

PO 106.3

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**St Aloysius College (Autonomous)**  
**Mangaluru**  
**Semester III – P.G. Examination**  
**December - 2022**  
**Open Elective (Under CBCS)**  
**FILM APPRECIATION**

Time: 3 hrs.

Max Marks: 70

**SECTION – A**

Answer any **THREE** of the following:

**(3X15=45)**

1. What is 3 Act structure? Explain with few examples.
2. What is sequel? Explain with suitable examples.
3. Write a review on the film of your choice.
4. What is sound design in film? Discuss the elements of film design.
5. Explain Cinematography with suitable examples.

**SECTION – B**

Write short notes on any **FIVE** of the following:

**(5X5=25)**

- a) Screen Writing
- b) Mise-en-Scène
- c) Film Appreciation
- d) Shot-Reverse shot
- e) Composition in films
- f) Camera Angles
- g) Montage v/s long take

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**ST ALOYSIUS COLLEGE (AUTONOMOUS)**

**MANGALURU**

**SEMESTER III – PG Examination**

**December - 2022**

**Open Elective (Under CBCS)**

**CONTEMPORARY INDIAN ECONOMY**

**Time: 3hrs.**

**Max Marks: 70**

**SECTION A**

**Answer any TWO questions from the following: (2×15=30)**

1. Explain the structural characteristics of Indian economy.
2. Elucidate the role and problems faced by the MSMEs in India.
3. What is fiscal policy? Explain the role of fiscal policy and various instruments of fiscal policy.

**SECTION B**

**Answer any FOUR questions of the following: (4×6=24)**

4. Explain the National Population Policy 2000.
5. Explain the extent and factors responsible for rural urban migration in India.
6. Explain the components of Land Reforms.
7. Briefly explain the Industrial Policy 1991.
8. What do you mean by globalization? Explain the impact of globalization on Indian economy.
9. List out the advantages and disadvantages of WTO in promoting free trade.

**SECTION C**

**Answer any FOUR questions of the following: (4×4=16)**

10. Explain the causes and effects of poverty.
11. Explain the nature of Indian agriculture.
12. Write a note on Foreign Direct Investment.
13. Give the modes of privatisation.
14. Point out the need for and issues in good governance.
15. Write a note on Goods and Service Tax.

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**St Aloysius College (Autonomous)  
Mangaluru**

**Semester III- P.G. Examination**

February - 2022

**Open Elective (Under CBCS)**

**INTERPRETING LITERATURE**

**Max Marks: 70**

**Time: 3 hrs.**

**UNIT A**

**I. Answer any ONE of the following in about 300 words each. (1x15=15)**

1. Examine the theme of spirituality and lost faith in "The Journey of the Magi"?
2. Analyse the symbol of the shield in Auden's poem "The Shield of Achilles".
3. Critically examine the poem, "An Introduction" by Kamala Das.

**UNIT B**

**II. Answer any ONE of the following in about 300 words each. (1x15=15)**

1. Examine the theme of war in the play *Arms and the Man*.
2. Discuss the portrayal of the women characters in *Arms and the Man*?
3. Examine the trial scene as the climax of the play *The Merchant of Venice*.

**UNIT C**

**III Answer any ONE of the following in about 300 words each. (1x15=15)**

1. Discuss "Dream Children" as an autobiographical essay.
2. What does Rushdie have to say about the plight of Diasporic writers in "Imaginary Homelands?" Substantiate.
3. Examine the element of pathos in "Dream Children".

**UNIT D**

**IV Answer any ONE of the following in about 300 words each. (1x15=15)**

1. Explain the elements of humour in *Swami and Friends*.
2. Analyse the theme of friendship in *Swami and Friends*.
3. Examine the background of the Indian Nationalist Movement in *Swami and Friends*?

**UNIT E**

**V. Write short notes on any TWO of the following. (2x5=10)**

1. "Mirror"
2. Major Petkoff
3. Swami's Father
4. Great Grandmother Field in "Dream Children"

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**St Aloysius College (Autonomous)**

**Mangaluru**

**Semester III – P.G. Examination**

**December – 2022**

**OPEN ELECTIVE (UNDER CBCS)**

**HUMAN RIGHTS AND SOCIAL DEFENCE**

**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.**

1. Explain the concept of 'Human Rights'.
2. Write a note on violation of rights of Dalits in India.
3. Discuss the functions of State Human Rights Commission.
4. Explain any two community-based services available for Women.
5. Explain any five provisions of Juvenile Justice (Care and Protection of Children) Act 2015.

**SECTION – B**

**(2x20=40)**

- a. Answer any TWO questions.**
- b. Each question carries TWENTY marks.**
- c. Answer should not exceed 800 words.**

6. Describe the child friendly measures provided in POCSO Act, 2012 while giving legal assistance to sexually abused children.
7. Critically examine the status of human rights in India in the light of Universal Declaration of Human Rights 1948.
8. Write an essay on the role of media in safeguarding human rights in India.
9. How right to equality and right to freedom are enshrined in the Indian Constitution. Explain.

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**St. Aloysius College (Autonomous)**  
**Mangaluru**  
**Semester III – PG Examination - M.Com**  
**December – 2022**  
**Open Elective (Under CBCS)**  
**ENTREPRENEURIAL DEVELOPMENT**

Time: 3 hrs

Max. