short notes on concept of Uniport & Symport.

2. Write short notes on uptake of Iron by cell.

3. Write short notes on Viable count.

4. Write short notes on concept of Free Energy.

5. Write short notes on Chemoautotrophy.

6. Write about oxidation of inorganic compounds.

7. Write short notes on photosynthetic pigments.

8. Write outlines on unoxygenic photosynthesis in bacteria.

SECTION-B

II. Answer any FIVE of the following Questions **5X8=40M**

Draw labelled diagrams wherever necessary.

9. What are the nutritional requirements for the growth of microorganisms

(OR)

10. Explain in detail about methods of uptake of nutrients by cells

11. Explain about measurement of bacterial growth.

(OR)

12. Explain different methods for growth phases of bacteria.

13. Explain I & II Laws of Thermodynamics

(OR)

14. Explain in detail about HMP Shunt pathway

15. Explain about mechanism of Oxidative Phosphorylation.

(OR)

16. Write a brief account on fermentation of Lactic acid

17. Write about oxygenic photosynthesis in Bacteria

(OR)

18. Write about photosynthetic apparatus in Prokaryotes.

Room No: _____ Regd No: 57

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II Degree (All Groups)	Max Marks	: 50
Subject	: Foundation	Pass Mark	: 20
Title of Paper	: Entrepreneurship	Duration	: 2 Hrs
Paper Code	: R20ESP401/R20ESP401A	Time	: 9:00AM-11:00AM
W.E.F	: 2016-17	Date	: 04/03/2025

SECTION-A

I. Answer ALL the following Questions **5X10=50M**

1. Explain different types of entrepreneurs.

(OR)

2. Explain the role of entrepreneur in Economic Development.

3. How can entrepreneur generate ideas (or) Write about creative problem solving techniques?

(OR)

4. What are the steps in Trapping Opportunites?

5. What is project report? Explain its significance.

(OR)

6. Explain the planning commission's guidelines for formulation project report.

7. Explain the Institutional Support to small enterprises.

(OR)

8. Explain in detail about functions of NABARD.

9. Write about Government policy for Small Scale Enterprises.

(OR)

10. Explain about rehabilitation allowance and investment allowance.

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Electronics)	Max Marks	: 60
Subject	: Electronics	Pass Mark	: 24
Title of Paper	: **Micro Controller System**	Duration	: 3 Hrs
Paper Code	: R23ELE402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain the advantages and applications of 8051MC.

2. What are the features of 8051MC?

3. Write a short note on Program Counter.

4. Explain internal RAM allocation of 8051MC

5. Explain briefly about CALL instruction in 8051MC

6. Explain the function of the following Instructions a) MOV b)MOVX c) MOVC

7. Write an assembly language programme for Addition of two – 8 bit numbers

8. Write a short note on DAC

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Difference between Microprocessor and Microcontroller.

(OR)

10. Explain briefly about the Evolution of Microcontrollers.

11. Draw and explain the Architecture of 8051MC.

(OR)

12. Explain briefly about data types and directives of 8051 MC.

13. What are the Addressing modes of 8051MC and explain each with one example?

(OR)

14. Explain briefly about time delay generation and calculation of 8051MC.

15. Write an assembly language program for largest number in a given array.

(OR)

16. Write an assembly language program for smallest number in a given array.

17. Describe the operation of LCD and explain how it is interfacing with microcontroller.

(OR)

18. Discuss in detail interfacing of Temperature measurement (LM35) with 8051 MC.

Room No: _____ Regd No 59

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(IOT)	Max Marks	: 75
Subject	: Electronics	Pass Mark	: 30
Title of Paper	: Advanced Numerical Analysis	Duration	: 3Hrs
Paper Code	: R20IOTMAT401	Time	: 9am to 12pm
W.E.F	: 2021-22	Date	: 06/03/2025

SECTION-A

I Answer any FIVE of the following Questions **5X5=25M**

1. Fit a straight line $y = a + bx$ by method of least squares

x	0	1	2	3
y	2	5	8	11

2. Find an exponential function of the following data.

x	0	2	4
y	5.1	10	31.4

3. Using the following table, compute $\frac{dy}{dx}$ at x=1 by using Newton's forward formula.

x	1	2	3	4	5	6
y	1	8	27	64	125	216

4. Derive the second derivative of Newton's Backward difference formula.

5. Evaluate $\int_0^1 \frac{1}{1+x}dx$ by Trapezoidal rule with h=0.5.

6. Evaluate $\int_0^6 \frac{1}{1+x^2}dx$ by using Simpson's $\frac{1}{3}$ rule with h=1.

7. Solve the equations x+y+z=6,3x+3y+4z=40,2x+y++3z=13 by Gauss–Jordan Method.

8. Using Taylor's series method, solve the equation $\frac{dy}{dx} = x + y$ with $y(0)=1, x \in [0,1]$.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Fit a second degree parabola to the following data.

x	0	1	2	3	4
y	1	5	10	22	38

[P.T.O]

(OR)

60

10. Fit a curve $y = ax^b$ by method of least squares

x	61	26	7	2-6
y	350	400	500	600

11. Find $f^1(1.6)$ from the following table by using Stirling's formula.

x	1.0	1.2	1.4	1.6	1.8	2.0	2.2
f(x)	2.7183	3.3201	4.0552	4.9530	6.0496	7.3891	9.0250

(OR)

12. Find the maximum value of y by using the given data.

x	0	1	2	3	4
y	0	0.25	0	2.25	16

13. Find $\int_0^1 \frac{1}{1+x}\,dx$ by using Simpson's $\frac{3}{8}$ rule with h=1/6.

(OR)

14. Evaluate $\int_4^{5.2} \log x\,dx$ by using Weddle's rule with h=0.2.

15. Solve the equations 10x+y+z=12, 2x+10y+z=13,2x+2y+10z=14 by using Gauss Seidel method.

(OR)

16. Solve the equations 2x+y+z=2, x+3y+2z=2,3x+y+2z=2 by LU decomposition method.

17. Given that $\frac{dy}{dx} = y - x$ with y(0)=2 then find y(0.1) correct to four decimal places by using Runge-Kutta fourth order method.

(OR)

18. Determine the value of y when x=0.1 given that y(0)=1 and $y^1 = x^2 + y$ by using Modified Euler's Method.

C6

Room No: _____ Regd No 61

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(MECS)	Max Marks	: 75
Subject	: Electronics	Pass Mark	: 30
Title of Paper	: Microcontroller and Interfacing	Duration	: 3Hrs
Paper Code	: R20ELE402	Time	: 9am to 12pm
W.E.F	: 2020-21	Date	: 06/03/2025

SECTION-A

I. Answer ALL the following Questions **5X10=50M**

1. Draw the block diagram of 8051 microcontroller and explain each block.

(OR)

2. Explain briefly about the development tools in 8051 micro controller

3. Discuss I/O port organization in 8051 microcontroller

(OR)

4. Explain briefly about interrupts in 8051MC

5. Explain the classification of instructions and formats in 8051MC

(OR)

6. Explain briefly about instruction set of 8051MC and explain with one example.

7. Write an assembly language program for smallest number in an given array

(OR)

8. Explain briefly about time delay generation and calculation of 8051MC

9. Explain functional block diagram of 8255 PPI ? Explain how 8255 is interfaced to 8051 with suitable example

(OR)

10. Discuss in detail interfacing of 7-segment display with 8051MC

SECTION-B

I. Answer any FIVE of the following Questions **5X5=25M**

1. Write a short note on compiler and assembler

2. Write a short note on evolution of micro controllers

3. Write a short note in Program counter

4. Explain internal RAM allocation of 8051MC.

5. Explain in detail about Rotate instructions in 8051MC

6. Explain the function of following instructions: a) MOV b) MOVX c) MOVC

7. Write an assembly language program for division of two 8-bit numbers

8. Discuss in detail interfacing DAC(0804) with 8051 MC

Room No: _____ **Regd No:** 62

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hons (Electronics & Computer Science) Max Marks: 60
Subject : Electronics Pass Mark : 24
Title of Paper : **Micro Processor Systems** Duration : 3 Hrs
Paper Code : R23ELE403/R23MELE402 Time : 9am to 12pm
W.E.F : 2024-25 Date : 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Discuss the CPU and ALU unit's functions of 8085

2. Write a short note on program counter.

3. Explain briefly about immediate addressing mode.

4. Write an assembly language program for subtraction of two – 8 bit numbers

5. Write an assembly language program for Division of two – 8 bit numbers

6. Discuss Minimum and Maximum modes of 8086 microprocessor

7. Explain briefly about programmable Interval Timers (8253)

8. Explain ARM based MPU, ARM 16 bit processor.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Draw the architecture of 8085 microprocessor. Explain the function of each block.

(OR)

10. Draw and explain the pin configuration of 8086 microprocessor.

11. What is addressing mode? Explain different types of Addressing modes in 8085 microprocessors with one example.

(OR)

12. Explain briefly about the classification of Instruction set in 8085 Microprocessor.

13. Write an assembly language program for smallest number in a given array.

(OR)

14. Write an assembly language program for BCD to ASCII conversion.

15. Draw and explain the Serial Communication interface of USART Intel 8251.

(OR)

16. Draw the architecture of Intel 8279 Programmable keyboard / display controller.

17. Draw and explain the Architecture of RAM processor.

(OR)

18. Discuss in brief the instruction set of ARM processor.

Room No: _____ Regd No: 63

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Electronics & Computer Science)	Max Marks	: 60
Subject	: Electronics	Pass Mark	: 24
Title of Paper	: **Electrical and Electronic Instrumentation**	Duration	: 3 Hrs
Paper Code	: R23ELE401/R23MELE401	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain about Electro static voltmeter.
2. Write a short note on Random error.
3. Explain about Maxwell bridge.
4. What are the advantages of AC bridges over DC bridges?
5. Explain about Electrostatic Deflection.
6. Draw the block diagram of Cathode oscilloscope (CRO)
7. Explain the working of instrumentation amplifier.
8. Explain the working of Strain Guage.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Explain the classification of indicating instruments.

(OR)

10. Explain the working of Electrodynamometer.

11. Draw and explain the Wien's bridge for measuring of frequency.

(OR)

12. Obtain an expression for measurement of frequency using Schering Bridge.

13. Explain the measurement of Voltage (AC and DC), frequency, phase difference by using CRO.

(OR)

14. Draw and explain the block diagram of Cathode ray tube (CRT).

15. Explain Briefly about the working of Electronic voltmeter.

(OR)

16. Distinguish between Electronic and Digital Voltmeters.

17. Draw and explain the working of strain gauge.

(OR)

18. Explain about construction and Operation of LCD display.

Room No: _____ **Regd No** 64

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(IOT)	Max Marks	: 75
Subject	: Electronics	Pass Mark	: 30
Title of Paper	: Introduction To Micro Processor & Microcontroller	Duration	: 3Hrs
Paper Code	: R20IOTELE401	Time	: 9am – 12 noon
W.E.F	: 2020-21	Date	: 03/03/2025

SECTION-A

I. Answer ALL of the following Questions **5X10=50M**

1. What are the addressing modes of 8085

(OR)

2. Draw the pin diagram of 8085 Microprocessor

3. Draw the architecture of 8051 micro controller? Explain function of each block

(OR)

4. List all the registers used in 8051 microcontroller in brief

5. Explain the concept of stack, subroutine

(OR)

6. Explain editor, Assembler, compiler, linker, simulator

7. What are data types in 8051C.

(OR)

8. Explain the operation of memory interfacing

9. Draw and explain interfacing diagram of stepper motor with 8051 micro controller

(OR)

10. Draw and explain interfacing diagram of DAC with 8051 microcontrollers. Write program to generate sine wave at the output of DAC.

SECTION-B

II. Answer any FIVE the following Questions **5X5=25M**

11. Advantage of 8085 microprocessor

12. Difference between Van Neumann and Harvard Architecture

13. Explain the operation of ALU

14. Discuss the advantages of microcontroller over microprocessor in control applications

15. Explain the concept of IDE

16. What is bit level instruction

17. Explain data memory and code memory

18. Explain the concept of Interrupt and polling

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com Hons (Computers)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: **Training and Development**	Duration	: 3 Hrs
Paper Code	: R23MCOM402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 10/03/2025

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. Explain the importance of Training.

(OR)

2. List out the problems in Training Process.

3. Define Training Evaluation. Explain the Kirkpatrick Model of Training Effectiveness.

(OR)

4. Explain in detail about the identification of Training Needs.

5. Define Training Design. What are the factors affecting in designing a Training Program?

(OR)

6. Discuss the types of costs involved in the Training Program.

7. Explain the various methods of off-the-job Training.

(OR)

8. Explain the various roles of the Trainer.

9. What is Counselling? Explain the process of Counselling.

(OR)

10. What is Executive Development? Explain the steps of the Executive Development Program.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com (TP)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Assessment of Individual , HUF & Partnership	Duration	: 3 Hrs
Paper Code	: R20COMT406A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Incomes of other persons to be included in the Total Income.

2. What is HUF?

3. AOP and BOI.

4. Tax Rates applicable to firm for A.Y 2023-2024.

5. Write about TCS?

6. Residential Status of HUI.

7. What is Gross Total Income?

8. Rates of Tax applicable to an Individual for the A.Y

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Tax Treatment of Income received from Different Institutions?

(OR)

10. From the following particulars Compute Total income of Mr. Karthikeya.

i) Income from salary ₹. 2,08,000.

ii) Income from House Property ₹. 76,000.

iii) Income from Long-term Capital Gain on Shares ₹. 81,000 and on Buildings ₹. 1,90,000

iv) Income from Other Sources ₹. 24,000.

v) Winning from Horse Races (Gross) ₹. 68,000.

Deductions allowable as per I.T. Act.

1. ₹.86,000 U/S C 2. ₹.5,000 U/S D 3. ₹.10,000 U/S 80G

11. How to Compute Total Income of HUF?

(OR)

12. The following details have been supplied by Mr. Ramu, Karta of H.U.F. Compute the Total Income and Net Tax Liability of H.U.F. for the Year 2021-2022

Short-Term Capital Gains	9,500
Long-Term Capital Gains	9,400
Profit from Business	3,15,000
Profit from Firm	25,000
Rental Income from the Property let out	28,000
Municipal Tax on the above Property	5,000
Interest on Securities of a Listed Company	10,000
Contribution for Dhana Raksha Policy of LIC in the name of a member of the Family	15,000

[P.T.O]

13. What are the rates prescribed for assessment of AOP & BOI?

(OR)

14. The following is the Profit & Loss A/C of an AOP of Arun, Varun and Tarun:

15. Distinguish between a firm assessed U/s 184 and a firm assesse U/s 185.

(OR)

16. The Profit and Loss A/c of a firm in which the Partners X,Y and Z Share Profits and Losses in the Ratio of 5:4:1 Respectively discloses Profit of ₹. 80,525 for accounting Year ending 31st March 2020

DEBITS	₹.	CREDITS	₹.
Donation to National Defense Fund	11,000	Capital Gain on Sale of Scrap Machinery	5,000
Salary to Partner:		Interest on Debentures after deduction of Tax at Source ₹. 2,500	22,000
X ₹. 15,000		Interest on Securities (Gross)	3,500
Y ₹. 19,000			
Z ₹. 22,000	56,000		
Commission to X	6,000		
Office Rent (Paid to Y)	12,000		

Conclude the Total Income of the Firm for the Assessment Year 2020-2021. The firm has submitted Certified Copy of Instruction of Partnership along with return and it provides for Payment of Salary, Commission to Working Partners X,Y,Z as per above

17. Who need to file TDS Returns?

(OR)

18. What do you mean by TDS? What are the advantages of TDS?

Room No: _____ Regd No _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com(Gen,Comp)	Max Marks	: 75
Subject	: Commerce	Pass Mark	: 30
Title of Paper	: Income Tax	Duration	: 3Hrs
Paper Code	: R20COM406	Time	: 9am to 12pm
W.E.F	: 2020-21	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Assessment

2. Agricultural income

3. Profits in lieu of salary

4. Business Vs Profession

5. Types of capital assets

6. Gross total income

7. Specific income.

8. Types of provident funds.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Discuss various exempted incomes from tax.

(OR)

10. The following are the particulars of Income of Mr Pranav for the previous year 2020-2021. Compute his gross total income on different residential status.

	Rs.
Rent from a property in Delhi received in USA	80,000
Income from a business in USA controlled from Delhi	1,20,000
Income from a business in Bangalore controlled from USA	1,80,000
Rent from a property in USA received there but subsequently remitted to India	60,000
Interest from deposits with an Indian company received in USA	20,000
Profit for the year previous years of a business in USA remitted to India during this year (not taxed earlier)	75,000
Gifts received from his parents	45,000

[P.T.O]

11. Explain about different types of allowances.

(OR)

12. Mr. Madhava (aged 45 years) is working as assistant in the Marketing Department at Bangalore. His salary income details are as follows:

Basic salary-15,000/-p.m.; Dearness allowance-5,000/-p.m.; Dearness pay-2,000/-p.m.; commission-45,000/-p.a.; Entertainment allowance-700/-p.m.; (6,000/-spent on entertainment during the year); House rent allowance 7,500/-p.m.; (Rent paid 9,000/-p.m.). Compute taxable salary for the assessment year 2021-22.

13. How to determine the annual value of let-out house and self occupied house.

(OR)

14. Given below is the Profit and Loss Account of a Timber Merchant for the year ended 31stMarch, 2019. Compute total income for the AY 2019-20.

Profit and Loss Account

For the year ended 31st March, 2019)

Particulars	Rs	Particulars	Rs
Opening stock	25,000	Sales	6,00,000
Purchases	2,50,000	Rent for property	15,000
Wages	1,00,000	Closing stock	35,000
Audit fees	1,000		
Repairs	2,000		
General charges	1500		
Commission for raising loan	1000		
Bad debts reserve	500		
Bad debts	2000		
Interest on capita	10,500		
Staff welfare fund	2500		
Provision for income tax	1500		
Depreciation (allowable)	2500		
Net profit	2,50,000		
Total	6,50,000		6,50,000

[Continued To Next Page]

15. How to compute long term and short term income gains. 10

(OR)

16. Mr.Karthik submits the following particulars of his income & outgoing for the year 2019-20.

Dividend received from X co. Ltd. an Indian Company Rs. 4,160

Interest on American Government Bond Rs. 15,700

Winning from horse races Rs. 13,200, expenses incurred for the same Rs. 2,000

Income by the way of owning & maintaining race horses Rs. 8,900, Expenses incurred for maintaining such horses Rs. 1,200

Winning from Lottery (net after deduction of tax @ 30%) Rs. 8,400

Compute his income from other sources.

17. Explain deductions allowable from gross total income.

(OR)

18. The following are the particulars of Shri Apoorva for the A.Y. 2023-24.

Particulars	Rs
Income from house property	25,000
Ltcg on building	30,000
Winning from lottery	80,000
Life insurance premium paid	1000
Interest on government securities	12000
Income from cloth business	125,000
Income from mashroom business	40,000
Profit from dairy budiness	15000

Compute the taxable income.

..oom No: _____ Regd No: 71

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com (Gen & Comp)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Income Tax	Duration	: 3 Hrs
Paper Code	: R20COM406A/R20COMC404A	Time	: 9am to 12p/m
W.E.F	: 2023-24	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Define Person.
2. Rates of Tax of Individuals for the current assessment year.
3. Deductions u/s 16.
4. Type of Provident Fund.
5. Types of Capital Assets.
6. Deductions u/s 80 C.
7. Define Business & Profession?
8. Casual Incomes.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. What is Agriculture Income? Explain its types.

(OR)

10. From the following particulars of Mr.Manjunath Compute his Gross Total Income for the A.Y 20-21 a) Resident b) Not-ordinarly resident c) Non-resident
    a) Income from business in Chennai, business managed from Srilanka Rs.25,000
    b) Income from House Proerty in Mysure Rs.1,00,000.
    c) Income from Salary in Japan Rs.1,60,000.
    d) Income from business in Kuwait, business being controlled from Mumbai (Rs.25,000 is received in India) Rs.65,000.
    e) Income from Agricultre in Punjab, received in Mumbai Rs.30,000.
    f) Income from Agriculture in Bangladesh remitted to India Rs.10,000.
    g) Profit from sale of building in India Rs.2,50,000.
    h) Profit from business in Indonesia; this business controlled from Delhi Rs.40,000.
    i) Income from Indian partinership firm Rs.5,000.
    j) Interest on Savings Bank deposits in State Bank of India Rs.1,000.
    k)Divident from Foreign Company received in England Rs.10,000.
    l) Interest on German Development Bonds (1/3 received in India) Rs.51,000.

11. What is perquisites? Explain its types?

(OR)

12. Mr.Madhava Sen (age 45 years) is working as assistant in the Marketing Department of TTD Ltd. Bengaluru. His salary Income details are as follows.

Basic Salary Rs.15,000 p.m.
Dearness allowance Rs.5,000 p.m.
Dearness Pay Rs.2,000 p.m.
Commission Rs.45,000 p.a.
Enterainment allowance Rs.700 p.m. (6,000 spent on enterainment during the year).
House Rent allowance Rs.7,500 p.m. (Rent paid Rs.9,000 p.m).
Compute taxable salary for the Assessment Year 2021-2022.

[P.T.O]

13. How to determine the professional Income of a Lawyer?

(OR)

14. Mr.Prasad has prepared the following profit & loss A/C for the year ending 31.03.2021.

Particulars	Rs.	Particulars	Rs.
Salary to employees	8,000	Gross profit	1,37,300
Advertisement expenses	4,000	Dividends from India Co.	4,000
Sundary expenses	4,500	Rent from House property	16,500
Interest on Capital	2,000	Interest on securities(non trade)	92,000
Fire Insurance premium (Rs.1,000 relates to HP)	3,000	Lottery winning (TDS-3,000)	15,000
Income Tax	7,000		
House hold expenses	2,500		
Bad debts	1,000		
Provision for bad debts	500		
Repairs of HP	1,000		
Municipal Tax of HP	3,600		
Life Insurance Premium	6,000		
Donation to Congress party	2,000		
Depreciation (allowable)	3,700		
Net Profit	2,16,000		
	2,64,800		**2,64,800**

Mr.Prasad owns a HP which is used as follows.
a) 25% of carpet area for his own Business,
b) 25% of carpet area for his own residence .
c) 50% of corpet area is let out.
d) Advertising expenses includes expenditure of Rs.3,000 on neonsign board.
Computation his taxable income from Business for A.Y 2021-2022.

15. What is capital Gain? How to compute long-term capital gain and short-term capital gain?

(OR)

16. Mr.Subash a resident in Inda earned the Incomes during the financial year 2020-2021.
i) Interest on securities Rs.6,000.
ii) Winning from horse races Rs.12,500.
iii) Income earned from sub-letting of house Rs.10,500.
iv) Dividend from a Foreign Company Rs.26,000.
v) Interest on Postal Savings Bank account Rs.2,000.
vi) Ground rent for land in Patna Rs.5,000.
vii) Expenses incurred on sub-letting Rs.500.
viii) Income from agricultural land in Bangladesh Rs.20,000.
ix) Directors fee Rs.1,800.
x) He received a gift from his cousin a wrist watch Rs.5,000 on 01.06.2019.
xi)Rs.700 received by an account payee cheque as interest on debentures (listed) of a Company in which public are substantially interested.
xii) Interest on deposit under Gold Monetisation Scheme, 2015 Rs.15,000.
xiii) He gets a gift of a house property from friend Mr.Basu on 10.04.2019. Stamp duty value of the property on the date of gift is Rs.45,000.

[Continued to Next Page]

17. Write any five deductins allowable from Gross Total Income U/S 80.

(OR)

18. Mr.Sairam holds the following securities on 01.04.2021 :

a) Rs.5,00,000, 10% less tax Government securities (date of payment of interest : January 1st).

b) Rs.60,000, 4% debentures of XYZ Ltd. Is unlisted (date of payment of Interest : June 11 and December 11 every year).

c) Rs.80,000, 2.5% debentures of SR Ltd. (date of payment interest : June 15 December 15 every year).

d) Post office saving bank interest is Rs.4,800.

e) Savings bank interest is Rs.9,600.

f) He received a gift of Rs. 2 lakhs from a friend on his marriage anniversary.

g) On 01.12.2018, he sells Rs.80,000, 2.5% debentures of SR Ltd.

h) His other incomes are Rs.5,00,000.

Compute his IT for the A.Y. 2021-2022.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com Hons (General & Computers)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: **Corporate Accounting**	Duration	: 3 Hrs
Paper Code	: R23COM401	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 08/03/2025

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. What is meant by company? Explain the main characteristics of the company.

(OR)

2. Aditri Ltd. issued 10,000 Equity shares of Rs.10 each at the premium of Rs.5 per share, payable as follows.

Rs.2 on application
Rs.7 on allotment including premium
Rs.4 on first call
Rs.2 on final call

These Shares were fully subscribed and the money was duly received except final call money on 1,000 Shares. Pass the necessary entries.

3. What is meant by Debenture? Explain various types of Debentures.

(OR)

4. Pass the journal entries for the following assuming 200 debentures of Rs.500 each have been issues as:

a) Issued at Rs.500, redeemable at Rs.500
b) Issued at Rs.450, redeemable at Rs.500
c) Issued at Rs.550, redeemable at Rs.500
d) Issued at Rs.500, redeemable at Rs.550
e) Issued at Rs.450, redeemable at Rs.550

5. Explain the need for valuing goodwill.

(OR)

6. 1) A business concern had earned profits for the past 3 years as follows.
2022- Rs.50,000, 2023- Rs.60,000, 2024-Rs.70,000.
2) Average capital employed in the business Rs.4,00,000
3) Reasonable rate of return expected in a similar business is 10%
From the above, calculate the value of goodwill under
a) 2 years purchase of the average profit of last three years.
b) Four years purchase of super profit based on average profit of previous three years.

7. Explain the various methods of valuation of shares.

(OR)

8. On 31 March 2024, the Balance sheet of the limited company disclosed the followings details.

Liabilities	Rs.	Assets	Rs.
40,000 Equity shares of Rs.10 each	4,00,000	Fixed assets	5,00,000
General Reserve	90,000	Current Assets	2,00,000
Profit and loss Account	20,000	Goodwill	40,000
5% Debentures	1,00,000		
Current liabilities	1,30,000		
	7,40,000		**7,40,000**

[P.T.O]

On 31 st March 2024 the fixed assets were independently valued at Rs. 3,50,000 and the goodwill at Rs. 50,000. The net profits for the three years were 2022-Rs.51,600, 2023- Rs.52,000 and 2024-Rs.51,650 of which 20% were placed to reserve, this proportion being considered reasonable in the industry in which the company is engaged and where a fair investment return may be taken at 10%.

Compute the value of the company's shares by the Net assets method and Yield method.

9. Show the proforma of a company's Balance sheet.

(OR)

10. Praneetha Ltd. has given the following information. You are required to prepare statements of profit & loss and balance sheet as on 31-03-2021.

Particulars	**Debit Rs.**	**Credit Rs.**
Stock on 1st April	7,50,000	
Sales		35,00,000
Purchases	24,50,000	
Wages	5,00,000	
Discount	70,000	50,000
Salaries	75,000	
Rent	49,500	
General expenses including insurance	1,75,000	
Profit and loss account on 1st April 2020		1,50,300
Dividend paid	90,000	
Bad debts	48,300	
General Reserve		1,55,000
Cash in Hand and at Bank	1,62,000	
Authorized capital and issued capital (Full subscribed, 1,00,000 shares of Rs.10 each)		10,00,000
Sundry Debtors and Creditors	3,75,000	1,79,500
Plant and Machinery	2,90,000	
	50,34,800	**50,34,800**

You are required to prepare a statement of Profit and Loss and a Balance Sheet for year ended 31st March, 2021 as per the Revised Schedule III of the Companies Act.

1. Closing stock Rs. 8,20,000
2. Depreciate machinery at 15% p.a.
3. One month's rent at Rs. 54,000 p.a. was due on 31st March 2021.
4. Six months insurance was unexpired Rs. 3,750
5. The directors proposed a divided of 8%

Room No: _____ **Regd No** 76

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com(Gen,TP & Log)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Goods & Services Tax	Duration	: 3Hrs
Paper Code	: R20COM405A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Concept of GST.

2. Comprehensive model of GST.

3. What is the meaning of levy of tax.

4. What is invoice.

5. Input tax credit.

6. What is annual returns.

7. GST council.

8. How to determine value of supply.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. What is the significance of registration.

(OR)

10. Describe about subsuming of taxes

11. Explain ABOUT GST Rates.

(OR)

12. Explain the features of proposed India Dual GST.

13. Explain the composite supplies and mixed supplies?

(OR)

14. What is importance of tax invoice under GST.

15. What are conditions for taking InputTax credit?

(OR)

16. Write about cross utilisation of ITC between CGST and GST?

17. What are the basic features of GST returns mechanism

(OR)

18. Explain about different GST Returns.

77

Room No: _____ Regd No _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BBA	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Cost and Management Accounting	Duration	: 3Hrs
Paper Code	: R20BBA405A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 07/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Define management accounting.
2. What do you understand by ABC techniques?
3. What are the uses of financial statements?
4. What is capital employed?
5. What is margin of safety?
6. Define cost unit.
7. What are common size statements?
8. What is inventory turnover ratio?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain classification of cost.

(OR)

10. Explain the difference between Management Accounting and Cost Accounting.

11. Explain various labour incentive schemes.

(OR)

12. Prepare a statement showing the pricing of issues on the basis of weighted average method from the following details.

2005	January	1	Balance of units 1,000 @ 30/- per unit.
		5	Purchases 2,400 units @ 32/- per unit
		8	Issues 2,000 units
		10	Received 1,200 units @ 33/- per unit
		15	Issues to workshop 1,000 units
		20	Purchase of stores 1,600 units @ 36/- per unit
		25	Issues to production 1,200 units
		30	Returns from workshop 40 units

13. Explain the need for preparing financial statements.

(OR)

[P.T.O]

14. From the following particulars prepare comparative income statement.

Particulars	2002	2003	Particulars	2002	2003
To Cost of Goods Sold	1,00,000	1,00,000	By Sales	2,50,000	3,00,000
To Operating expenses	75,000	1,10,000			
To Interest	25,000	20,000			
To Tax	25,000	30,000			
To Net Profit	25,000	40,000			
	2,50,000	3,00,000		2,50,000	3,00,000

15. State the advantages and limitations of ratio analysis.

(OR)

16. From the following balance sheet of a company prepare Current Ratio & Liquid Ratio

Liabilities	Rs.	Assets	Rs.
5,000 Equity Shares @ Rs.100 per share	5,00,000	Land and Buildings	6,00,000
8%, 2,000 preference shares @Rs.100 per share	2,00,000	Plant and Machinery	5,00,000
Reserves	3,00,000	Stock	2,40,000
9%, 4,000 Debentures @ Rs.100 per debentures	4,00,000	Debtors	2,00,000
Creditors	1,50,000	Cash at bank	55,000
Bank overdraft	50,000	Prepaid expenses	5,000
	16,00,000		16,00,000

17. Distinguish between Marginal Costing and Absorption costing.

(OR)

18. The data related to a company is as follows:

Year ending	Total Sales (Rs.)	Total Cost (Rs.)
31.12.2005	24,45,300	21,81,960
31.12.2006	26,96,100	23,57,520

Calculate P/V Ratio and Fixed Cost.

79

Room No: _____ **Regd No** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com(Gen, TP, Comp)	Max Marks	: 75
Subject	: Commerce	Pass Mark	: 30
Title of Paper	: Goods & Services Tax	Duration	: 3Hrs
Paper Code	: R20COM405	Time	: 9am to 12pm
W.E.F	: 2020-21	Date	: 07/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. What are the components of GST.
2. GST Council.
3. GST Rates on goods.
4. What is reverse charge mechanism.
5. Bill of supply.
6. Input tax credit.
7. How to determine value of supply.
8. Write about quarterly filling returns.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. What is GST registration explain the significance of GST registration.

(OR)

10. Describe about the taxes that are subsummed under GST.
11. What are the principles of GST.

(OR)

12. Explain the recommendations of vijay kelkersha committee.
13. Explain the significance of tax invoice under GST.

(OR)

14. Discuss the specified GST rates under composition scheme.
15. Explain about the conditions for taking input tax credit.

(OR)

16. What are the specified GST Rates under composition scheme?
17. Write about different GST returns.

(OR)

18. Explain the basic features of GST returns mechanism.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BBA Honours	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: **Human Resource Management**	Duration	: 3 Hrs
Paper Code	: R23BBA403	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. Briefly explain significance of Human Resource Management.

(OR)

2. How HR Manager play an important role in organization.

3. Meaning of recruitment, what are the sources of recruitment.

(OR)

4. Explain about placement and induction for new candidates in an organization.

5. Briefly explain significance and scope of training and development.

(OR)

6. How to evaluate effectiveness of training programme.

7. Briefly explain importance of performance appraisal.

(OR)

8. What are the various job evaluation methods?

9. Define industrial relations? And explain its significance and objectives.

(OR)

10. What are various types of collective bargaining?

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com Hons (General)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: **Auditing**	Duration	: 3 Hrs
Paper Code	: R23COM403	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025.

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. What are the objectives of auditing explain?

(OR)

2. Discuss the importance of auditing.

3. Discuss different types of Audit.

(OR)

4. What is internal audit? Discuss its objectives and features.

5. Distinguish between internal check and internal control.

(OR)

6. What is an audit note book? Explain its contents.

7. What are the characteristics of vouching?

(OR)

8. What is investigation? Explain the features of investigation?

9. What are the qualifications of Auditor under companies act 2013?

(OR)

10. Discuss the rights and duties of a company auditor.

Room No: _____ Regd No: 82

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
IV – SEMESTER END EXAMINATIONS

Class : II B.Com Hons (TP)
Subject : Commerce
Title of Paper : **Assessment of Firms, AOP and Societies**
Paper Code : R23COMT403
W.E.F : 2024-25

Max Marks : 60
Pass Mark : 24
Duration : 3 Hrs
Time : 9am to 12pm
Date : 07/03/2025

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. How to Assess Firm/LLP's u/s 184 & which do not fulfil conditions u/s 184.

(OR)

2. The Profit & Loss Account of the firm of M/s A and B, sharing profits and losses in the ratio of 3:2 for the previous year ending on 31st March, 2023 are as follows:

Dr. Cr.

Particulars	Rs.	Particulars	Rs.
Cost of Goods sold	6,45,000	Sales	10,50,000
Remuneration of Partners	3,00,000	Dividends	30,000
Remuneration to Employees	1,50,000	Long-Term capital gains	1,80,000
Interest to Partners	15,000		
Other Expenses	1,20,000		
GST outstanding	10,000		
Net Profit	20,000		
	12,60,000		**12,60,000**

Additional information is given below:
1. Other expenses include the following:
a) Entertainment expenses Rs. 40,000
b) Mobiles, costing of Rs. 2,500 each given to ten dealers who exceeded the sales target fixed under sales promotion scheme.
c) Rs. 35,500 paid in cash to an advertising agency.
2. Outstanding GST was paid on 14th July, 2023.
3. The firm is not evidenced by instrument.
4. Other incomes of A Rs. 1,00,000 and B Rs. 81,000.
You are required to compute for the assessment year 2023-2024
i) Total income of the firm and (ii) Tax liability of the firm on its total income.

3. Treatment of share of income received by members of AOP/BOI

(OR)

4. Profit and Loss Account of M/S Ram for the A.Y 2022-2023

Particulars	Rs.	Particulars	Rs
Establishment Expenses	17,500	Gross Profit	1,46,230
Rent	6,000	Bank Interest	5,770
Fire Insurance Premium	1,500		
Household Expenses	1,400		
Discount	2,500	Life Insurance Premium	6,000
Postage	8,100	Gift	1,600
Interest on Capital	2,500	Plant & Machinery (Not Yet Installed)	15,000
Income Tax	4800	Reserve for doubtful debts	7,000
Interest on Loan	10,000	Donation (Approved Institution)	11,400
Rates and Taxes	4500	Repairs to furniture	500
Net Profit	36,600		
	1,52,000		1,52,000

Compute his business income for the assessment year 2022-2023.

5. What are the deductions entitled to claim by a co-operative society u/s 80?

(OR)

6. Mr. Rajesh Pilot gave the following are the particulars for the previous year 2022-2023

	Rs.
i) Income from House Property	1,11,200
ii) Business Income	80,000
iii) Dividends from Co-Operative society	500
iv) Long Term Capital gain from	
i) Land	1,27,000
ii) Listed shares sold through a recognized stock exchange	45,000
v) Life Insurance premium on his life on policy of Rs. 3,00,000	28,000
vi) Donation to charitable institution approved u/s 80G	20,000
vii) Deposit in a scheme notified u/s 80C	10000
viii) Deposit in National Savings Scheme	12500
ix) Interest accrued on National savings certificate VIII Issue purchased in May , 2017	1840
x) interest on savings bank deposit	30000

Compute his total income for assessment year 2023-2024

7. Tax on Capital Gains u/s 111A, 112 & 112A.

(OR)

8. Tax on income from capital gain on sale of units (Sec.115AB) purchased in foreign currency.

9. Tax on winning from lotteries, crossword puzzles, races etc.,

(OR)

10. Tax on companies-tax on distributed income of mutual funds

Room No: _____ **Regd No** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com(Gen,TP & Log)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Auditing	Duration	: 3Hrs
Paper Code	: R20COM404A	Time	: 9am - 12noon
W.E.F	: 2023-24	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Distinguish between Accounting and Auditing.

2. Explain the meaning of auditing.

3. What do you know about cost audit?

4. Write about Audit evidence.

5. What is investigation?

6. Explain the importance of vouching.

7. Explain the procedure for removal of an auditor.

8. What are the disqualifications of an auditor?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. What are the objectives of auditing?

(OR)

10. Describe the role of auditor in checking corporate frauds.

11. Explain about government audit and secretarial audit.

(OR)

12. Discuss about different types of audit.

13. Write about audit note book.

(OR)

14. Distinguish between internal check and internal control.

15. Explain the procedure for vouching of cash transactions.

(OR)

16. Distinguish between Auditing and Investigation.

17. Discuss the provisions relating to appointment and removal of an auditor.

(OR)

18. Explain rights and duties of auditor.

Room No: _____ Regd No: 85

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com Hons (TP)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: **Company Law**	Duration	: 3 Hrs
Paper Code	: R23COMT402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 06/03/2025

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. What is meant by Company? Explain its advantages and Disadvantage.

(OR)

2. What are the differences between Public Company and Private Company?

3. Write about the memorandum of Association and its clauses.

(OR)

4. Who is called as Promoter? Explain Functions of him.

5. What is meant by Debentures, explain its types?

(OR)

6. What is meant by Capital? What are its types.

7. Who is called as Directors? Explain his qualifications.

(OR)

8. What are the types of Resolutions?

9. What is winding up of a Company? Explain its procedure.

(OR)

10. Who is called as Liquidator? Explain the role of Liquidator.

Room No: _____ **Regd No:** 86

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
IV SEMESTER END EXAMINATIONS

Class	: II B.Com Hons (General & Computers)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: **Cost and Management Accounting**	Duration	: 3 Hrs
Paper Code	: R23COM402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 06/03/2025

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. What are the features of Cost Accounting?

(OR)

2. From the following particulars prepare cost sheet

a) Cost of material used.
b) Prime cost
c) Works cost
d) Cost of production
e) Profit

Stock of materials (1.1.2020)	- 10,000
Stock of finished goods (1.1.2020)	- 25,500
Raw materials purchased	- 2,90,000
Productive Wages	- 1,95,000
Sales	- 6,06,000
Stock of materials (31.12 2020)	- 12,500
Works Overhead	- 43,000
Office and General Expenses	- 36,000
Stock of finished goods (31.12.2020)	- 24,000

3. Discuss various methods of Wage Payments.

(OR)

4. The following particulars are related to material A. You are required to prepare a stores ledger using the first in first out method (FIFO).

2022

Jan-1 Opening Stock 100 units @ Rs.5 each

Receipts

Jan -3 900 units @ Rs.6 each
11 800 units @ Rs.6.20 each
13 300 units @ Rs.6.40 each
19 200units @ Rs.6.50 each

Issues

Jan- 7 200 units
15 400 units
17 600 units
25 600 units

[P.T.O]

5. What are the advantages and disadvantages of Job Costing?

(OR)

6. From the following information Calculate the cost of Job No.5555

Materials - ₹.4,010

Wages:

Dept 'A'- 60 hrs at 3/- Per hour

Dept 'B'- 40 hrs at 2/- Per hour

Dept 'C'- 20 hrs at 5/- Per hour

Overhead expenses for these three departments were estimated as follows

Variable Overheads:

Dept 'A'-₹ 5,000 for 5,000 Labour hours

Dept 'B'-₹ 3,000 for 1,500 Labour hours

Dept 'C'-₹ 2,000 for 500 Labour hours

Fixed Overheads:

Estimated at ₹20,000 for 10,000 normal labour hours.

You are required to calculate the price to give profit of 25% on selling price.

7. What are the features and limitations of Financial Statements?

(OR)

8. From the following particulars prepare comparative income statement.

Particulars	31.12.21 (₹)	31.12.22 (₹)
Net Sales	10,00,000	12,00,000
Cost of goods sold	5,50,000	6,05,000
Operating Expenses:		
Administration	80,000	1,00,000
Selling	60,000	80,000
Non- Operating Exp.		
Interest	40,000	50,000
Income Tax	50,000	80,000

9. Explain the advantages and disadvantages of Marginal Costing.

(OR)

10. Vasanth Ltd presents the following results for one year. Calculate the P/V Ratio, BEP and Margin of Safety

	Rs.
Sales	2,00,000
Variable Costs	1,20,000
Fixed Cost	50,000
Net Profit	30,000

88

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
IV SEMESTER END EXAMINATIONS

Class : II BBA Honours/ BBA (Business Analytics) Max Marks : 60
Subject : Commerce Pass Mark : 24
Title of Paper : **Financial Management** Duration : 3 Hrs
Paper Code : R23BBA403/R23BBBA402 Time : 9am to 12pm
W.E.F : 2024-25 Date : 06/03/2025

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. What is financial management and explain its objectives.

(OR)

2. Explain Role of finance manager in Modern Business.

3. What are the methods of Capital Budgeting?

(OR)

4. Vasista company is considering an investment in a project requiring a cash outlay of ₹.2,00,000. The company's required rate of return is 15%. The cash inflows are as follows:

Years	1	2	3	4	5
Cash in flows	1,00,000	1,00,000	88,000	88,000	70,000
P.V factors of 15%	0.870	0.756	0.658	0.572	0.497

You are required to calculate
a) Pay Back Period b) Net Present Value

5. What is Cost of Capital? Explain different types of Cost of Capital.

(OR)

6. The following information is available in respect of a Product:
Units sold 1,80,000
Units sales Price ₹.5/-
Fixed cost ₹. 2,40,000/-
Variable cost per unit Re.1/-
Tax rate 50%
10% debt capital of ₹. 6,00,000
Calculate Operating Leverage, Financial Leverage, Combined Leverage

7. Explain different theories under dividend Policy.

(OR)

8. Explain determinants under dividend Policy.

9. Explain financial strategies under working capital.

(OR)

10. From the following information compute the working capital requirement for a company
a) Annual sales 2,00,000 units.
b) Selling price ₹.8 per unit.
c) Percentage net profit on sales 25%.
d) Average credit period allowed to customer - 8 weeks.
e) Average credit period allowed by suppliers - 4 weeks.
f) Average stock holding in terms of sales requirement -12 weeks
g) Allow 10% for contingencies.

89

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com (Gen ,TP Comp & Log)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Business Laws	Duration	: 3 Hrs
Paper Code	: R20COM403A	Time	: 9am-12noon
W.E.F	: 2023-24	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Definition of Contract.

2. Write about Tender.

3. Define Consideration.

4. Write about Minor.

5. Write about conditions and warranties.

6. Types of offers.

7. Write a short note on cyber law.

8. Digital signature.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain the classifications of contract.

(OR)

10. Explain the essentials of contracts.

11. What are the essentials of Valid Acceptance? Explain.

(OR)

12. Explain the essential elements of a valid consideration.

13. Write the rules regarding contingent contract.

(OR)

14. Write about various remedies available for an aggrieved party in the case of Breach of contract.

15. Write about implied conditions and implied warranties.

(OR)

16. Write an essay on consumer protection councils.

17. Explain the Needs and objectives of Information Technology Act 2000.

(OR)

18. Write the legal aspects regarding Digital signature.

Room No: _____ **Regd No** 91

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BBA	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Micro Small & Medium Enterprises Management	Duration	: 3Hrs
Paper Code	: R20BBA403A	Time	: 9am-12noon
W.E.F	: 2023-24	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Significance of SME

2. TEKSOC

3. Venture Capital

4. BIFR

5. Ancillary Industries

6. DIC

7. Industrial Estate

8. Incentives provided to the Backward Area development

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Discuss the Problems and steps taken by the government to tackle the problems of SME?

(OR)

10. Explain the role of government in promoting Small and medium Enterprises?

11. Explain in brief about the Project report Preparation?

(OR)

12. Write in brief about Project Identification and Formulation?

13. Describe the Finance functions of Small and Medium Enterprises?

(OR)

14. Explain the Human resource functions in Small and Medium. Enterprises?

15. Explain the causes for Sickness in Small and Medium Enterprises?

(OR)

16. Describe the Remedial Measures for sickness in Small and Medium Enterprises?

17. Explain the functions of SIDC?

(OR)

18. Write about the Rural Industries and Artisans?

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com Hons (TP)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: **Assessment of Individual and HUF**	Duration	: 3 Hrs
Paper Code	: R23COMT401	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 05/03/2025

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. Define Gross total income & Concept of Deductions from Gross total income.

(OR)

2. What are Deductions U/S 80IA to 80 U and briefly explain.

3. Write about methods of taxation step system, slab system.

(OR)

4. Give brief notes in respect of Rebates U/S 86, 87A, 88E.

5. Describe Assessment of Agricultural Income.

(OR)

6. Explain partly agricultural and partly non-agricultural income.

7. Computation of total income and tax liability.

(OR)

8. Treatment of Income received from certain other institution.

9. Assessment of HUF and Explain procedure of Assessment.

(OR)

10. Concept of Partition of HUF – Impartible estate.

92

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BBA Hons/BBA Hons (Business Analytics)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: **Marketing Management**	Duration	: 3 Hrs
Paper Code	: R23BBA401/R23BBBA401	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 05/03/2025

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. Define Marketing Environment. What are the factors influencing Market Environment?

(OR)

2. Write about Elements of Marketing Mix?

3. What is Segmentation? Explain various methods of Market Segmentation?

(OR)

4. Describe the process for achieving target and positioning for competitive advantage?

5. What is Product Life Cycle? Explain its Stages?

(OR)

6. Write about importance and essentials of packaging and labelling?

7. Explain different types of Pricing Strategies?

(OR)

8. What are the various Kinds of Marketing Channels?

9. Define IMC. What are the key components of integrated Marketing Communication?

(OR)

10. Write about significance of Promotional Mix in marketing Decisions?

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com Hon (Computers)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: **Talent Management**	Duration	: 3 Hrs
Paper Code	: R23MCOM401	Time	: 9am – 12noon
W.E.F	: 2024-25	Date	: 05/03/2025

SECTION-A

I. Answer ALL the following Questions **5X12=60M**

1. What is the meaning of Talent Management? Explain Objectives of talent Management.

(OR)

2. What are the various sources of Talent?

3. How to Developing HR planning process?

(OR)

4. What are the Strategic Trends in Talent Acquisition?

5. What is resourcing strategy? Attraction and retention policies and programs for Talent Management.

(OR)

6. Briefly explain Talent relationship management.

7. Meaning of Employee engagement, explain Employee engagement strategies.

(OR)

8. Talent Management to drive a culture of excellence.

9. How to Managing Voluntary Turnover-dealing with Job Withdrawal.

(OR)

10. Explain Talent Management Issues and challenges.

Room No: _____ Regd No_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.COM(GEN, TP, COMP & LOG)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Corporate Accounting	Duration	: 3Hrs
Paper Code	: R20COM401A	Time	: 9am-12noon
W.E.F	: 2022-23	Date	: 03/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Calls in Advance
2. Buy - Back of Shares
3. What do you mean by Bonus Shares
4. What is Corporate dividend tax
5. Explain the need for valuation of goodwill.
6. What is meant by valuation of shares?
7. Features of Debentures
8. Forfeiture of Shares

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Tata Company Ltd. was registered with a capital of Rs.20,00,000 divided into 80,000 shares of Rs. 25 each. The company offered to public subscription 50,000 shares payable at Rs.5 per share on application, Rs.10 on allotment and the balance in two calls i.e., Rs.5 each. The company received applications for 40,000 shares. All the money was dully received. Make journal entries to record the issue of shares and also prepare Ledger Accounts.

(OR)

10. What is share? Explain about the kinds of shares.

11. Journalise the following transactions at the time of Issue and redemption of debentures. Assume the face value of each Debenture as Rs.100

(a) A debenture issued at Rs.95/- repayable at Rs.100
(b) A debenture issued at Rs.95/- repayable at Rs.105.
(c) A debenture issued at Rs.100/- repayable at Rs.105.
(d) A debenture issued at Rs.100/- repayable at Rs.100.
(e) A debenture issued at Rs.105/- repayable at Rs.100.

(OR)

12. What are the difference between debentures and shares?

13. A business concern had earned profits for the past 3 years as follows.

	Rs.
2011	50000
2012	60000
2013	70000

Average capital employed in the business: Rs.400000
Reasonable rate of return expected in a similar business 10%
From the above, calculate the value of goodwill under **[P.T.O]**

a) 2years purchase of the average profits of last 3 years.
b) 4 years purchase of super profits method.

(OR)

14. Explain different methods of valuing Goodwill.

15. The balance sheet of Deepak Ltd., as on 31-03-2010 was as under.

Liabilities	Rs	Assets	Rs
4000 equity shares of Rs.100 each	4,00,000	Land & Buildings	2,50,000
General Reserve	50,000	Machinery	1,20,000
Profit and Loss A/C	50,000	Investment at Cost (Market value Rs.60,000)	70,000
Creditors	90,000	Debtors	1,00,000
Provision for Taxation	40,000	Stock	80,000
		Cast at Bank	10,000
	6,30,000		6,30,000

Additional Information:

(a) Land and Buildings and Machinery are revalued at Rs.2,40,000 and Rs.95,000.
(b) Of the total debtors Rs.5,000 are bad.
(c) Good will is to be taken at Rs.50,000.
(d) Normal rate of return 15%, Expected rate of return 20%.
Calculate fair value of equity share.

(OR)

16. What are the methods of valuation of shares.

17. The trial balance of Vishnu Company as on 31-03-2013

Debit balances	Rs.	Credit balances	Rs.
Investments	24,500	Share capital	1,25,000
Staff welfare expenses	37,500	Reserve	6,500
Opening stock	75,000	Sales	2,25,000
Purchases	57,500	Discount(Cr.)	14,000
Wages	30,000	P & L Account	19,500
Salaries	4,000	Creditors	10,000
Rent	2,500		
Debtors	31,000		
Plant and Machinery	15,000		
Furniture	9,000		
Sundry expenses	4,500		
Dividend paid	6,000		
Trade marks	8,500		
Cash at bank	95,000		
	4,00,000		4,00,000

[CONTINUED TO NEXT PAGE]

Adjustments:

a) Closing stock was Rs.95,000
b) Depreciate plant and machinery at 20%
c) Make a provision for income tax at 50%
d) Ignore corporate dividend tax
e) Outstanding staff welfare bill Rs. 2,500

Prepare statement of Profit and Loss and the balance sheet of the company

(OR)

18. What are the legal provisions regarding preparation of Company Final accounts?

oom No: _____ Regd No_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com(Gen,TP,Comp & Log)	Max Marks	: 75
Subject	: Commerce	Pass Mark	: 30
Title of Paper	: Corporate Accounting	Duration	: 3Hrs
Paper Code	: R20COM401	Time	: 9am-12noon
W.E.F	: 2020-21	Date	: 03/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Calls in arrears.

2. Equity share.

3. Bonus shares.

4. What is debenture

5. Super profits method.

6. Need for valuation of good will

7. Interim dividends.

8. Corporate dividend tax

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain various kinds of preference shares?

(OR)

10. The Authorized capital of a company is 200,000 shares of worth Rs. 10 each. On March 2018, 50,000 shares are issued for subscription at a Premium of Rs. 2 per share. The share money payable as follow: Rs. 5(including the premium of Rs. 2) with Application, Rs. 3 on Allotment, Rs. 2 on First Call and Rs. 2 on Final Call. Pass Journal entries.

11. What are the differences between share and debenture.

(OR)

12. Pass necessary Journal entries for the issue and redemption of Debentures in the followings cases:

(i) 15,000; 10% Debentures of Rs 100 each issued at 10%premium, repayable at par.

(ii) 6,00,000; 12% Debenture of Rs 500 each issued at 5% premium , repayable at 10% Premium.

[P.T.O]

13. What are the factors affecting while valuation of goodwill.

(OR)

14. A Ltd. Proposed to purchase the business carried on by X and co. Goodwill for this purpose is agreed to be valued at three year's purchase of the weighted average profits for the past four years.

The appropriate weights and profits for the four years are as under:

Year	weight	profit (Rs. In lakhs)
2004-05	1	120
2005-06	2	125
2006-07	3	160
2007-08	4	190

On scrutiny of accounts, the following information is gathered:

1. On 1 December 2006, major repairs were carried out on building incurring Rs. 30 lakhs which were changed to revenue. The above mentioned sum was agreed to be capitalised for goodwill calculation subjects to adjustment of depreciation @ 10% p.a. under written down value method.

2. The closing stock for the year 2006-07 was undervalued by Rs. 12 lakhs.

3. To cover management cost, an annual charges of Rs. 20 lakh is to be considered for the purpose of valuation of goodwill .

Compute the value of the goodwill of the firm.

15. What are the factors affecting while valuation of shares.

(OR)

16. On the basis of the following Balance Sheets of A Ltd. And B Ltd and the further information given below , determine a reasonable exchange ratio on the basis of break - up value for the absorption of B Ltd.by A Ltd.

[Continued To Next Page]

	A Ltd Rs.	B Ltd Rs.		A Ltd Rs.	B Ltd Rs.
Equity share capital **A-Rs.150 each** **B-Rs. 100 each**	15,00,000	8,00,000	Land & Building Plant & machinery	7,00,000 8,00,000	4,00,000 5,00,000
Reserves	60,000	85,000	Furniture	1,00,000	80,000
Debentures	5,00,000	3,00,000	Stock	4,00,000	1,50,000
Sundry creditors	3,40,000	2,00,000	Stock	4,00,000	1,50,000
P&L A/c			Sundry Debtors	5,00,000	2,50,000
Profit for the year	3,00,000	1,25,000	Bills receivable	50,000	40,000
			Bank	50,000	40,000
	27,00,000	15,10,000		27,00,000	15,10,000

Additional information:

1. Land & Building, plant & machinery and stock are worth as follows:

	A Ltd Rs.	B Ltd Rs.
Land and building	10,00,000	6,00,000
Plant and machinery	9,00,000	6,00,000
Stock	3,50,000	1,20,000

2. It is agreed that goodwill is to be valued at 2 year purchase of super profits.

3. For the past three years , the profit of A Ltd have shown an increase of Rs. 25,000 annually and the profit of B Ltd. Have shown an increase of Rs. 15,000 annually

4. Sunday debtors are subject to 10% loss on account of bad debts.

5. Companies of similar nature are showing a profit earning capacity of 10% on the Market value of the share.

17. Write the format of balance sheet of company final accounts.

(OR)

[Continued to Next Page]

18. The following is the trial balance of XYZ Co. Ltd as at 31st March, 2009:

	Rs.	Rs
Stock ,31 st March ,2008	1,00,000	
Sales		3,75,000
Purchases	2,45,000	
Wages	50,000	
Discount		5,000
Furniture and fittings	17,000	
Salaries	7,500	
Rent	4,000	
Sundry Expenses	7,000	
Profit and loss appropriate account for 31 st March,2008		15,300
Dividends paid	10,000	
Share capital		1,00,000
Debtors and creditors	37,500	17,500
Plant and machinery	30,000	
Cash and Bank	16,000	
Reserve		16,000
Patents and trade mark	4,800	
total	5,28,800	5,28,800

Prepare trading account, profit and loss account, profit and loss appropriate account for the year ended 31st March,2009 and balance sheet as at that date: Take into consideration the following adjustments:

1. Stock on 31st March, 2009 was valued at Rs. 80,000

2 Depreciation on fixed assets @ 10%

3 Make a provision for income -tax @50.

4 Ignore corporate dividend tax.

Room No: _____ Regd No_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.COM(GEN, TP, COMP & LOG)	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Cost and Management Accounting	Duration	: 3Hrs
Paper Code	: R20COM402A	Time	: 9am to 12pm
W.E.F	: 2022-23	Date	: 04/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. What are the features of Cost Accounting.

2. Explain about ABC Analysis.

3. What are the objectives of Job Costing?

4. Explain the objectives of Financial Statements.

5. Explain the features of Marginal Costing.

6. Explain the functions of Cost Accounting.

7. Explain the E.O.Q.

8. What is Break –Even – Point ?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Discuss the scope of Cost Accounting.

(OR)

10. Mr. Gopal furnishes the following data relating to the manufacture of a standard product during the month of April 2021:

Raw materials consumed	Rs.15,000
Direct Labour charges	Rs.9,000
Machine hours worked	900
Machine hour rate	Rs.5
Administration overheads	20 % on works cost
Selling overhead	Re. 0.50 per unit
Units produced	17,100
Units sold	16,000 at Rs.4 per unit

You are required to prepare a cost sheet from the above, showing:

(a) The cost per unit.

(b) Cost per unit sold and profit for the period.

11. Write about various methods of Material Issues.

(OR)

[P.T.O]

12. The following transactions took place in respect of a material item. Prepare stores ledger accounts using FIFO method.

1 July	Opening stock	500 units @ Rs.20 each
4 July	Purchased GRN574	400 units @ Rs.21 each
6 July	Issued SR251	600 units
8 July	Purchased GRN578	800 units @ Rs.24 each
9 July	Issued SR 258	500
13 July	Issued SR 262	300
24 July	Purchased GRN584	500 units @ 25 each
28 July	Issued SR 269	400 units

13. What are the advantages of Job Costing.

(OR)

14. From the following particulars, prepare the cost sheet for Job No.75

Materials issued for the job	Rs.6,000
Direct expenses	Rs.500
Productive wages	Rs.4,600

Provide 60% on productive wages for works on cost and 12 ½ % on works cost for office on cost. Profit to be realised on the selling price 15%.

15. Explain the need of Financial Statements.

(OR)

16. From the following information, prepare a Comparative Balance Sheet.

	31st March 2020 Rs.	31st March 2021 Rs.
Equity share capital	4,00,000	6,00,000
Debentures	2,00,000	3,25,000
Sundry Creditors	2,55,000	1,17,000
Bank Overdraft	7,000	10,000
Total Liabilities and Capital	8,62,000	10,52,000
Plant and Machinery	1,00,000	2,00,000
Land and Building	3,60,000	5,40,000
Investments	2,70,000	1,70,000
Sundry Debtors	1,00,000	88,000
Cash in hand	32,000	54,000
Total Assets	8,62,000	10,52,000

[CONTINUED TO NEXT PAGE]

17. What are the advantages of Break Even Point?

(OR)

18. You are given the following data:

Fixed expenses	Rs.4,000
Break – even point	Rs.10,000

Calculate (i) :P/ V Ratio (ii) Profit when sales are Rs.20,000

Room No: _____ **Regd No:** 104

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS

IV – SEMESTER END EXAMINATIONS

Class	: II BBA	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Business Laws	Duration	: 3 Hrs
Paper Code	: R20BBA402A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 04/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Types of Offer.

2. Agreement.

3. Statutory Meeting.

4. Articles of Association.

5. Who is the Worker?

6. Explain different types of Goods?

7. What are the Essential Commodities?

8. Consumer Council.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Define Contract? Explain the essentials of Valid Contract?

(OR)

10. Explain the different modes of Discharge of Contract?

11. What are the differences between MOA and AOA?

(OR)

12. Write about the Classifications of Companies?

13. Explain the provisions of Health measures of factories Act?

(OR)

14. Explain the provisions of Safety measures of factories Act?

15. Define Contract of Sale?

(OR)

16. What are Conditions and Warranties? Explain about Implied Conditions and Implied Warranties?

17. Discuss about the Consumer Dispute, redressal machinery that are established under Consumer Protection Act to Safeguard Consumer Interest in India?

(OR)

18. Describe the Provision regarding the Goods Act under the essential Commodities?

105

Room No: _____ **Regd No**_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BBA	Max Marks	: 60
Subject	: Commerce	Pass Mark	: 24
Title of Paper	: Training and Development	Duration	: 3Hrs
Paper Code	: R20BBA401A	Time	: 9am-12noon
W.E.F	: 2022-23	Date	: 03/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain objectives of Training.

