# St Aloysius College (Autonomous) Mangaluru

Semester II - P.G. Examination

May / June - 2023

ST. ALOYSIUS COLLEGE Open Elective (Under CBCS) MANGALORE-575 00 TRAVEL JOURNALISM

Time: 3 hrs.

Max Marks: 70

#### SECTION - A

# Answer any THREE of the following:

(3X15=45)

- Elaborately analyze the content and packaging of travel and food magazines.
- Explain the significance, relevance and scope of travel Journalism.
- 3. How do you integrate visuals like photographs and videos into your travel articles, and what role do you feel these plays in enhancing the audience experience?
- Discuss the importance of tourism in promoting development.
- 5. Write a brief note on following travel writers -Vikram Seth, Anita Nair & Dilip D'Souza.

#### SECTION - B

# Write short notes on any FIVE of the following:

(5X5=25)

- a) Local tourist information centers
- b) Shooting equipments for travel journalists
- c) Trends in Tourism in contemporary world
- d) Promotion of tourism through local culture
- e) Mass media in encouraging tourism
- Incredible India f)
- g) Social media influencers on travel journalism

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# St Aloysius College (Autonomous)

#### Mangaluru

Semester II - P.G. Examination

May/June - 2023

# **Open Elective Under CBCS**

#### BANKING AND FINANCE

Time: 3 Hours ST.ALOYSIUS COLLEGE

Max. Marks: 70

MANGALORE-575 SECTION - A

#### Answer any TWO questions of the following:

(2x15=30)

- 1. What is a commercial bank? Explain the functions of commercial bank.
- What do you mean by mutual fund? Elucidate evolution, types and advantages of mutual funds.
- Define self-help groups. Explain the capacity building, planning of activity clusters, infrastructure build up, technology, credit and marketing of self-help groups.

#### SECTION - B

#### Answer any **FOUR** questions of the following:

(4x6=24)

- 4. Explain the objectives, features and functions of development bank.
- 5. Elucidate the role and functions of NABARD.
- 6. Define forfaiting. Explain the working and benefits of forfaiting.
- 7. Differentiate between leasing and hire purchase.
- 8. Explain the role of RBI and other banks in promoting financial inclusion.
- 9. Suggest some remedial measures to solve rural indebtedness in India.

#### SECTION - C

# Answer any **FOUR** questions of the following:

(4x4=16)

- 10. Briefly explain the objectives and functions of SIDBI.
- 11. Explain the history of banking in India.
- 12. What is a commercial bill? Explain the types and advantages of a bill.
- What is factoring? Explain the different types of factoring.
- 14. Write a short note on inherited debt.
- 15. Briefly explain the concept of unorganised money sector.

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# St Aloysius College (Autonomous) Mangaluru

Semester II - P.G. Examination

May/June - 2023

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# Open Elective Under CBCS NGALORE-575 003

#### READING LITERATURE

Time: 3 hrs.

Max Marks: 70

#### UNIT - I

## Answer any FOUR questions from the following:

(4x15=60)

- Examine the role played by the narrator in "The Tell-Tale Heart" by Edgar Allan Poe.
- In what way does the ironic title of the play "Trifles" shape its meaning?
- Examine the portrayal of the German Nazis and the Jewish concentration camp victims in "Death Fugue".
- 4. How does Shakespeare compare his friend's beauty with the summer's day in "Sonnet 18 - Shall I Compare thee to a Summer's Day"?
- How does Langston Hughes depict the evils of racism in "Harlem"?
   Contextualise your answer with your understanding of the history of racism in America.
- 6. Critically examine the role played by the Sisters in "Broken Images".
- 7. Discuss the tragic pathos in the short story, "Desiree's Baby".

