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St Aloysius College (Autonomous)

Mangaluru

Semester II – P.G. Examination

April - 2019

Open Elective (Under CBCS)

TRAVEL JOURNALISM

Time: 3 hrs.

Max Marks: 70

SECTION - A

Answer any THREE of the following:

(3X15=45)

1. What is the role and responsibility of new media in travel and tourism industry?
2. 'Travel books and magazines are replaced by e-zines and advertisements'- Discuss the statement.
3. What is the role of photo essays and maps in writing travel pieces for magazines and periodicals?
4. Write a travelogue for a journey that you had.
5. How is writing for food magazine different from travel magazine?

SECTION - B

Write short notes on any FIVE of the following:

(5X5=25)

- a) Incredible India
- b) Eco Tourism
- c) White Space
- d) William Dalrymple
- e) Safari Channel
- f) Into the Wild
- g) Narrative Journalism

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**St Aloysius College (Autonomous)
Mangaluru**

Semester II – P.G. Examination

April – 2019

Open Elective (Under CBCS)

LANGUAGE COMPETENCY AND COMMUNICATION DEVELOPMENT

Time: 3 hrs.

Max Marks: 70

UNIT - I

Answer any ONE of the following : (15)

1. Evaluate the importance and scope of communication skills and describe the various types of communication.
2. Discuss the major barriers to communication.
3. What are the 7 C's of successful communication? Explain.

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UNIT - II

Answer any ONE of the following: (15)

1. What are the different types of reading? How can one be an effective reader?
2. Discuss the steps involved in writing a good paragraph.
3. Write a descriptive essay on the topic, "There was a man walking across the street; he had a nasty limp..."

UNIT - III

Answer any ONE of the following: (15)

1. Discuss the different types of listening.
2. Discuss the role played by "eyes" in non verbal communication.
3. Bring out the difference between Active and Passive listening.

UNIT - IV

Answer any ONE of the following: (15)

1. Define culture and discuss the importance of studying intercultural communication.
2. Discuss the three approaches to studying intercultural communication.
3. Discuss the stereotypes and prejudices involved in understanding Oriental and Western cultures.

UNIT - V

Write short notes on any TWO of the following: (2×5=10)

1. Models of communication
2. Argumentative Essay
3. Role of hands in non-verbal communication
4. Benefits of intercultural relationships

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St Aloysius College (Autonomous)

Mangaluru

Semester II- P.G. Examination

April - 2019

Open Elective (Under CBCS)

INDIAN SOCIAL PROBLEMS AND INTERVENTIONS

Time: 3 hrs.

Max Marks: 70

SECTION - A

(3x10=30)

- a. Answer any THREE questions.
- b. Each question carries TEN marks.
- c. Answer should not exceed 400 words.

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1. Outline the contemporary social problems in India.
2. Children need to be trained effectively to do away with child abuse- Comment.
3. Mention the causes for violence against women ad its impact on their families.
4. Identify the reason for unemployment among youth.
5. Write the characteristics of unorganized Labourers 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 role of voluntary organizations in fighting against social problem.
7. What do you mean by gender discrimination? Discuss the impact of discrimination on women.
8. "Suicide rates among youths are on the rise"- suggest intervention strategies to prevent it.
9. Briefly explain the Governmental social security schemes for Unorganized Labourers.

St Aloysius College (Autonomous)**Mangaluru**

Semester II – P.G. Examination

April – 2019

Open Elective (Under CBCS)**PERSONAL FINANCE AND INVESTMENT PLANNING**

Time: 3 Hours

Max. Marks: 70

SECTION - AAnswer any **FIVE** of the following:

(5x4=20)

1. How is investment in real estate better than equity or gold investment? Justify your answer.
2. Distinguish between money market and capital market.
3. Calculate the Present value of Annuity of rupees 500 received annually for 4 years, when discounting factor is 10%.
4. What are the advantages of depository system? Explain.
5. Explain the various types of risks with suitable examples.
6. Write a short note on:
 - a) Right Issue
 - b) Brokers
7. "A rational human being has a time preference for money". Give reasons.

SECTION - BAnswer any **FOUR** of the following:

(4x10=40)

8. What are the main functions of stock exchange? In what way stock exchange is indispensable for an economy?
9. Explain various money market instruments and state their features.
10. Discuss the key tenets of Warren Buffett's strategy for investing.
11. What are the pros and cons of investing in mutual funds?
12. "The investment process involves a series of activities starting from the policy formulation" Discuss.
13. Discuss the nature and functions of depositories.

SECTION - C (Compulsory)

(1x10=10)

14. Shridevi is a I year MBA student who is always missing her Garam Masala chai and Samosa made by Sukharam Mobile Restaurant (SMR) in her home town Bhopal. She approaches Sukharam with a business partnership proposal to open similar mobile restaurant near her college. Sukharam is not willing to invest in the city that is unfamiliar to him. As Shridevi is known to him, he offers his secret formula in return for 5% gross revenue that she can make creating products using his formula. She accepted the deal. She offered the products to her classmates, they liked the products. With the seed money, she rents a small mobile kiosk and names it Shridevi Tea House and hires a couple of friends to sell eatables. She is focusing on creating products and stream lining the production process at her apartment. The mobile restaurant is now very popular in the university campus.
 - a) Shridevi approached you, to help her out with additional finance. She wants to open 19 more kiosks in the campus since the campus has many colleges and hostels. What will be your recommendation?
 - b) What are the best sources of funds for her restaurant? Do you think franchisee model is best suited?

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**St Aloysius College (Autonomous)
Mangaluru**

**Semester II - P.G. Examination
April 2019**

Open Elective (Under CBCS)

Good Manufacturing Practices in Product Development

Time: 3 Hours

Max.Marks:70

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

I. Write short notes on any FIVE of the following. (5x3=15)

1. Quality control
2. Importance of ISO 14001 series
3. Pareto chart.
4. Personnel hygiene in GMP.
5. Premises
6. Schedule-M
7. Ware housing and storage
8. Document control

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II. Write explanatory notes on any FIVE of the following. (5x5=25)

9. Packaging parameters
10. Shared responsibility of a quality manager
11. Force field analysis
12. Benchmarking
13. 7 steps of HACCP
14. Write a note on quality systems and procedures in documentation
15. Shipment containers and container labelling
16. Counterfeit Pharmaceutical products

III. Answer any THREE of the following (3x10=30)

17. Explain in detail about quality systems inspection techniques
18. Explain in detail about cGMP.
19. Discuss in detail about Fire protection systems and its importance.
20. Explain the regulation of the distribution of pharmaceutical products.
21. Give a detailed account on Total Quality Management.

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**St Aloysius College (Autonomous)
Mangaluru**

**Semester II - P.G. Examination
April 2019**

Open Elective (Under CBCS)

BIOCHEMISTRY OF DISEASES AND DRUGS

Time: 3 Hours

Max. Marks: 70

I Answer any TEN of the following:

(10×2=20)

1. What are the adverse effects of Aspirin?
2. What is synovial fluid?
3. What are antidiuretics? Give an example.
4. What is PK/PD?
5. Name the causative agents for TB and Chickungunya.
6. Where are thymus and adrenal gland located in the human body?
7. What is ECG? What does it measure?
8. Why is methanol toxic?
9. What are non communicable diseases? Give two examples.
10. What is dexamethasone? Where is it used?
11. What is Body Mass Index? How is It calculated?
12. Why are viral infections dangerous during pregnancy?

II Answer any SIX of the following:

(6×5=30)

13. What is Atkin's Diet?
14. Explain the mechanism of action of penicillin.
15. What are drugs of abuse? Why do they cause addiction?
16. Distinguish between macro and micronutrients?
17. What is meant by energy value of foods? How is it determined?
18. Explain the mechanism of action of any two antidiabetic drugs.
19. What is meant by "General Health checkup"?
20. Name two vasodilators and explain their mode of action.

III Answer any TWO of the following:

(2×10=20)

21. Who are the subjects having high risk of profession related dangers? Explain the risk of these groups?
22. Explain the different antidotal therapies in accidental poisoning.
23. Explain the cause, symptoms, treatment and prevention of infectious diseases.
24. Explain the mechanism of action of the following
a) Morphine b) Cyclophosphamide c) Acyclovir

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St Aloysius College (Autonomous)
Mangaluru
Semester II - P.G. Examination
April - 2019
Open Elective (Under CBCS)
BEHAVIOUR AND SOCIETY

Time: 3 Hours

Max.Marks:70

I. Answer any FIVE of the following.

(5x2=10)

1. What is self – concept?
2. What is ingratiation?
3. Give two examples for attitude formation by way of instrumental conditioning.
4. Mention the attachment styles.
5. What is discrimination?
6. What are gender stereotypes?
7. What is empathy altruism hypothesis?
8. What is instrumental aggression?

II. Answer any FOUR of the following.

(4x5=20)

9. Write a note on tactics used for impression formation.
10. Write the benefits of having high self- esteem.
11. Attitudes are learnt based on association. Justify.
12. Write a note on conformity.
13. Narrate the steps involved in prosocial behavior.
14. Write Sternberg's Triangular model of love.

III. Answer any FOUR of the following

(4x10=40)

15. Discuss the sources of Error in attribution.
16. Explain the two basic modes of social thought.
17. Discuss the techniques of countering the effects of prejudice.
18. Discuss Stanley Milgram study on obedience.
19. Explain the causes of Human Aggression.
20. Explain the internal determinants of attraction.

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St Aloysius College (Autonomous)

Mangaluru

Semester II – P.G. Examination -

April – 2019

Open Elective (under CBCS)

BASIC TOOLS IN MATHEMATICS

Time: 3 Hours

Max. Marks: 70

Answer any **FIVE FULL** questions from the following

(14x5=70)

1. a) Prove that there is no rational number whose square is 2.
 - 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) $\|x \cdot y\| \leq \|x\| \|y\|$
 - iii) $\|x + y\| \leq \|x\| + \|y\|$
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MANGALORE-575 003 (2+4+8)
2. a) Verify whether the following functions are bijective:
 - i) $f: \mathbb{R} \rightarrow \mathbb{R}$ given by $f(x) = x^2, \forall x \in \mathbb{R}$.
 - ii) $f: \mathbb{N} \rightarrow \mathbb{N}$ given by $f(x) = 2x, \forall x \in \mathbb{N}$.
 - b) Suppose $\{s_n\}, \{t_n\}$ are real sequences such that $\lim_{n \rightarrow \infty} s_n = s$ and $\lim_{n \rightarrow \infty} t_n = t$, then prove that
 - i) $\lim_{n \rightarrow \infty} (s_n + t_n) = s + t$
 - ii) $\lim_{n \rightarrow \infty} cs_n = cs$ for any constant c .
 - c) Define series. Prove the necessary condition for convergence of a series.
 - d) Show that the series $1 + \frac{1}{2!} + \frac{1}{3!} + \frac{1}{4!} + \dots$ is convergent. (4+3+3+4)
3. a) Show that the function $f(x) = \begin{cases} \frac{x^2 - 25}{x - 5}, & x \neq 5 \\ 10, & x = 5 \end{cases}$ is continuous at $x = 5$.
 - b) Prove that there is a real number x which is exactly one less than its cube.
 - c) Find $\frac{dy}{dx}$, if $y = \cos^{-1} \left[\frac{\sqrt{1 + \sin x} + \sqrt{1 - \sin x}}{\sqrt{1 + \sin x} - \sqrt{1 - \sin x}} \right]$
 - d) Define differentiability of a function with an example. (2+4+5+3)

Contd...2

4. a) Find the intervals for which the curve $y = x^4 - 6x^3 + 12x^2 + 5x + 7$ is concave upwards.
- b) Determine the maximum and minimum value of $f(x) = x^4 - 5x^3 + 5x^2 - 1$
- c) State and prove mean value theorem. (4+3+7)
5. a) Show that the curve $(a^2 + x^2)y = a^2x$ has three points of inflexion.
- b) Express the function $f(x) = 2x^3 + 5x^2 + x - 4$ in ascending powers of $(x-1)$.
- c) Find the n^{th} derivative of the function $f(x) = (5x+7)^{15}$, $n < 15$.

(5+4+5)

6. a) Show that a square matrix A is invertible if and only if it is a product of elementary matrices.
- b) If a square matrix has a left inverse, then prove that it is invertible.
- c) Solve the system $AX = B$ where

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

(3+6+5)

7. a) Let A and B be two $n \times n$ matrices. Show that $\det(AB) = \det A \det B$.
- b) Let A be an $n \times n$ matrix. Show that $\det A \neq 0$ if and only if A is invertible.

(8+6)

8. a) Reduce to echelon form.

$$\text{i) } \begin{bmatrix} -5 & 2 & -4 \\ 10 & -4 & 8 \\ 15 & -6 & 12 \end{bmatrix} \quad \text{ii) } \begin{bmatrix} 0 & 0 & 0 & 5 \\ 0 & 4 & -3 & 2 \\ 0 & 0 & -5 & 6 \end{bmatrix}$$

- b) Find the eigen values and eigen vectors of the matrix.

$$\begin{bmatrix} 3 & 1 & 4 \\ 0 & 2 & 6 \\ 0 & 0 & 5 \end{bmatrix}$$

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((2+4)+8)

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St Aloysius College (Autonomous)

Mangaluru

Semester II – P.G. Examination

April - 2019

Open Elective (Under CBCS)

BIOPHYSICS

Time: 3 Hours

Max. Marks: 70

PART – A

Answer all questions choosing one from each unit.