2. Explain Training Policy.

3. Explain Training Period.

4. Write a short note on Apprenticeship training.

5. Objectives of Development program.

6. Methods of Management Development.

7. Write a short note on T-Group Training.

8. Explain about committee Assignments.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Define training and explain need and importance of training.

(OR)

10. Explain responsibility of Training.

11. Explain various steps in Training program.

(OR)

12. Explain the support material used for training to different employees.

13. Explain the various on the job training methods with examples.

(OR)

14. Explain the various off-the-job training methods with examples.

15. Explain the factors inhibiting the development program.

(OR)

16. Explain the various stages in Development program.

17. Explain the methods of coaching counseling and conferences.

(OR)

18. Explain in brief about in-Basket Training.

Room No: _____ **Regd No** 106

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Voc(WT&SD)	Max Marks	: 60
Subject	: Computers	Pass Mark	: 24
Title of Paper	: Programming With R	Duration	: 3Hrs
Paper Code	: R20WSPR401A	Time	: Para 12pm
W.E.F	: 2023-24	Date	: 10/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain Data Types in R?

2. Explain String Manipulation?

3. What is Melting and Casting?

4. Explain joining Rows and Columns and Merging the Dataframes?

5. Explain Analysing the CSV file?

6. Explain how to import EXCEL file to R?

7. Explain Line Graphs in R?

8. Explain lm() function?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain Normal Distribution in R?

(OR)

10. Explain how to create Regression Model?

11. Explain Boxplots in R?

(OR)

12. Explain Histograms in R?

13. Explain working with Web Data and Binary files?

(OR)

14. Explain in detail how to work with Excel file in R?

15. Explain Data Reshaping with example program

(OR)

16. Explain in detail about Packages and functions?

17. Explain about different types of Operators in R?

(OR)

18. Explain about Matrix Operations in R?

Room No: _____ Regd No: 107

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (IOT), B.Voc (WT)	Max Marks	: 75
Subject	: Computer Science	Pass Mark	: 30
Title of Paper	: Programming With R	Duration	: 3 Hrs
Paper Code	: R20IOTPR401/IOTPR401/R20WSPR401/WSPR401	Time	: Noon to 12 pm
W.E.F	: 2021-22	Date	: 10/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain Data types in 'R'.

2. Explain about Data Frames.

3. Explain built functions in 'R'.

4. Explain about Lazy evolution function.

5. How to join columns and rows in data frames.

6. Explain about Box plots.

7. Explain about Line graphs.

8. Explain Normal Distribution.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain about arrays, vectors and matrics.

(OR)

10. Explain about functions in 'R'.

11. Explain about packages in 'R'.

(OR)

12. Explain data reshaping with example program.

13. Explain CSV files in 'R'.

(OR)

14. Explain working with Binary files and web data.

15. Explain about Bar charts and Pie charts.

(OR)

16. Explain about Histograms in 'R'.

17. Explain about Linear Regression.

(OR)

18. Explain about Multiple Regression.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons(All Groups),B.Com Hons(All Groups),BBA Hons(Gen), BBA Hons (BA),B.Voc Hons (SD)	Max Marks	: 50
Subject	: Computer Science	Pass Mark	: 20
Title of Paper	: **Cyber Security**	Duration	: 2 Hrs
Paper Code	: R23SDP401	Time	: 9am-11am
W.E.F	: 2024-25	Date	: 11/03/2025

SECTION-A

I. Answer any FOUR of the following Questions **4X5=20M**

1. What is the Definition of cybercrime.

2. Describe the components of cybercrime.

3. List the types of cyber criminals.

4. What is the importance of authentication.

5. Differences between cyber crime and traditional crime.

6. What is phishing.

7. Explain the concept of Trojan horses.

8. Describe how key loggers function.

SECTION-B

II. Answer any THREE of the following Questions **3X10=30M**

9. Explain the impact of cyber crime on information security.

10. Explain the cyber crime with traditional forms of crime.

11. Explain the Generation of Mobile Devices.

12. Explain the types of wireless and mobile device attacks.

13. Exploring identity theft and its implications.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com Hons (General)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **UI/UX Design**	Duration	: 3 Hrs
Paper Code	: R23MCSC403	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 10/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. What is the goal of the empathize stage in design thinking?

2. What is Divergent thinking, and how is it used in design thinking?

3. What is branding in the context of UI design?

4. What is a style guide? Why are style guides important in UI design?

5. What are some methods for exporting designs from pencil UI?

6. How can built-in libraries in pencil UI enhance the design process?

7. What key design features does figma offer to enhance the design process?

8. How can you create interactive prototypes in figma?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain the concept of Convergent thinking on design thinking. How does it differ from divergent thinking and when is it used in the design process?

(OR)

10. Discuss the role of brainstorming and gamestorming in the ideate stage of design thinking?

11. Discuss the signification of branding in UI design. How does effective branding influence user perception and loyalty?

(OR)

12. Identify common UI patterns and discuss their advantages in design. How do these Patterns aid in creating user-friendly interfaces?

13. Explain the installation process of pencil UI and any prerequisites need for setup.

(OR)

14. What are the best practices for exporting and sharing designs created in pencil UI?

15. Explain benefits of customizing UI elements in pencil UI and how it contributes to design consistency?

(OR)

16. Discuss how utilizing built-in libraries in pencil UI can improve efficiency in the design workflow?

17. Describe the design techniques you utilize in figma to create high-fidelity mock-ups?

(OR)

18. What are the best practices for collaboration and feedback in figma, and how can they improve the design workflow?

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hons (Data Science) /BCA Hons
Subject : Computer Science
Title of Paper : **Data Visualisation Using Python**
Paper Code : R23DS402/R23MBCA402
W.E.F : 2024-25

Max Marks : 60
Pass Mark : 24
Duration : 3 Hrs
Time : 9am to 12pm
Date : 10/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain the role of Numpy and pandas in data manipulation and analysis?
2. What is scikit-learn, and how is it used in data science?
3. Describe how data can be loaded from a text file into a pandas data frame?
4. Explain the concept of vectorized computation in Numpy and its significance?
5. What are the basic of Matplotlib for data visualization?
6. What is data aggregation, and how is it performed using pandas?
7. Explain the concept of pivot tables in pandas?
8. How is categorical data visualized in pandas?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Define data science and explain its significance. Describe any three essential python libraries used in data science with examples.

(OR)

10. What is exploratory data analysis (EDA)? Explain its purpose and list any common techniques used for EDA.

11. Explain pandas data structures, including series and data Frame. Provide explain of how to create and manipulate them?

(OR)

12. Describe the steps for loading data from a text file into a panda's Dataframe. How can data be transformed using pandas?

13. Discuss data visualization using matplotlib. Explain how to create basic plots and customize plot elements.

(OR)

14. Explain how categorical and numeric data can be plotted using pandas and sea born. Provide examples.

15. What is data aggregation in pandas? Describe how group by operations and pivot tables are used to aggregate data.

(OR)

16. Describe time series data analysis using pandas, including resampling and moving window functions with examples.

17. Explain the process of cleaning and visualizing categorical data using pandas. Provide an explain to illustrate your explanation?

(OR)

18. What are advanced group by methods in pandas? Provide examples to demonstrate their functionality.

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hon (CS, AI/Mat/Phy/Ele/Che/Stat) B.Voc Hon (SD)

Subject : Computer Science
Title of Paper : **Object Oriented Software Engineering**
Paper Code : R23CSC402/R23MCSC402
W.E.F : 2024-25

Max Marks : 60
Pass Mark : 24
Duration : 3 Hrs
Time : 9am to 12pm
Date : 10/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. What is polymorphism in OOP?
2. Define encapsulation and provide an example.
3. Explain the purpose of state machine diagrams in UML.
4. What are design patterns, and why are they important?
5. Define integration testing.
6. What is the role of TTD in software development?
7. What is the significance of code reviews in software development?
8. Define Aspect-Oriented Programming (AOP).

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain the role of OOP in modern software development. Discuss the concepts of inheritance, polymorphism , and abstraction with examples.

(OR)

10. Explain Unified modelling language (UML) basics.

11. Discuss the importance of object-oriented analysis in the software design process. How do use cases and scenarios assist in this process?

(OR)

12. Explain class diagrams and sequence diagrams in UML with examples. How do they aid in software design?

13. Describe the process of software construction using object-oriented languages such as Java, C++,or Python. Provide a codes example.

(OR)

14. Explain the importance of test-driven development (TTD) in object-oriented software engineering. How does it improve software quality?

15. Explain the concept of software re-engineering. How does version control help in managing software evolution?

(OR)

16. Explain Software Maintenance Models.

17. Describe Component –Based Software Engineering (CBSE) and its application in developing large-scale software systems.

(OR)

18. Explain the Agile Scrum Methodology and how it is used to manage software development projects.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Com Hons (TP)/BBA Hons /BBA Hons (Business Analytics)

Subject : Computer Science
Title of Paper : **Web Programming**
Paper Code : R23MNCSC402
W.E.F : 2024-25

Max Marks : 60
Pass Mark : 24
Duration : 3 Hrs
Time : 9am To 12pm
Date : 10/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Define and Explain the use of <img> Tag?

2. Explain about the Multimedia embedding Object?

3. What are semantic elements in HTML? Provide example?

4. How do you create a table with merged cells in HTML?

5. What is the difference between inline, internal, and external CSS?

6. How do you apply a CSS class to an HTML element? Provide an example.

7. What is Flexbox, and how is it used in CSS layouts?

8. Explain CSS transitions with an example.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. How to create a List in HTML? Explain different types of List items?

(OR)

10. Write an HTML document to create a basic web page with a form that includes text input, radio buttons, checkboxes, and a submit button?

11. Write an HTML page that creates a table demonstrating the use of colspan and rowspan?

(OR)

12. Explain the importance of semantic elements in HTML5. Write a webpage structure using <article>, <section>, and <footer>

13. Write a CSS stylesheet that applies different styles to paragraphs, headers, and links. Use IDs and class selectors.

(OR)

14. Describe various CSS selectors (elements, class, ID and grouping selectors) with examples.

15. Describe the CSS Flexbox layout. Create a responsive webpage using Flexbox to align elements.

(OR)

16. Explain about the CSS Grid Layout with example program?

17. Write a CSS code to demonstrate CSS animations using keyframes. Animate the movement of a box across the screen?

(OR)

18. Explain about the Pseudo classes and Pseudo elements with example program?

Room No: _____ Regd No _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BCA	Max Marks	: 60
Subject	: Computers	Pass Mark	: 24
Title of Paper	: Object Oriented Software Engineering	Duration	: 3Hrs 9am to 12pm
Paper Code	: R20BCA406A	Time	: ~~08/03/2025~~
W.E.F	: 2022-23	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain OOSE Requirements.
2. Explain about Object Oriented Paradigm.
3. Discuss about S/W process analysis work flow.
4. Explain about S/W process requirement work flow.
5. Explain about Cohesion and coupling.
6. What is Rapid proto typing.
7. Explain case tools for design.
8. Explain about Execution based testing.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain the risks and other aspects of Iteration and Incrementation.

(OR)

10. Explain about waterfall model.
11. Explain capability maturity models.

(OR)

12. Explain costs and benefits of S/W process.
13. Write some techniques for achieving portability.

(OR)

14. Explain the estimating during and cost components of S/W project management plan.
15. What is requirement work flow? Challenges of the requirement work flow.

(OR)

16. Explain about design work flow. Formal techniques for detailed design.
17. Explain Black box testing techniques.

(OR)

18. Explain management of post delivery maintenance and issues.

Room No: _____ Regd No 114

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BCA	Max Marks	: 75
Subject	: Computers	Pass Mark	: 30
Title of Paper	: Object Oriented Software Engineering	Duration	: 3Hrs
Paper Code	: R20BCA406	Time	: 9am to 12pm
W.E.F	: 2022-23	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain Aspects (i) Historical (ii) Economic.

2. Write about Waterfall Model with diagram.

3. Explain Software process Requirement Workflow.

4. Write about Agile Process.

5. Explain about Cohesion and Coupling.

6. What are the metrics for the Requirement Workflow?

7. Explain CASE Tools for design.

8. Write about Black Box Testing.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain about Spiral Model with neat diagram in Software Engineering.

(OR)

10. What is OOSE? Explain about Object Oriented Paradigm.

11. Explain about Costs and Benefits of Software Process.

(OR)

12. Explain about Synchronize and Stabilize Teams.

13. Explain about (i) Inheritance (ii) Polymorphism (iii) Dynamic Binding in OOSE.

(OR)

14. Write Some techniques for achieving Portability.

15. Explain about Design Work flow.

(OR)

16. What is Analysis Work flow? Explain about Analysis Work flow.

17. What is Software Testing? Explain about Unit Testing and Integration-Testing.

(OR)

18. Explain management of Post-delivery maintenance & issues.

Room No: _____ **Regd No:** 115

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Voc (WT)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: Software Engineering	Duration	: 3 Hrs
Paper Code	: R20WSSE401A	Time	: 9am to 12PM
W.E.F	: 2023-24	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain CMMi Levels.

2. Explain Defect Removal Efficiency.

3. Explain Communication Issues.

4. Explain RMMM.

5. Explain Risk Identification.

6. Explain Elements of Software Design.

7. Explain about UML.

8. Explain about SQA.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Explain about RAD Model.

(OR)

10. Discuss Spiral Model.

11. Explain Software Management Spectrum.

(OR)

12. Explain Software Quality Metrics.

13. Explain about COCOMO Model.

(OR)

14. Explain Various types of Risks and Risk identification.

15. Discuss Software Design Concepts.

(OR)

16. Discuss Cohesion.

17. Explain about testing principles.

(OR)

18. Explain Software Quality Assurance.

Room No: _____ Regd No 116

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MPCS, MCCS, MECS, MSCS)	Max Marks	: 60
Subject	: Computers	Pass Mark	: 24
Title of Paper	: Operating System	Duration	: 3Hrs
Paper Code	: R20CSC402A	Time	: 9am to 12pm
W.E.F	: 2022-23	Date	: 08/03/2023

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain the evolution of operating system.
2. Explain about system calls.
3. Explain about kernels.
4. Explain about semaphores.
5. Explain about sychronization.
6. Write about Demand paging.
7. Explain the function of memory management.
8. What are the features of Android.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. What is an operating system? Explain functions of an operating system.

(OR)

10. Explain about the operating system services.

11. What are threads? Explain thread scheduling in operating system.

(OR)

12. What is process? Explain process state diagram and process control block.

13. Explain Dead Lock prevention techniques.

(OR)

14. Explain about peter son's solution.

15. Write about segmentation in hardware.

(OR)

16. What is fragmentation? Explain internal and external fragmentation.

17. Explain Android architecture with neat diagram.

(OR)

18. Explain about different file operations.

Room No: _____ **Regd No** 117

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(MPCS, MSCS, MECS & MCCS)	Max Marks	: 75
Subject	: Computer Science	Pass Mark	: 30
Title of Paper	: Operating Systems	Duration	: 3Hrs
Paper Code	: R20CSC402	Time	: 9am - 12noon
W.E.F	: 2020-21	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain the evaluation of operating system?