#### **UNIT - II**

# Write short notes on any TWO of the following

(2x5=10)

- 1. "Still I Rise"
- 2. The title, "Desiree's Baby"
- 3. "Enterprise"

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# St Aloysius College (Autonomous) Mangaluru

# Semester II– P.G. Examination

Open Elective (Under CBCS)

May/June - 2023

#### INIDAN SOCIAL PROBLEMS AND INTERVENTIONS

Time: 3 hrspf.ALOYSIUS COLLEGE

Max Marks: 70

MANGALORE-575 003SECTION - A

(3x10=30)

- a. Answer any THREE questions.
- b. Each question carries TEN marks.
- c. Answer should not exceed 400 words.
- 1. Discuss the Contemporary Social Problems in India.
- Elaborate on Rehabilitation services available for women in distress and violence.
- 3. Explain the problems faced by Youth and its impact on society.
- 4. Discuss the importance of Right to Education Act, 2009.
- 5. Write about social problems faced by children in India.

#### SECTION - B

(2x20=40)

- a. Answer any TWO questions.
- b. Each question carries TWENTY marks.
- c. Answer should not exceed 800 words.
- 6. Explain the following
  - A. The Child Labour (Prohibition and Regulation) Amendment Act, 2016.
  - B. Addiction among youth.
- 7. Ellucidate the scenario of violence against women in India.
- 8. Define youth. Elaborate on Governmental and Non Governmental Initiatives for youth welfare.
- Elaborate on the issues of unorganised labourers and explain the welfare programmes to overcome the challenges.

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# St Aloysius College (Autonomous) Mangaluru Semester II - P.G. Examination May /June - 2023 Open Elective (Under CBCS)

PERSONAL FINANCE AND INVESTMENT PLANNING
Max. Marks: 70

Time: 3 Hours
SECTION - A

Answer any FIVE of the following:

ST. ALOYSIUS COLLEGE

(5x4=20)

List the objectives of investments.

PG Library MANGALORE-575 003

- 2. Distinguish between money market and stock market.
- 3. What are closed ended mutual fund schemes?
- 4. Explain the qualities for successful investing.
- 5. Explain dematerialization.
- 6. Distinguish between financial and real assets.
- 7. Mr X has to receive ₹ 2,000 per year for 5 years. Calculate the present value of the annuity assuming that he can earn interest on his investment at 10% p.a.

#### **SECTION - B**

#### Answer any FOUR of the following:

(4x10=40)

- 8. Discuss the advantages and disadvantages of investing in mutual funds.
- 9. Discuss the investment ideas of John Bogle.
- 10. Explain the features of money market and different types of money market instruments.
- 11. Briefly explain the common errors in Investment Management.
- 12. What is tax planning? What are the different tax saving avenues for an investor.
- 13. Neon Ltd is borrowing ₹10,00,000/- at an interest rate of 15% and the loan is to be repaid in 5 equal instalments payable at the end of each of the next 5 years. Prepare the loan amortization schedule.

#### SECTION - C (Compulsory)

(1x10=10)

14. Praveen Bangera and his spouse Susheela live in Mumbai. Praveen works as an advertising manager with a leading media company while Susheela works as assistant manager in a logistics firm. They have a five year old son. They don't have any note worthy investments but managed to buy their first self occupied property last year by availing of a huge mortgage loan. Their annual income is ₹10.8 lakhs. Their expense is below.

Insurance premium	3,333 <b>64,333</b>	40,000 <b>7,78,000</b>
Child's education	6,000	72,000
Home loan EMI	25,500	3,06,000
Household	30,000	3,60,000
Basic expenses	Per month (₹)	Annual (₹)

Their net monthly surplus is ₹ 25,167

The couple is primarily concerned that whether they will be able to retire with a sufficient corpus. The other concerns are planning for their son's educational requirements and marriage given the fact that they don't have any major investments as on date.

As a financial advisor, advise the couple on the investments they should make.

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# St Aloysius College (Autonomous) Mangaluru

Semester II - P.G. Examination

ST.ALOYSIUS COLLEGE
May/June - 2023
MANGALORE-575 003
Open Elective Under CBCS

# QUALITY ASSURANCE AND QUALITY CONTROL IN PRODUCT DEVELOPMENT

Time: 3 Hours Max. Marks: 70

Note: Draw neat labeled diagrams/schematic sketches/structures wherever Necessary.

necessary.