(18x3=54)

UNIT - I

- 1.a) Discuss different modes of gamma ray interaction with matter. (8)
b) Explain the working of a NaI (Tl) scintillation detector. (8)
c) What are the different methods of detection of slow neutrons? (2)

OR

- 2.a) Discuss the interaction of charged particles with matter and arrive at Bethe formula for the specific energy loss of particles. (8)
b) Explain the principle of working of semiconductor detectors. Give an example and mention its applications. (6)
c) Classify the neutrons based on energy. (4)

UNIT – II

- 3.a) Discuss in detail how radiation effects on DNA. (8)
b) Define and explain mutation. (5)
c) What are the different cellular repair processes? (5)

OR

- 4.a) Explain deletion, dicentric and rings in Chromosome aberrations. (9)
b) Distinguish between chromosome mutation and gene mutation. (5)
c) Describe how the changes in DNA may become cancerous. (4)

UNIT - III

- 5.a) Explain the biological application of delocalization of electrons in molecules. (10)
b) Explain the radiolysis of water and the importance of free radicals in radiation damages. (8)

OR

- 6.a) Explain how enzyme function, photosynthesis and carcinogenesis activity can be studied using ESR technique. (15)
b) What are the advantages of diffraction technique using neutron over X-ray in the study of structure of biological molecules. (3)

PART – B

Answer any FOUR questions.

(4x4=16)

- 7.a) What do you mean by dead time of GM counter?
b) Distinguish between physical and biological dosimetry.
c) Distinguish between single strand breaks and double strand breaks.
d) Explain the importance of DNA in radiation biology.
e) Explain the structure of nucleic acid obtained from x-ray diffraction.
f) Explain the Direct and indirect action of radiation.

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St Aloysius College (Autonomous)

Mangaluru

Semester II – P.G. Examination

April- 2019

Open Elective (Under CBCS)

SPECTRAL METHODS OF ANALYSIS

Time: 3 Hours

Max. Marks: 70

PART - A

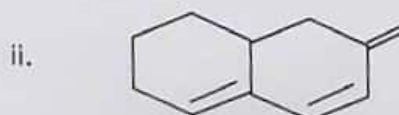
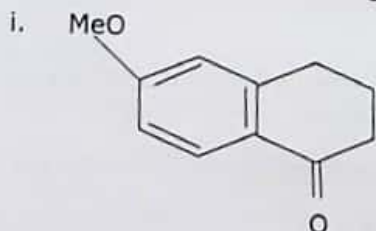
1. Answer any **SEVEN** sub divisions of the following: (7x2=14)
- What is Bragg's equation? Mention any two significance.
 - What are systematic absence in diffraction pattern?
 - Give suitable example which differentiate chromophores and auxochromes.
 - Why ethanol is used as solvent to record uv-spectra?
 - State and explain the even-electron rule.
 - What is metastable ion? Give its importance.
 - How the cis-trans isomers are differentiated by ¹H-NMR?
 - Explain the coupling constant in ¹H-NMR Spectroscopy.
 - Give any two medical application of IR Spectroscopy.

PART - B

- Answer any **FOUR** of the following choosing at least one full question from each unit: (4x14=56)

UNIT - I

- 2.a) How do you account for the variation of λ_{max} values in the following compounds?
- λ_{max} for methane 125nm
 - λ_{max} for ethane 135nm
 - λ_{max} for cyclopropane 190nm
- (6)
- b) Discuss the factors which affect the position of UV-band. (4)
- c) Calculate λ_{max} for the following.