2. Explain about Kernels?

3. Explain about non preemptive process scheduling policies?

4. Explain about Semaphores?

5. Explain Deadlock characteristics?

6. Explain functions of Memory Management?

7. Write a note on Segmentation?

8. Explain about File System Structure?

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. What is Operating System? Explain about Operating system services?

(OR)

10. Briefly explain various types of Operating System?

11. Define Thread? Give a brief account of Thread Libraries?

(OR)

12. Define Process? Explain Process State Diagram and Process Control Block?

13. Give a brief account on Deadlock Handling Approaches?

(OR)

14. Explain about Peterson's Solution?

15. What is fragmentation? Explain about internal and external fragmentation?

(OR)

16. Explain about various page replacement algorithms with examples?

17. Explain different file Access Methods?

(OR)

18. Explain Android application life cycle?

Room No: _____ Regd No 118

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(Data Science & IOT)	Max Marks	: 75
Subject	: Computer Science	Pass Mark	: 30
Title of Paper	: Database Management System	Duration	: 3Hrs
Paper Code	: R20DSDBMS404/R20IOTDBMS404	Time	: 9am to 12pm
W.E.F	: 2020-21	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain drawbacks of file-Based System?
2. Write about IS A Relationship and Attribute Inheritance?
3. Write Advantages of ER Modeling?
4. Explain the Concept of Relational Integrity?
5. Explain Domain Relational Calculus?
6. Explain about Data Types in SQL?
7. Explain Selection Operation with an example?
8. Write the Steps to create a PL/SQL program?

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Briefly Explain about Database Architecture?

(OR)

10. Explain in detail about Classification of Database Management System?
11. Give a brief on Entity Relationship Model?

(OR)

12. What is Attribute? Explain about Attribute Classification?
13. What is Normalization? Explain 1 NF, 2NF and 3NF with examples?

(OR)

14. Give a brief about E.F.CODD'S Rules?
15. Explain about different types of Commands in SQL?

(OR)

16. Explain about Join and Set Operations?
17. Explain about procedures in PL/SQL?

(OR)

18. Explain about looping control statements in PL/SQL?

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Artificial intelligence)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Web Full Stack Development**	Duration	: 3 Hrs
Paper Code	: R23AIMCSC401	Time	: 9am – 12noon
W.E.F	: 2024-25	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain Basic Html Tags.

2. Define the concept of the box model in CSS.

3. What is the purpose of using media queries in CSS?

4. What is a Function with Example in JavaScript?

5. Explain the use of document query Selector() in JavaScript?

6. How do you render HTML templates using Flask?

7. What is the role of cookies in web applications?

8. What are the key components of a SQL query?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain the use of Multimedia elements.

(OR)

10. Explain the new features introduced in HTML5 and their benefits.

11. Compare Flexbox and CSS Grid layout techniques, including their use cases.

(OR)

12. Explain how responsive design can be achieved using CSS frameworks.

13. Explain the Object based Array Methods in JavaScript.

(OR)

14. Describe the process of DOM manipulation in JavaScript and its importance in web development

15. Explain the importance of session management and security in web application.

(OR)

16. Describe how to secure user input in web application to prevent injection attacks.

17. Describe the full-stack integration process from fronted to backend and database.

(OR)

18. Discuss how to perform CRUD operations in a SQL database using Python.

120

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hons (Data Science)/B.Voc Hons (SD) /BCA Hons

Subject : Computer Science

Title of Paper : **Data Visualisation Using Tableau**

Paper Code : R23DS401/R23MNCSC403

W.E.F : 2024-25

Max Marks : 60

Pass Mark : 24

Duration : 3 Hrs

Time : 9am - 12noon

Date : 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. How to generate the values in Tableau?

2. How can you join tables in Tableau, and what types of joins can be performed?

3. What are some chart types available in Tableau?

4. What are hierarchies in Tableau?

5. Explain about numerical calculations in Tableau?

6. Write a short note on Tableau Operators?

7. How to create a simple map in Tableau?

8. How do parameters enhance adhoc analysis in Tableau?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Describe the process of connecting to data in Tableau and using direct connections.

(OR)

10. Explain how tables are joined and blended in Tableau for better data analysis?

11. Describe the various chart types in Tableau and their use cases?

(OR)

12. Discuss the role of filters, sets, and groups in refining data visualization in tableau.

13. Discuss the use of aggregation of functions in Tableau?

(OR)

14. Explain about Table calculation in Tableau?

15. Explain how to add map box to your work book?

(OR)

16. Explain how to customize and add territories to the map?

17. Discuss how forecasting and parameters help in creating adhoc analysis environments in Tableau?

(OR)

18. Explain how Tableau server is used to edit and share data visualizations.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hon (CS, Mat, Phy, Ele, Che, Stat)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Database Management System**	Duration	: 3 Hrs
Paper Code	: R23CSC401/R23MCSC401	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Advantages of DBMS.

2. Explain about Cost and Risk of Data Base Approach.

3. Explain about different types of Entities.

4. Explain about advantages of ER Modelling.

5. Explain about DRC.

6. Explain about Functional Dependencies.

7. Explain about TCL Commands.

8. Explain about Control Structures.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain about DBMS Architecture.

(OR)

10. Difference between DBMS and File Based Systems.

11. Draw a complete ER Diagram for an organisation.

(OR)

12. Explain about Specialization and Generalization.

13. Explain about Normal Forms.

(OR)

14. Explain different types of keys.

15. Explain about DDL and DML commands.

(OR)

16. Explain about Joins and Sub Queries.

17. Explain about Triggers.

(OR)

18. Explain Procedures and Functions with example.

122

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BBA Hon/BBA Hon (BA)/B.Com Hon (TP)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Social Media Marketing**	Duration	: 3 Hrs
Paper Code	: R23MNCSC401	Time	: 9am - 12noon
W.E.F	: 2024-25	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. List the key features of digital marketing.

2. What are the 5Ds of digital marketing?

3. Define the term "web marketing structure".

4. What are the main goals of digital marketing?

5. Define Digital Advertising. Write about types of Digital Advertisings?

6. Explain the role of search engines in digital marketing.

7. Explain the importance of targeting the right audience in social media.

8. Write about Social Media Automation with its advantages?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Discuss the scope of digital marketing.

(OR)

10. Describe the functions of digital marketing and their impact on businesses.

11. Describe the strengths and applications of digital marketing.

(OR)

12. Explain about Digital Marketing Structure.

13. Explain about Search Engine Marketing (SEM).

(OR)

14. Discuss Google's guidelines for digital advertising.

15. Explain Social Model Web 2.0 with the proposals of McKinsey.

(OR)

16. Discuss the role of online branding and traffic building in social media.

17. How can social media be integrated with other types of marketing?

(OR)

18. Explain the process and benefits of consumer engagement on social media.

Room No: _____ **Regd No**_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BCA	Max Marks	: 60
Subject	: Computers	Pass Mark	: 24
Title of Paper	: Data Analytics Using R	Duration	: 3Hrs
Paper Code	: R20BCA405A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 07/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain about Functions used in Factors?
2. Discuss about Recursive Lists in R?
3. Write a short note on Bigdata?
4. Explain Coorelation and Covariance?
5. Write a Short note on T-test?
6. Explain Linear Regression?
7. Write a short note Logistic Regression?
8. Explain about Scatter plot in R?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain about Vector and List Operations in R?

(OR)

10. Give a brief account on Data Frames in R?
11. Discuss about Packages in R?

(OR)

12. Explain Need and Applications of Data Analytics?
13. Explain in detail about Chi-Square Test?

(OR)

14. Explain about Correlation Analysis?
15. Explain in detail Clustering Techniques?

(OR)

16. Explain in detail about Classification Techniques?
17. Discuss about Libraries used for Data Visualization in R?

(OR)

18. Discuss about Bar chart in R?

Room No: _____ **Regd No** 124

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.C.A	Max Marks	: 75
Subject	: Computers	Pass Mark	: 30
Title of Paper	: Data Analytics Using R	Duration	: 3Hrs
Paper Code	: R20BCA405	Time	: 9am to 12pm
W.E.F	: 2020-21	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Write about NA and NULL values in R?

2. Write about functions used in Factors?

3. Write a short note on Bigdata?

4. Explain the applications of Data Analytics?

5. Explain about corelation Analysis?

6. Write a short note on Ensemble model?

7. Explain about Data Visualization in R?

8. Explain about Box Plot in R?

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain in detail about Matrix operations in R?

(OR)

10. Explain in detail about Vector and List Operations in R?

11. Explain in detail about ggraph and dygraphs in R?

(OR)

12. Explain about ggplot2 packages in R?

13. Explain about in detail about Chi-Square Test?

(OR)

14. Explain about Analysis of Variance in detail?

15. Explain in detail about Clustering Techniques

(OR)

16. Explain about linear Regression in detail

17. Explain in detail about Area Chart

(OR)

18. Explain about Bar Charts in R in Detail

Room No: _____ **Regd No:** 125

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (DS) /B.Voc (WT)	Max Marks	: 75
Subject	: Computer Science	Pass Mark	: 30
Title of Paper	: Advanced Java	Duration	: 3 Hrs
Paper Code	: R20DSAJ402/R20WSAJ401	Time	: 9am to 12pm
W.E.F	: 2021-22	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain Http servlet request interface.

2. Explain about importance of session Tracking.

3. Write about cookie class methods.

4. Write the advantages of JSP.

5. Explain about directives in JSP.

6. Write the stages of JDBC program.

7. Explain JSP implicit objects.

8. Types of Result sets.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain Javax. Servlet API in detail.

(OR)

10. Explain the concept of session tracking.

11. How to retrieve and data posted from html file to a JSP file.

(OR)

12. How to handle GET and POST requests in web application with example.

13. Explain about stored procedures.

(OR)

14. Write the differences between prepared statement and callable statements with an example.

15. Write the components of JSP.

(OR)

16. Explain about expressions and standard action in JSP.

17. Write a JSP program to store and retrieve images into and from database.

(OR)

18. Explain about JDBC type I Driver.

Room No: _____ **Regd No** 126

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc(MPCS,MSCS,MECS&MCCS)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: Data Structures	Duration	: 3Hrs
Paper Code	: R20CSC401A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain Elementary Data Organization?

2. Write a Short note on Time-Space Complexity?

3. Explain about Insertion Sort?

4. Write a Short note on Binary Search?

5. Explain about Priority Queues?

6. Briefly explain Applications of Trees?

7. Explain Quick Sort?

8. Discuss about properties of binary trees?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. What is Data Structure? Explain about types of Data Structures?

(OR)

10. Explain Data Structure Operations and Asymptotic Notations?

11. What is Array? Explain about Operations on Arrays?

(OR)

12. Give a brief account on Sorting?

13. Define Stack? Explain linked list representation of Stacks?

(OR)

14. Explain Evaluation of Arithmetic Expressions?

15. Discuss about Tree Traversals?

(OR)

16. What is Binary Search Tree? Write a Program to Implement Binary Search Trees?

17. Explain Traversals of Graphs?

(OR)

18. Explain Merge Sorting Techniques?

Room No: _____ **Regd No:** 127

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc (MPCS , MSCS , MECS, MCCS)	Max Marks	: 75
Subject	: Computer Science	Pass Mark	: 30
Title of Paper	: Data Structures using c	Duration	: 3 Hrs
Paper Code	: R20CSC401	Time	: 9am to 12pm
W.E.F	: 2022-23	Date	: 07/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Define Atomic type.

2. What is an Algorithm? Explain the features of Algorithm.

3. What is pointer? How do declare pointers in 'C'.

4. Difference between linked list Vs Arrays.

5. Explain application of stack.

6. Define Tree and Explain their types.

7. Explain operations of BST.

8. Explain about Bubble sorting.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Define Data Structure and explain types of Data structures.

(OR)

10. Explain Tips and techniques for writing program 'C'.

11. What is meant by an array? Explain uses and types of an array.

(OR)

12. What is double linked list? Explain implementation of Double linked list.

13. What is stack? Explain array representation of stack.

(OR)

14. What is a queue? Explain linked list representation of queue.

15. Define Binary tree? Explain Binary Tree Representation.

(OR)

16. What is BST? Write a program for Binary Search tree.

17. Explain about Binary search.

(OR)

18. Explain traversal of Graphs (or) Explain BFS and DFS.

128

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Computer Science) /B.Voc Hons (SD)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Data Communication and Computer Networks**	Duration	: 3 Hrs
Paper Code	: R23CSC403/R23WT401	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. What are the components of a network?
2. Write a short note on connection-oriented Networks?
3. Write a short note on data link layer on internet.
4. Write a short note on wireless LAN.
5. Define the concept of routing in networking
6. Write a short note on Internetworking.
7. What is the Simple Transport Protocol?
8. What is the function of the DNS protocol?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Discuss the theoretical basic for communication in network and describe various types of transmission media.

(OR)

10. Explain the public switched telephone network and its role in communication networks.

11. Explain about multiple access protocols (ALOHA, CSMS/CD)

(OR)

12. Explain the sliding window protocol and its significance in data transmission.

13. Explain how Quality of Service (QoS) is ensured in modern networks.

(OR)

14. Discuss the working of distance vector and link state routing algorithm.

15. Explain the working of TCP Functionalities and its importance in reliable communication.

(OR)

16. Explain about working of User Datagram Protocol (UDP) and its applications.

17. Explain how HTTP works in the context of web browsing and discuss its role in delivering dynamic web content.

(OR)

18. Discuss the protocols involved in email communication (SMTP, POP3, IMAP) and their specific functions.

Room No: _____ Regd No _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com(Computers)	Max Marks	: 60
Subject	: Computers	Pass Mark	: 24
Title of Paper	: OOPS With Java	Duration	: 3Hrs
Paper Code	: R20BCOMP402A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain about Data Types in Java?
2. Explain break and continue statements with an example?
3. Explain switch statement with an example?
4. What is Class and Object explain with an example?
5. Explain Method overloading?
6. How to create a file using FileWriter? Explain?
7. How to Access a Package? Explain?
8. What is Thread and How many ways to create a Thread in Java?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. What is OOP? Explain Problems in Procedure Oriented Approach?

(OR)

10. Explain the Structure of Java Program?
11. Explain looping statements in Java?

(OR)

12. What is an Array? Explain different types of arrays with an example?
13. Define Inheritance? Explain types of Inheritances?

(OR)

14. What is Polymorphism in Java? Explain Operator Overloading with an example?
15. What is Package? Explain different types of Packages?

(OR)

16. Explain Reading Data from a File using FileInputStream class with an example?
17. Explain about Exception Handling?

(OR)

18. Explain Thread Life Cycle in java with a neat diagram?

Room No: _____ Regd No: 130

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com (Comp)	Max Marks	: 75
Subject	: Computer Science	Pass Mark	: 30
Title of Paper	: Oops With Java	Duration	: 3 Hrs
Paper Code	: R20BCOMP402	Time	: 9am to 12pm
W.E.F	: 2021-22	Date	: 07/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain about Java Virtual Machine.

2. Explain if – else statement with an example.

3. Explain any Five String Class Methods.

4. What is a variable and how many types variables in Java.

5. Explain about Abstract Method with an example.

6. What is Stream? Explain input and output stream classes.

7. What is an error? Explain types of Errors in Java.

8. Explain about access modifiers in Java.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain the features of object-oriented programming.