I. Write short notes on any FIVE of the following.

(5x3=15)

- 1. Principles of GMP
- HACCP
- 3. Stratification
- 4. General principles of prevention of cross-contamination in production
- 5. Evaluation of complaints
- 6. Counterfeit pharmaceutical products
- 7. QSIT
- 8. Self-inspection in GMP
- II. Write explanatory notes on any FIVE of the following

(5x5=25)

- 9. Explain Schedule M and Schedule T.
- 10. Explain Benchmarking and steps involved.
- 11. What are the key elements and benefits of ISO 14000?
- 12. What is the role of a quality manager? Explain.
- 13. Mention the concept of equipment qualification.
- 14. What are Standard Operating Procedures for various operations? Explain.
- 15. What is the data integrity requirement? Add a note on how to correct errors and omissions in data entry.
- 16. What is quality review and audits? Discuss.

## III. Answer any THREE of the following:

(3x10=30)

- 17. Discuss in detail about the Total Quality Management.
- 18. What is the importance of personnel in GMP? Add a note on their training and hygiene.
- 19. What are the fundamentals of good documentation practices? Explain their types.
- 20. Explain the concepts of premises, equipment and validation master plan.
- 21. Explain Ishikawa Diagram and Force Field Analysis as tools for identification and analysis of problems respectively.

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# St Aloysius College (Autonomous)

#### Mangaluru

Semester II - P.G Examination

May/June - 2023 ST.ALOYSIUS COLLEGE

#### OPEN ELECTIVE (Under CBCS)GALORE-575 003 BIOCHEMISTRY OF DISEASES

Time: 3 Hours

Max. Marks: 70

I. Answer any <u>TEN</u> sub-divisions of the following:

(10x2=20)

- What is BMR?
- 2. Name any two communicable diseases. State their causative microorganisms.
- 3. What is CSF and synovial fluid?
- 4. What are NSAIDs? Mention one example.
- What is ECG? Mention its significance.
- 6. Name any two chelating agents.
- 7. Name any two respiratory drugs.
- 8. What is PK/PD correlation?
- 9. Enlist the high-risk groups under professional hazards.
- 10. What are drugs of abuse? Give examples.
- 11. What are steroids? Give examples.
- 12. Name any two bacterial infections. State their causative agents.

#### II. Answer any SIX of the following:

(6x5=30)

- 13. What are the adverse effects of anticancer drugs?
- 14. Elaborate: Food as source of energy.
- Discuss healthy diet and Atkins diet.
- 16. Name any two STDs and add a note on their treatment and prevention.
- 17. What are essential nutrients? Write their classification.
- 18. Name any two antimicrobial agents and add a note on their mechanism.
- 19. Explain the mechanism of Analgesic drugs.
- 20. What are vasodilators? Explain the mechanism of any one vasodilator.

# III. Answer any TWO of the following:

(2x10=20)

- 21. Give a detailed note on types of antidotes and antidotal procedure.
- 22. Name any two viral infections and their causes, symptoms and treatment.
- 23. Explain in detail about any two anticancer agents and its mechanism.
- 24. Write a detailed note on general health checkup.

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# St Aloysius College (Autonomous)

#### Mangaluru

#### SEMESTER II - P.G. Examination

#### May/June - 2023

Open Elective (Under CBCS) ANALYTICAL TECHNIQUES Time: 3 Hours T. ALOYSIUS COLLECT Max. Marks: 70 MANGALORE-575 003PART - A 1. Answer any <u>SEVEN</u> sub divisions of the following: (7x2=14) Describe a chemical test used to detect the presence of reducing sugars. b) What are fat soluble Vitamins? Give examples. c) What are food preservatives? Give examples. d) What is Electrochemical cell? Give an example. e) What are reference electrodes? Give an example. f) What types of electrolytes are used in cyclic voltammetry? g) Give the correct structure of nylon 6 and polystrene. h) What is polydispersity index for a polymer? i) Calculate the weight average molecular weight of polyvinyl chloride whose D.P is 500. PART - B Answer any <u>FOUR</u> of the following choosing at least one (4x14=56) full question from each unit: UNIT - I a) Explain the sources and biological functions of Vitamin A₂ and Vitamin (5) b) Give a brief account of the composition of milk and milk products. (5)c) Write a short note on artificial food colorants. (4)3.a) Write a short note on the classification of carbohydrates. (5) b) Discuss the estimation of methyl alcohol in alcoholic beverages. (5) c) Discuss on Artificial sweeteners. (4)UNIT - II 4.a) Write a note on i) polarographic currents ii) Indicator electrode (5) b) Discuss the principle and applications of Conductometric titration. (5) c) Explain the Theory of classical polarography. (4)5.a) Write a note on i) Electrode Potential ii) overvoltage (4)

(5)

(5)

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b) Write a short note on cyclic voltammetry.

c) Explain the principle and applications of Potentiometric titrations.

#### UNIT - III

6.a)	Explain the determination of molecular weight of polymer by	
	osmometry.	(5)
b)	Write the monomers and uses of polyterylene, phenol formaldehyde	
	resin, Bakelite and Teflon.	(4)
c)	Write short notes on the factors affecting Tg and Tm.	(5)
		. ,
7.a)	How do you characterise the polymers using DSC and DTA techniques.	(6)
b)	Discuss the use of GPC technique in the determination of molecular	
	weight of polymers.	(4)
c)	Give an account on Classification of polymers.	(4)
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# St Aloysius College (Autonomous) Mangaluru

Semester II - P.G. Examination - M. Sc Corporate Psychology

MAY / JUNE - 2023

Open Elective ( Under CBCS)

**BEHAVIOUR & SOCIETY** 

TIME: 3 HRS.

ST. ALOYSIUS COLLEGE

MAX MARKS: 70

I. Answer any <u>FIVE</u> of the following.

 $(5 \times 2 = 10)$ 

- 1. Define Impression Formation.
- 2. Differentiate between prejudice and discrimination.
- 3. What is an attribution?
- 4. What do you mean by pro social behavior?
- 5. Define compliance.
- 6. What is aggression?
- 7. What is social interaction?

#### Answer any <u>FOUR</u> of the following.

 $(4 \times 5 = 20)$ 

- 8. Elaborate Kelley's theory of attribution.
- 9. Write a note on destructive obedience.
- 10. How can attitudes be changed?
- 11. What are the different techniques that can help in reducing prejudice?
- 12. What are the goals of romantic relationship?
- 13. Elaborate on the factors influencing the friendship.

#### III. Answer any <u>FOUR</u> of the following.

(4x10=40)

- 14. Explain the errors in attribution?
- 15. Discuss the steps involved in prosocial behavior.
- 16. How are attitudes formed? Discuss.
- 17. Discuss the determinants of interpersonal attraction.
- 18. Explain the strategies that can be used to prevent and control aggression.
- 19. What is intimacy? Discuss triangular theory of love.

# St Aloysius College (Autonomous)

#### Mangaluru

#### Semester II – P.G. Examination May/June –2023

# Open Elective (Under CBCS)

# BASIC TOOLS IN MATHEMATICS

Time: 3 Hours

ST. ALOYSIUS COLLEGE

Max. Marks: 70

# Answer any FIVE FULL questions from the following

- a) Prove that there is no rational number whose square is 3.
  - b) Define a countable set. Prove that the set of integers  $\mathbb Z$  is countable.
  - c) If  $\alpha \in \mathbb{R}$ ,  $X, Y \in \mathbb{R}^n$  then prove the following:
    - i)  $\|\alpha X\| = |\alpha| \|X\|$
    - ii)  $|X.Y| \le ||X|| ||Y||$

iii) 
$$||X + Y|| \le ||X|| + ||Y||$$

(3+4+7)

- 2. a) Verify whether the following functions are bijective:
  - i)  $f: \mathbb{R} \to \mathbb{R}$  given by  $f(x) = x^2 + 1, \forall x \in \mathbb{R}$ .
  - ii)  $f: \mathbb{N} \to \mathbb{N}$  given by  $f(x) = 2x, \forall x \in \mathbb{N}$ .
  - b) Suppose  $\{s_n\}$  and  $\{t_n\}$  are real sequences such that  $\lim_{n\to\infty} s_n = s$  and

 $\lim_{n\to\infty} t_n = t$ . Prove the following:

- i)  $\lim_{n\to\infty} (s_n + t_n) = s + t$
- ii)  $\lim_{n\to\infty} s_n t_n = st$
- iii)  $\lim_{n\to\infty}\frac{1}{s_n}=\frac{1}{s}$ , provided  $s_n\neq 0$  n=1,2,... and  $s\neq 0$ .
- State and prove the necessary condition for convergence of a series.
- d) Is the series  $1 + \frac{1}{2!} + \frac{1}{3!} + \dots$  convergent? Justify.

(4+5+3+2)

- 3. a) Evaluate  $\lim_{x\to 2} \frac{x^2-4}{(\sqrt{3x-2})-(\sqrt{x+2})}$ 
  - b) Examine the continuity of the function f given below at x = 1

$$f(x) = \begin{cases} x^2 + 2, & \text{if } x > 1\\ 3 & \text{if } x < 1\\ 2x + 1, & \text{if } x = 1 \end{cases}$$

c) Find the value of a if the function f given by

$$f(x) = \begin{cases} 2x + 1, & \text{if } x < 2\\ a, & \text{if } x = 2\\ x + 1, & \text{if } x > 2 \end{cases}$$

is continuous at x = 2.

d) Discuss the continuity of the following functions:

i. 
$$f(x) = \begin{cases} x, & \text{if } x \ge 1 \\ x^2, & \text{if } x < 1 \end{cases}$$

ii. 
$$f(x) = \begin{cases} 2x, & \text{if } x < 5 \\ x + 6, & \text{if } x \ge 5 \end{cases}$$

- a) Define differentiability of a function.
  - b) Find  $\frac{dy}{dx}$ , if

i. 
$$y = \tan^{-1} \frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}}$$
.

ii. 
$$\cos(x+y) = y\sin x$$
.

iii. 
$$x = \frac{3at}{1+t^2}$$
 and  $y = \frac{3at^2}{1+t^2}$ .

d) If 
$$y = x^2 \cos x$$
, show that  $x^2 \frac{d^2y}{dx^2} - 4x \frac{dy}{dx} + (x^2 + 6) y = 0$ .

(2+8+4)

- 5. a) Find the intervals for which the curve  $y = x^4 6x^3 + 12x^2 + 5x + 7$  is concave upwards.
  - Determine the maximum and minimum values of the following:

i) 
$$f(x) = 2x^3 - 3x^2 - 12x + 4$$

ii) 
$$f(x) = x^3 + 4x^2 - 3x + 1$$
.

State Mean Value Theorem. c)

(5+6+3)

- Prove that every linear homogenous system AX = 0 of m equation in n6. a) unknown with m < n has a non-trivial solution.
  - Define elementary matrices and prove that elementary matrices are b) invertible and their inverse is also elementary matrix.
  - If A is a  $n \times n$  row echelon matrix then prove that A is either identity c) (5+5+4)matrix or its last row is zero.
- Show that a square matrix A is invertible if and only if it is a product of 7. a) elementary matrices.
  - If a square matrix has a left inverse, then prove that it is invertible.
  - Solve the system AX = B where c)

$$A = \begin{bmatrix} 3 & 0 & -5 \\ 2 & 7 & 0 \\ 1 & 1 & 1 \end{bmatrix} \text{ and } B = \begin{bmatrix} -1 \\ 6 \\ 5 \end{bmatrix}$$

(3+6+5)

- 8. a) Let A and B be two  $n \times n$  matrices. Show that det(AB) = det A det B.
  - Reduce to echelon form

i) 
$$\begin{bmatrix} 1 & 3 & 7 \\ 2 & 4 & 6 \end{bmatrix}$$

i) 
$$\begin{bmatrix} 1 & 3 & 7 \\ 2 & 4 & 6 \end{bmatrix}$$
 ii)  $\begin{bmatrix} 1 & 2 & 1 & 1 \\ 3 & 0 & 0 & 4 \\ 1 & -4 & -2 & 2 \end{bmatrix}$ .

(6+8)

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#### St Aloysius College (Autonomous)

#### Mangaluru

Semester II - P.G. Examination

#### May/June - 2023

#### Open Elective (Under CBCS)

#### **BIO PHYSICS**

Time: 3 hrs.ST.ALOYSIUS COLLEGE PG Library MANGALORE-575 003 PART - A

Max Marks: 70

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		Answer all questions choosing <u>ONE</u> from each unit. $(3x18=5)$	4)
		UNIT- I	
1.	a)	Discuss the interaction of Electromagnetic radiation with matter.	(8)
	b)	Explain the principle of working of scintillation detector. Mention its	
		advantages over Gas filled detectors.	(8)
	c)	What is the difference between radioactivity and radiation?	(2)
		OR	
2.	a)	Explain different types of neutron detectors.	(6)
	b)	Discuss the interaction of electron with matter.	(4)
	c)	Derive Bethe formula for the specific energy loss of particles.	(8)
		UNIT- II	
3.	a)	Discuss the direct and indirect effects of radiation on DNA.	(8)
	b)	Discuss chromosome mutation and gene mutation.	(8)
	c)	What is the difference between stochastic and deterministic effects	
		of radiation?	(2)
		OR	
4.	a)	Discuss different types of chromosomal aberrations.	(8)
	b)	Explain radiation induced DNA damage repair mechanism.	(8)
	c)	What are Genes?	(2)
		UNIT- III	
5.	a)	Discuss radiation damage in Nucleic acids.	(8)
	b)	Explain the radiolysis of water and importance of free radicals in	
	-,	radiation damage.	(8)
	c)	What are Haemoglobin and Myoglobin molecules?	(2)
	٠,	OR	
	. \	Explain the biological application of delocalization of electrons in	
6.8	3)		(8)
		molecules.	
Ł		What are the advantages of diffraction technique using neutron	(6
		over X-ray in the study of structure of biological molecules?	
(	2)	Explain nucleic acid.	(4

#### PART - B

#### Answer any FOUR questions.

(4x4=16)

- 7.a) Explain working of a semiconductor detector.
  - b) Distinguish between physical and chemical dosimetry.
  - c) Explain the radiation induced Apoptosis.
  - d) Distinguish between Numerical aberrations and Structural aberrations.
  - e) Explain how the Dose response curve of chromosomal aberration assay is useful in Biodosimetry.
  - f) Explain the structure of nucleic acid obtained from X-ray diffraction.

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# St Aloysius College (Autonomous)

## Mangaluru Semester II - P.G. Examination May/June - 2023

Open Elective (Under CBCS)

	SPECTRAL METHODS OF ANALYSIS	
Time:	3 Hours PG Library Max. Marks: 1	70
1.	Answer any <u>SEVEN</u> sub divisions of the following: (7x2=1	14)
a)	State the even-electron rule.	
b)	How are carbonyl, amides and carboxylic groups identified in IR	
	spectroscopy?	
c)	Does CO₂ molecule give IR spectra? Explain.	
d)	What is metastable ion? Give its importance.	
e)	Why TMS is used as standard in NMR?	
f)	What is coupling constant in NMR?	
g)	What is wierl equation? Give its significance.	
h)	What is systematic absence in diffraction pattern?	
i)	Comment on the resultant intensities of diffracted x-rays.	
	PART - B	
	Answer any <u>FOUR</u> of the following choosing at least one (4x14=	=56)
	full question from each unit:	
	UNIT - I	
2.a)	Describe the application of uv-visible spectroscopy in the structural	
	study of organic molecule.	(4)
b)		(4)
	bond. Given force constant (K=10x10 <sup>5</sup> dynes cm <sup>-1</sup> ).	( - ,
c)	How are inter and intra molecular H-bonding differentiated by IR	(6)
	spectroscopy.	(0)
3.a)	Explain briefly the absorption and intensity shifts in uv-visible	(4)
	spectroscopy.	(4)
b)		
	Spectroscopy.	(4)
c)	How will you account for the variation in the value of $\lambda_{max}$	
	i. $\lambda_{max}$ for methane 125nm	

 $\lambda_{max}$  for ethane 135nm

 $\lambda_{max}$  for cyclopropane 190nm

ii.

iii.

(6)

#### UNIT - II

- 4.a) Why spin-spin splitting occur in proton-NMR spectroscopy? Discuss the intensity and nature of signals in ethyl iodide (CH<sub>3</sub>CH<sub>2</sub>I) (6)
  b) What is chemical shift? Explain the factors affecting chemical shift in NMR spectrum. (4)
  c) Explain the fragmentation and m/z values of 2-butanone
  - $H_3 C C CH_2 CH_3$  (4)
- 5.a) Discuss the fragmentation pathway.
   b) Explain Mc-Lafferty rearrangement and retrodiels alder fragmentation.

  (4)
  - c) Write a note on types of coupling in NMR. (4)

#### UNIT - III

- 6.a) Discuss Bragg's method of x-ray diffraction of single crystal.b) Explain any four important factor which control the diffracted x-ray beam intensity.(4)
  - c) Discuss the Debye-Scherrer method for x-ray structure analysis of crystal.
- 7.a) Discuss the theory and application of transmission electron microscope (TEM). (6)
  - b) Explain the concept of low energy electron diffraction (LEED). (4)
  - c) Describe Laue methods of x-ray diffraction of single crystal. (4)

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## St Aloysius College (Autonomous)

#### Mangaluru

Semester II - P.G. Examination

May/June - 2023

**OPEN ELECTIVE (UNDER CBCS)** 

#### **ESSENTIALS OF FOOD SCIENCE**

Time: 3 Hours Max. Marks: 70

I. Answer any SIX of the following.T.ALOYSIUS COLLEGE

(6x3=18)

- 1. Write on milk fat structure.
- MANGALORE-575 003
- 2. Write a note on composition and nutritive value of milk.
- 3. Brief on parboiling of rice and its significance.
- Make a note on dough Rheology.
- 5. Write a note on hypobaric storage of fruits /vegetables.
- 6. Write a short note on structure of egg with a neat diagram.
- 7. List out the preservation methods for fish.

#### II. Answer any FOUR of the following.

(4x7=28)

- 8. Explain the process of pasteurization.
- 9. What are the anti nutritional factors present in pulses? How do you eliminate it?
- 10. Discuss on mushroom and its value-added product.
- 11. Explain the process of milling of wheat.
- 12. Briefly explain the biochemical changes associated with the conversion of muscle into meat.

#### III. Answer any <u>TWO</u> of the following:

(2x12=24)

- 13. Discuss in detail about cheese emphasizing on its classification, types and processing of cheddar cheese.
- 14. Discuss in detail the steps in canning of fruits and vegetables.
- 15. Explain in detail about the storage and preservation of meat.

Reg. No.:

# St Aloysius College (Autonomous)

## Mangaluru

Semester II - P.G. Examination

May/June - 2023

# OPEN ELECTIVE (UNDER CBCS)

#### **BASIC NUTRITION**

Time: 3 Hours

ST. ALOYSIUS COLLEGE

Max. Marks: 70

I. Answer any <u>SIX</u> of the following! ANGALORE-575 003

(6x3=18)

- Write a note on changing concept of nutrition.
- 2. What is food guide?
- 3. Write a note on the role of HDL and Omega 3 fatty acid.
- 4. Write a note on RDA.
- 5. Comment on fat soluble vitamins.
- 6. Discuss about underweight related health issues.
- 7. Write a note on glycaemic index of food and its importance.

# II. Answer any <u>FOUR</u> of the following.

(4x7=28)

- 8. Discuss functions of food and balanced diet.
- 9. Discuss on prostaglandins, its synthesis and physiological effects.
- 10. What are proteins? Classify proteins and explain them with examples.
- 11. Write on iodine requirement, its functions and deficiency.
- 12. Define obesity under the following heads
  - i. Causes
  - ii. Related health issues.

## III. Answer any <u>TWO</u> of the following:

(2x12=24)

- 13. Write in detail about classification, biological importance of carbohydrates, its sources and related disorders.
- 14. Discuss the role of water-soluble vitamins in health.
- 15. Explain the factors affecting BMR and method of its measurements.