(4)

Contd...2

- 3.a) How can you distinguish among n-hexane, 1-hexene and 1-hexyne on the basis of IR spectroscopy? (4)
- b) How would you distinguish between the following using spectral methods
 - i. cis & trans 2-butene
 - ii. acetaldehyde and acetone (4)
- c) Discuss the following.
 - i. Sampling preparation and handling technique
 - ii. Functional and Finger print region (6)

UNIT - II

- 4.a) What is chemical shift? Explain the factors affecting chemical shift. (4)
 - b) Explain shielding and deshielding mechanism in NMR spectroscopy. (4)
 - c) Explain spin-spin splitting. Sketch the ¹H-NMR spectrum of 2-aminophenol. (6)
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- 5.a) Explain the following with respect to mass spectroscopy
 - i. M_C Lafferty rearrangement
 - ii. Retro Diels-alder fragmentation (6)
 - b) Explain the fragmentation pathways in mass spectroscopy for
 - i. alcohols
 - ii. aldehydes (4)
 - c) Explain the instrumentation of single focusing and quadrupole mass spectrometer. (4)

UNIT - III

- 6.a) Describe the Laue methods of x-ray diffraction of single crystal. (4)
 - b) Write a note on x-ray diffractometer. (4)
 - c) Discuss the theory and application of SEM. (6)
- 7.a) Explain any four important factors which control the diffracted x-ray beam intensity. (5)
 - b) Describe the Debye-Scherrer method of x-ray structural analysis of crystals. (5)
 - c) Explain the Weissenberg method of x-ray diffractron. (4)

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**St Aloysius College (Autonomous)
Mangaluru
Semester II – P.G. Examination
April - 2019**

Open Elective (Under CBCS)

PRINCIPLES OF FOOD PRESERVATION AND PROCESSING

Time: 3 Hours

Max. Marks: 70

I Answer any SIX of the following: (6x3=18)

1. Explain the purpose of canning in food industry.
2. List the sources of Nutraceuticals?
3. What do you understand by cold sterilization of food?
4. Explain the different process employed for food processing.
5. Briefly explain electro dialysis.
6. What is Nutrigenomics? How it can treat disease.
7. Explain active packaging.

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II Answer any FOUR of the following: (4x7=28)

8. Explain the health benefits of probiotics?
9. What is Milling and list the types of milling? Explain in brief about the milling of wheat grain.
10. Explain extrusion processing in food industry.
11. Explain fermentation process with examples.
12. What is Ohmic Heating? List its application in food industry.

III Answer any TWO of the following: (2 x12=24)

13. Explain in detail the Principle and food applications' of High pressure processing.
14. Discuss the role of Nutraceutical and functional foods in the modern food industries.
15. Explain the purpose of dehydration of food material and explain the various methods by which dehydration can be carried out.

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St Aloysius College (Autonomous)
Mangaluru

Semester II – Diploma Examination – P.G.D.B.M/D.B.M

April - 2019

ORGANIZATION BEHAVIOUR

Time: 3 Hours

Max. Marks: 100

PART - A

Answer any TWO questions.

(2x15=30)

1. Explain the scope of Organizational Behaviour.
2. Explain the concept of Motivation. Discuss the Maslows need Heirarchy theory in detail.
3. What is Communication? Explain the process of Communication in an Organization.

PART - B

Answer any FIVE questions.

(5x10=50)

4. Discuss in detail various kinds of groups found in an organization.
5. Explain the various causes for Conflict.
6. Explain the technique of effective Communication.
7. Discuss the different types of Personality.
8. Explain the different foundation of Organizational Behaviour.
9. Why people join groups? Discuss.
10. Explain in detail the resistance to change.
11. How attitudes, behaviour and values formed? Discuss in detail.

PART - C

Answer any ONE question.

(1x20=20)

12. What do you mean by Management change in an organization? Explain the various forces behind the management change concepts in an organization.
13. Define the term Leadership. Explain the various styles of Leadership.

St Aloysius College (Autonomous)
Mangaluru
Semester II - P.G. Examination
April- 2019
Open Elective (under CBCS)
ADVANCED FOOD SCIENCE

Time: 3 Hours

Max. Marks:

70

I Answer any SIX of the following.

(6x3=18)

1. Write the principle of starch cookery.
2. Write short note on composition of egg.
3. Brief on antinutritional factors in pulses.
4. What is germination? What are the factors affecting germination?
5. Mention the composition of rice.
6. Write the affect of heat on milk proteins.
7. How eggs are graded?

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II Answer any FOUR of the following.

(4x7=28)

8. Explain in detail about bread manufacturing.
9. Explain crystal formation in milk and milk products.
10. Discuss gluten formation in detail.
11. What is rigor mortise? Explain.
12. How are vegetables classified? Given an example for each.

III Answer any TWO of the following.

(2 x12=24)

13. Describe the affects of cooking and precooking methods on pulses and list the factors affecting cooking qualities.
14. Explain the method of cooking and role of egg in cookery.
15. Discuss on the properties of fats and oils.