(OR)

10. Explain different types of Operators in Java with an example.

11. Explain the Switch statement in Java with an example.

(OR)

12. Define Array and explain about single dimensional array with example.

13. What is a Constructor in Java? How many types of Constructors in Java explain with an example.

(OR)

14. What is Inheritance in Java? Explain Hierarchical inheritance in Java with an example.

15. Explain the procedure to create package and accessing a package in Java.

(OR)

16. Explain creating a file using file writer class with an example.

17. What is exception? Explain checked exceptions in Java with an example.

(OR)

18. What is thread? Explain creating a thread by using Runnable interface.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
IV SEMESTER END EXAMINATIONS

Class	: II BCA Honours	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Mobile Application Development Using Android**	Duration	: 3 Hrs
Paper Code	: R23BCA403	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain need of Android.

2. Write about Android SDK.

3. Write a short note on JDK.

4. Write about Button Component in Android.

5. Explain about Check Box in Android.

6. Explain Radio Button in Android.

7. Explain Methods of Android Services.

8. Write about Alarm Clock Applications.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. What is Android explain the term of ecosystem in detail?

(OR)

10. Explain Android Architecture.

11. Explain Android development tools.

(OR)

12. What are the steps to install and configure Android SDK?

13. Explain Grid View in Android with an example.

(OR)

14. Explain Time and Date Picker with an example.

15. Explain Android Security Model.

(OR)

16. Write about Android Platform Services.

17. Explain working with Audio & Video in MIT App Inventor

(OR)

18. How many types of dialogs are there in MIT App Inventor

132

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Artificial Intelligence)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Introduction to AI**	Duration	: 3 Hrs
Paper Code	: R23AI403	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain about trends in AI

2. Explain about History of AI.

3. What is heuristic search?

4. Define state-space search?

5. Explain about Frames and inheritance?

6. Explain about forward and backward chaining?

7. Define reinforcement learning?

8. What are the components of an expert system?

SECTION-B

II. Answer any FIVE of the following Questions **5X8=40M**

9. Discuss about Tic-tac -toe.

(OR)

10. Explain about Characteristics of AI and Categories of AI System.

11. Explain about BFS Search Strategy.

(OR)

12. Discuss about Hill Climbing Technique.

13. Describe different knowledge representation techniques in AI (frames, semantic nets logic)

(OR)

14. Discuss reasoning under uncertainty using Dempster Shafer Theory?

15. Discuss the difference between propositional and first -order-logic

(OR)

16. Describe reinforcement learning and its applications in AI.

17. Explain the different types of expert systems and their applications.

(OR)

18. Explain about Monkey Banana Problem.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BBA Hon (Business Analytics)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Data Mining and Warehousing**	Duration	: 3 Hrs
Paper Code	: R23BBACSC401	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. List the different types of data mining patterns?

2. Explain data integration in data preprocessing?

3. What is OLAP?

4. Differentiate between star and snowflake scheme?

5. Define association rule mining?

6. What are multidimensional association rules?

7. What is classification in data mining?

8. What is cluster analysis?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Describe the data mining process and its significance.

(OR)

10. What are the key steps involved in data preprocessing? Discuss each step?

11. Explain the steps for designing a data warehouse.

(OR)

12. Explain about the data warehouse Three tier architecture?

13. Explain how association rules are generated from frequent item sets using Apriori algorithm?

(OR)

14. Describe the importance of mining multilevel association rules?

15. Explain the rule-based classification technique in data mining?

(OR)

16. Explain Naïve Bayes Theorem?

17. Explain about K-Means clustering Technique?

(OR)

18. Explain about the DBSCAN algorithm?

134

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com Hons (Computers)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **DBMS With Oracle**	Duration	: 3 Hrs
Paper Code	: R23BCOMP401	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 07/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain about Database Management System.

2. Explain about the advantages of DBMS.

3. Explain about Primary Key.

4. Write about the advantages of Relational Model.

5. Explain about types of Entities.

6. Explain about Views.

7. Explain about Sub Query.

8. Write a PL/SQL Program to implement Simple if Statement.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain the components of Database Management System.

(OR)

10. Explain about different types of Data Models.

11. Explain about CODD's Rules.

(OR)

12. Explain about 3NF and BCNF.

13. Explain about DML Commands.

(OR)

14. Explain about ER Model symbols and notations.

15. Explain about TCL Commands.

(OR)

16. Explain about Relational Set Operators.

17. Explain about Triggers.

(OR)

18. Explain about Exception Handling.

135

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com (Comp)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: Database Management System	Duration	: 3 Hrs
Paper Code	: R20BCOMP401A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 06/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Write the difference between Data and Information.

2. Write the disadvantages of file based System.

3. Write the advantages of Database Management System.

4. Explain Relational Model.

5. Explain Entity Relationship.

6. Explain Set Operations in SQL.

7. Explain Select Command in SQL.

8. Explain the Data Types of PL/SQL Program.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Explain the Classification of Database Management System.

(OR)

10. Explain Goals of DBMS.

11. Explain Database Components.

(OR)

12. Explain DBMS Architecture.

13. Explain E-F CODD'S Rules.

(OR)

14. Explain the different types of Entities.

15. Explain the DML Commands and give examples.

(OR)

16. Explain the DDL Commands supported by SQL.

17. Explain Control Structures in PL/SQL.

(OR)

18. Explain Triggers in PL/SQL.

Room No: _____ Regd No_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BCA	Max Marks	: 60
Subject	: Computers	Pass Mark	: 24
Title of Paper	: Design Of Object Oriented Applications	Duration	: 3Hrs
Paper Code	: R20BCA404A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. What are the Micro Process activities?

2. What are the differences between Agile and Plan Driven?

3. Explain about Documentation?

4. Write about Dimensions of Testing?

5. Explain about Post-Transition for SNS?

6. What are the Use Cases of Weather Monitoring System?

7. Explain about requirements of Cryptanalysis?

8. Explain about Smalltalk?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain in detail about Macro Process Disciplines?

(OR)

10. Explain in detail about Micro Process iterations?

11. Explain in detail about Management and Planning?

(OR)

12. Explain in detail about Resource Allocation and Development Team Roles in Staffing?

13. Explain about in detail about Satellite Navigation System's Initial Operations?

(OR)

14. Explain in detail about the architecture of TTMS?

15. Explain in detail about the cryptanalysis Composite structure Diagram?

(OR)

16. Explain about the architecture of Weather Monitoring System?

17. Explain about different Object-Oriented Programming Languages?

(OR)

18. Explain about Web pages and User Interface?

137

Room No: _____ **Regd No** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.C.A	Max Marks	: 75
Subject	: Computers	Pass Mark	: 30
Title of Paper	: Design of Object Oriented Applications	Duration	: 3Hrs
Paper Code	: R20BCA404	Time	: 9am to 12pm
W.E.F	: 2020-21	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. What are the Micro Process activities?

2. What are the differences between Agile and Plan Driven?

3. Explain about Documentation?

4. Write about risks of Object-Oriented Development?

5. Explain about Post-Transition for SNS?

6. What are the objects of Black Board?

7. What are the Use cases of Traffic Monitoring System?

8. What are the requirements of vacation tracking system?

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain in detail about Macro Process Phases?

(OR)

10. Explain in detail about Micro Process iterations?

11. Explain in detail about Management and Planning?

(OR)

12. Explain in detail about Quality Assurance and Metrics?

13. Explain about in detail about Satellite Navigation System?

(OR)

14. Explain in detail about the architecture of TTMS?

15. Explain in detail about the cryptanalysis Composite structure Diagram?

(OR)

16. Explain about the architecture of Black Board Framework?

17. Explain about different Object-Oriented Programming Languages?

(OR)

18. Explain about Web pages and User Interface?

138

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Com (Comp)	Max Marks	: 75
Subject	: Computer Science	Pass Mark	: 30
Title of Paper	: Database Management System	Duration	: 3 Hrs
Paper Code	: R20BCOMP401	Time	: 9am-12noon
W.E.F	: 2021-22	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain Differences between Data and Information.

2. Explain advantages of DBMS.

3. Explain components of Data Base management system.

4. Write about building blocks of entity relationship.

5. What is Relational Data Model.

6. Explain about Aggregate functions in SQL.

7. Explain about set operations in SQL.

8. Explain Data types in PL /SQL.

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain about classification of Data base management system.

(OR)

10. Explain about objectives of Data base Management system.

11. Explain about Data base Models.

(OR)

12. Explain about DBMS Architecture.

13. What is an attribute? Explain about classification of attributes.

(OR)

14. Explain about E-F CODD's rules.

15. Explain about DDL Commands.

(OR)

16. Explain about Data types in SQL.

17. Explain about looping structures in PL / SQL.

(OR)

18. What are Database Triggers? Explain about types of Triggers.

Room No: _____ Regd No: 139

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Voc Hons (Software Development)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Web Development Using PHP & My SQL**	Duration	: 3 Hrs
Paper Code	: R23WT403	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Write about colors and images in HTML.

2. Explain HTML frames.

3. What is JavaScript? Explain the features of JavaScript.

4. What is an Object? How JavaScript support Objects?

5. Explain Date & Time functions in PHP.

6. How to create classes and objects in PHP?

7. Write short notes to Reading Files.

8. Explain Grouping and Having Clause in MySQL.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. What is HTML? Explain features and structure of html program with example.

(OR)

10. Explain HTML form and its controls.

11. Explain the Operators in JavaScript.

(OR)

12. What is a Function? Explain about functions in JavaScript.

13. Explain about Building Blocks of PHP.

(OR)

14. What is an Array? What are different types of Arrays available in PHP?

15. What is a Cookie? How to store and remove cookies in PHP?

(OR)

16. Explain about different file modes.

17. Explain DDL Commands in MySQL.

(OR)

18. Explain MySQL functions in PHP.

140

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BCA Honours	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Operating Systems**	Duration	: 3 Hrs
Paper Code	: R23BCA402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain the evaluation of operating system.

2. What are the different operations that can be done by the operating systems?

3. What is Synchronization? Explain?

4. What is Thread? Explain?

5. Explain about Swapping.

6. Explain about Contiguous Allocation.

7. Explain about printf Statement.

8. What are advantages of Shell Programming?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain different types of operating systems.

(OR)

10. Explain about the operating system services.

11. Explain about Dispatcher.

(OR)

12. Explain the Preemptive Scheduling Algorithms.

13. Explain about Segmentation.

(OR)

14. Explain about Page Replacement algorithms.

15. Explain about Architecture of Unix.

(OR)

16. Explain about any 5 Unix Commands.

17. Explain about for statement.

(OR)

18. Explain about while statement.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Artificial Intelligence)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Machine Learning Using Python**	Duration	: 3 Hrs
Paper Code	: R23AI402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. What is VC dimension?

2. Explain the bias-variance trade-off?

3. Explain linear regression?

4. Explain logistic regression?

5. Explain bagging and boosting?

6. Explain stacking?

7. What is dropout in neural networks?

8. Explain bootstrapping?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Discuss the motivation for machine learning and provide real-world applications?

(OR)

10. Explain the role of PAC learning in machine learning theory?

11. Compare linear regression and Bayesian linear regression?

(OR)

12. Describe the SVM algorithm and its application.

13. Explain Gaussian mixture models (GMM) and they are used in unsupervised learning.

(OR)

14. Explain about the k-nearest neighbors (KNN)?

15. Discuss the architecture and working of multilayer perceptrons?

(OR)

16. Explain the role of regularization technique?

17. Explain about the McNemar's test?

(OR)

18. Explain about the t-test?

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BCA	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: Web Programming	Duration	: 3 Hrs
Paper Code	: R20BCA403A	Time	: 9am-12noon
W.E.F	: 2023-24	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain about Data Types in PHP.

2. Explain about Arrays in PHP.

3. Explain about Recursive function in PHP.

4. Explain about working with file Uploads.

5. How to combining HTML AND PHP code on a single page.

6. Explain the Java Script Variables.

7. Explain about Windows and Document Object.

8. Explain Modules in Angular JS.

SECTION-B

II. Answer the following Questions **5X8=40M**

9. Explain about Operators in PHP.

(OR)

10. Explain about Strings in PHP.

11. Explain about OOPs concept in detail.

(OR)

12. Explain about Files concept in detail.

13. Explain about Forms concept in PHP.

(OR)

14. Explain about Cookies concept in detail.

15. Explain about different Operators in JavaScript.

(OR)

16. Explain about Constructors in JavaScript.

17. Explain about Data Binding in Angular JS.

(OR)

18. Explain about Custom Filters in Angular JS.

Room No: _____ Regd No _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.C.A	Max Marks	: 75
Subject	: Computers	Pass Mark	: 30
Title of Paper	: Web Programming	Duration	: 3Hrs
Paper Code	: R20BCA403	Time	: 9am-12noon
W.E.F	: 2020-21	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. Explain Conditional Statements in PHP?
2. Write a Short note on Objects in PHP?
3. Briefly explain recursive functions in PHP?
4. Explain about File truncate, file uploading and EOF in PHP?
5. How to pass session IDs in the Query String? Explain?
6. Discuss about working with file uploads?
7. Explain about string, math and data functions in Java Script?
8. Explain about Constants in Angular JS?

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain about Strings in detail?

(OR)

10. Explain Working with Arrays?
11. Give a brief account on Functions in PHP?

(OR)

12. Explain in detail about file operations?
13. Explain about Cookies concept in detail?

(OR)

14. Explain working with forms in PHP?
15. Explain about constructors in JavaScript?

(OR)

16. Briefly explain various operators in Java Script?
17. Explain about Modules and Components in Angular JS?

(OR)

18. Explain about Directives in Angular JS?

N24

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Data Science)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Introduction to SQL and Advanced Tableau**	Duration	: 3 Hrs
Paper Code	: R23DS403	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain about classification of attributes.

2. Explain about Relationship degree and Classification.

3. Explain about Set operations.

4. Explain about views in SQL.

5. Explain about Gantt charts in tableau.

6. Explain about LOD calculations in tableau.

7. What is a drill-down dashboard?

8. Write about Tableau parameters.

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain about different types of keys in a database.

(OR)

10. Explain about Building block of ER diagram.

11. Explain about DDL and DML commands in SQL.

(OR)

12. Explain about different Constraints in SQL.

13. Explain about Heat map in tableau.

(OR)

14. Explain about Bar charts and Line charts in tableau.

15. Discuss the role of Filters and Parameters in improving dashboard interactivity.

(OR)

16. What are the best practices for designing effective tableau dashboards? Provide examples of Interactive elements.

17. Discuss the Integration of R programming in tableau for advanced analytics.

(OR)

18. How can tableau handle large datasets, and what strategies can be employed to optimize performance?

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
IV SEMESTER END EXAMINATIONS

Class	: II B.Sc Hons (Artificial Intelligence)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Data WareHousing and Data Mining**	Duration	: 3 Hrs
Paper Code	: R23AI401	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Describe the architecture of a data warehouse?

2. What is purpose of metadata in a data warehouse?

3. What are the main functionalities of data mining?

4. Explain the concept of data pre-processing?

5. Define accuracy and error measures in the context of classification?

6. What are ensemble methods, and how do they improve classification accuracy?

7. Define partitioning methods in clustering?

8. What is spatial data mining?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Discuss the process of building a data warehousing and the key considerations involved?

(OR)

10. Explain the DBMS schemas used for decision support in data warehousing?

11. Explain the efficient methods for frequent item set mining in association rule mining?

(OR)

12. Discuss the differences between constraint-based association mining and traditional association mining.

13. Explain the evaluation methods for the accuracy of classifiers and predictors.

(OR)

14. Describe the support vector machine (SVM) technique applications in classification?

15. Discuss the challenges of clustering high-dimensional data and techniques to address them?

(OR)

16. Explain the role of constraint-based clustering in data mining

17. Explain the challenges and methods in multimedia data mining?

(OR)

18. Analyze the impact of web data mining on e-commerce and online marketing strategies?

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
IV SEMESTER END EXAMINATIONS

Class : II BCA Honours
Subject : Computer Applications
Title of Paper : **Advanced Java Web Technologies : Servlets, JSP and Hibernate**
Paper Code : R23BCA401
W.E.F : 2024-25

Max Marks : 60
Pass Mark : 24
Duration : 3 Hrs
Time : 9am – 12noon
Date : 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. What is the role of a Servlet in web development?

2. How do you manage sessions using servlets?

3. What are scriptlets in JSP?

4. Explain how custom tags are created in JSP?

5. What is the model-view-controller architecture?

6. Explain how javaBeans are used in MVC for transferring data?

7. How are relationships mapped in Hibernate?

8. What is the DAO pattern and why is it important?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Discuss how servlets handle client requests and responses?

(OR)

10. Explain the different ways to manage sessions in servlets such as cookies and URL rewriting

11. Discuss the lifecycle of a JSP and the role of JSP directives in configuring pages?

(OR)

12. How does JSTL simplify JSP development? Provide examples

13. Describe the MVC architecture and how it is implemented using servlets and JSP.

(OR)

14. How can servelets, JSP, and JavaBeans work together to create a scalable web application?

15. Discuss the advantages of Hibernate and how it simplifies database management compared to JDBC?

(OR)

16. Explain the different types of Hibernate mapping with code examples?

17. Discuss how to integrate Servlets, JSP, and hibernate in a web application?

(OR)

18. Explain the steps involved in deploying a web application that uses Servlets, JSP, and Hibernate?

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AU. ONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.Voc Hons (SD)/ B.Com Hons (General)	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: **Interactive Web Development With Java Script**	Duration	: 3 Hrs
Paper Code	: R23WT402/R23MCSC404	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. What is the client-server model?

2. What are the primary functions of a web browser?

3. Describe the basic structure of an HTML document?

4. How do you create a hyperlink in HTML?

5. What is a CSS framework, and can you name one popular example?

6. What are the basic components in JavaScript syntax?

7. What is an event in JavaScript? Mention the types of events in JavaScript.

8. What is difference between arrays and object in JavaScript?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Describe the role of web browsers and explain its working?

(OR)

10. Explain the basics of web hosting and domain registration, including their importance for websites?

11. Explain how to create forms in HTML. Explain with registration form as example.

(OR)

12. Explain how to create tables in HTML Explain with example.

13. Describe the different types of CSS selectors and provide examples of each.

(OR)

14. Explain the different types of CSS in web design with examples?

15. Explain how functions work in JavaScript?

(OR)

16. Describe the different conditional statements in JavaScript along with examples?

17. What is meant by DOM Explain the DOM methods in JavaScript?

(OR)

18. Explain the concept of Objects in JavaScript?

Room No: _____ **Regd No** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BCA	Max Marks	: 60
Subject	: Computers	Pass Mark	: 24
Title of Paper	: Data Mining & Data Warehousing	Duration	: 3Hrs
Paper Code	: R20BCA402A	Time	: 9am to 12pm
W.E.F	: 2023-24	Date	: 04/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Explain about Data Cleaning?

2. Compare OLTP and OLAP?

3. Explain the steps involved in designing Data Warehouse?

4. Write about basic concept in Association Rule Mining?

5. Explain about Market basket analysis?

6. Write a short note on attribute selection measures?

7. Explain about classification and prediction?

8. Explain about hierarchical clustering?

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain in detail about Data reduction techniques?

(OR)

10. Explain in detail about KDD process with neat diagram?

11. Explain in detail about different schemas for multi-dimensional Databases?

(OR)

12. Describe in brief about Data Warehouse implementation?

13. Explain about in detail about Mining Multilevel Association rules with examples?

(OR)

14. Explain about FP growth algorithm for finding frequent item sets with an example?

15. Explain in detail about Bayesian classification

(OR)

16. Explain about classification by decision tree induction

17. Explain Partitioning methods

(OR)

18. Explain about BIRCH clustering

Room No: _____ **Regd No**_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II B.C.A	Max Marks	: 75
Subject	: Computers	Pass Mark	: 30
Title of Paper	: Data Mining & Data Warehousing	Duration	: 3Hrs
Paper Code	: R20BCA402	Time	: 9am to 12pm
W.E.F	: 2020-21	Date	: 04/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X5=25M**

1. What is Data Mining?

2. Compare OLTP and OLAP?

3. Explain the steps involved in designing Data Warehouse?

4. Write about basic concept in Association Rule Mining?

5. What are the Disadvantages of Apriori Algorithm? Explain

6. Write a short note on attribute selection measures?

7. Explain about classification and prediction?

8. Explain about types of Data in Cluster Analysis?

SECTION-B

II. Answer ALL the following Questions **5X10=50M**

9. Explain in detail about different Mining functionalities?

(OR)

10. Explain in detail about KDD process with neat diagram?

11. Explain in detail about Correlation?

(OR)

12. Describe in brief about Data Warehouse implementation?

13. Explain about in detail about Mining Multilevel Association rules with examples?

(OR)

14. Explain about Apriori algorithm for finding frequent item sets with a Example?

15. Explain in detail about Rule based classification

(OR)

16. Explain about classification by decision tree induction

17. Explain Partitioning methods

(OR)

18. Explain about categorization of major clustering methods

150

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II BCA Hons /BA Hons (Political Science)
Subject : Computer Applications
Title of Paper : **Digital Marketing**
Paper Code : R23SDP402
W.E.F : 2024-25

Max Marks : 50
Pass Mark : 20
Duration : 2 Hrs
Time : 9am to 11 am
Date : 04/03/2025.

SECTION-A

I. Answer any FOUR of the following Questions **4X5=20M**

1. Write a note on content marketing.

2. What is Digital Marketing? Explain its applications.

3. Define Social Media Marketing.

4. What is a landing page, and why is it important in Online advertising campaigns?

5. Briefly define online advertising and differentiate it from traditional advertising methods.

6. Explain the concept of affiliate marketing in a few sentences.

7. What is keyword research in SEO?

8. What is the definition of Social Media Marketing (SMM)?

SECTION-B

II. Answer any THREE of the following Questions **3X10=30M**

9. Write down the difference between Traditional Marketing and Digital Marketing.

10. Discuss the advantages and disadvantages of online marketing compared to traditional methods.

11. Explain the concept of Online Ads? Explain its types.

12. Explain the concept of Social Media Marketing (SMM) and its importance

13. Outline the key components of social media marketing plan.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II B.Sc Hons(All Groups) /B.Com Hons(All Groups)/BBA Hons/ BBA Hons(BA)/B.Voc Hons(SD)

Subject : Computer Science
Title of Paper : **Cyber Security**
Paper Code : R23SDP401
W.E.F : 2024-25

Max Marks : 50
Pass Mark : 20
Duration : 2 Hrs
Time : 9am to 11am
Date : 04/03/2025.

SECTION-A

I. Answer any FOUR of the following Questions **4X5=20M**

1. What is the definition of cybercrime?

2. List the types of cybercriminals.

3. Describe the components of cybercrime.

4. Definition of Mobile and Wireless.

5. What is the importance of authentication?

6. What is phishing?

7. Describe how key loggers function.

8. Explain the concept of Trojan horses.

SECTION-B

II. Answer any THREE of the following Questions **3X10=30M**

9. Explain the cybercrime with traditional forms of crime.

10. Explain the legal perspectives around the world.

11. Explain the Generations of Mobile Devices.

12. Explain the types of Wireless and Mobile Device Attacks.

13. Exploring identity theft and its implications.

152

Room No: _____ **Regd No**_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BCA	Max Marks	: 60
Subject	: Computer Science	Pass Mark	: 24
Title of Paper	: Cyber Laws	Duration	: 3Hrs
Paper Code	: R20BCA401A	Time	: 9am-12noon
W.E.F	: 2023-24	Date	: 03/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Write a short note on Cyber Law

2. Write about OECD

3. Write about Access to Internet

4. Write about Digital Forgery

5. Write about Property issues in Cyber Space

6. Explain about impact of computers in Society

7. Write a short note on Hacking

8. Explain APEC

SECTION-B

II. Answer ALL the following Questions **5X8=40M**

9. Explain Cyber Jurisprudence at international and Indian Level

(OR)

10. Explain about Overview of Computer and Web Technology

11. Explain about Perspectives of Cyber Law in World Bank

(OR)

12. Explain about Perspectives of Cyber Law in common Wealth of Nations

13. Explain about Human Right issues in Cyber Space

(OR)

14. Explain about Right to Data Protection

15. Explain about Cyber Defamation

(OR)

16. Explain about different Offences under IT Act,2000

17. Explain Trade Marks & Domain Names related Issues

(OR)

18. Explain about Interface with Patent Law

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BA Hons (Political Science)	Max Marks	: 60
Subject	: Political Science	Pass Mark	: 24
Title of Paper	: **Rural Sociology and Rural Development**	Duration	: 3 Hrs
Paper Code	: R23MSOC402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 10/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X8=40M**

1. Explain the definition nature and scope of rural sociology.

2. Write the differences between Rural and urban societies.

3. What are the settlement patterns in villages?

4. Discuss the traditional changes in Indian villages.

5. What is the role of the religion in rural life?

6. Explain the rural leadership and polity.

7. Explain the role of Green revolution and its impact.

8. Discuss the Land owner pattern in Rural Economy.

9. Explain the role of panchayat Raj and in India.

10. Explain the rural development programs in India.

SECTION-B

II. Answer any FIVE of the following Questions **5X4=20M**

11. Explain the Rural and urban continuum

12. Types of demography

13. Explain the village settlement pattern in India.

14. Explain the concept of Dominant caste.

15. Changing Agrarian revolution

16. Explain about the land reforms in Andhra Pradesh

17. Discuss about the peasant movements in India

18. Poverty

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BA Hons (Political Science)	Max Marks	: 60
Subject	: Political Science	Pass Mark	: 24
Title of Paper	: **Urban Sociology and Urban Development**	Duration	: 3 Hrs
Paper Code	: R23MSOC401	Time	: 9am-12noon
W.E.F	: 2024-25	Date	: 08/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X8=40M**

1. Explain the nature and scope of urban sociology.

2. Explain urban community and its characteristics.

3. Explain meckenjees theory of human ecology

4. What are the various urban ecological theories?

5. Explain the concept of ethnicity in urban India.

6. Discuss about urban social structure.

7. Explain about the impact and problems of urbanization?

8. Discuss the causes and components of urbanization?

9. Explain briefly about urban community development.

10. Discuss about ways for the improvement of slums?

SECTION-B

II. Answer any FIVE of the following Questions **5X4=20M**

11. What is Post – Industrial centre

12. Demography in India

13. Discuss Demographic features of urban centres in India.

14. Explain ethnicity in India

15. Discuss the concept of family.

16. Explain the concept of urbanization

17. Discuss the trends and levels of urbanization in India.

18. Explain the urban planning

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class : II BA Hons (Political Science)
Subject : Political Science
Title of Paper : **Indian Political Thought**
Paper Code : R23PS403
W.E.F : 2024-25

Max Marks : 60
Pass Mark : 24
Duration : 3 Hrs
Time : 9am to 12pm
Date : 07/03/2025.

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Vedas

2. Theory of Danda

3. Brahma Samaj

4. Jyothiba Phuley

5. Rama Krishna Mission

6. National Education Policy

7. Ahimsa

8. Panchasheel

SECTION-B

II. Answer any FIVE of the following Questions **5X8=40M**

9. Write about features of Indian political thought.

10. Explain about Manu's Elements of the State.

11. Explain about Kings duties according to Kautilya.

12. Explain about the theory of Saptanga.

13. Write about social reforms of Raja Ram Mohan Roy.

14. Explain about Eswar Chandra Vidya Sagar's Women Education.

15. Write about Vivekananda's speech at World Parliament of Religion.

16. Write an essay on Bala Gangadhar Tilak's – Father of Indian revolution.

17. Write about Dr. B.R. Ambedkar social reforms.

18. Write about Sardar Valla Bhai Patel unification of India.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BA Hons (Political Science)	Max Marks	: 60
Subject	: Political Science	Pass Mark	: 24
Title of Paper	: **Dynamics of Indian Political System**	Duration	: 3 Hrs
Paper Code	: R23PS402	Time	: 9am to 12pm
W.E.F	: 2024-25	Date	: 06/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Social Media Polities

2. Regionalism

3. Niti Ayog

4. Finance Commission

5. Lokayukta

6. Lokpal

7. IPS

8. IRS

SECTION-B

II. Answer any FIVE of the following Questions **5X8=40M**

9. Write about role of Caste.

10. Write about evolution of Indian Politics.

11. Write about internal threats to security.

12. Explain about Women Reservation in Politics.

13. Write about Powers and Functions of Niti Ayog.

14. Explain about Powers and Functions of Central Vigilance Commission.

15. Write about Central Information Commission.

16. Explain about Right to Information Act. 2002.

17. Explain about Powers and Functions of UPSC.

18. Write about Powers and Functions of IAS.

Room No: _____ Regd No: 157

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II BA Hons (Political Science)	Max Marks	: 60
Subject	: Political Science	Pass Mark	: 24
Title of Paper	: **Indian Government**	Duration	: 3 Hrs
Paper Code	: R23PS401	Time	: 9am – 12noon
W.E.F	: 2024-25	Date	: 05/03/2025

SECTION-A

I. Answer any FIVE of the following Questions **5X4=20M**

1. Rajya Sabha

2. Explain about M.P

3. Powers and Function of Governor

4. Write about M.L.A.

5. Write about Speaker in Legislative Assembly

6. Explain about Standing Committee

7. Explain about Supreme Court

8. Judicial Activism

SECTION-B

II. Answer any FIVE of the following Questions **5X8=40M**

9. Write about powers and functions of president of India.

10. Write about Powers and Functions of Parliament.

11. Write about Powers and Functions of Prime Minister of India.

12. Explain about Estimates Committee.

13. Write an essay on Role of Governor.

14. Explain the features of Legislative Assembly.

15. Explain about the Power and Functions of Chief Minister.

16. Write about Business Advisory Committee.

17. Explain about composition and appointment of supreme court judges.

18. Write about Judicial Reforms in India.

Room No: _____ **Regd No:** _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

IV – SEMESTER END EXAMINATIONS

Class	: II Degree (All Groups)	Max Marks	: 50
Subject	: Political Science	Pass Mark	: 20
Title of Paper	: **Indian Philosophy**	Duration	: 2 Hrs
Paper Code	: R23MDP401	Time	: 9am - 11am
W.E.F	: 2024-25	Date	: 03/03/2025

SECTION-A

I. Answer any FOUR of the following Questions **4X5=20M**

1. Vedas

2. Upanishads

3. Theories of Error

4. Pretyaksha Pramana

5. Anumana Pramana

6. Ethics of Indian Philosophy

7. Purushartha

8. Cheturasramas

SECTION-B

II. Answer any THREE of the following Questions **3X10=30M**

9. Write about Darsanas in philosophy.

10. Explain about Orthodox and Unorthodox systems of Philosophy.

11. Write about sources of knowledge.

12. Write about Nyaya Philosophy.

13. Explain about ethics of Bhagavat Gita

14. Write an essay on duties of Students.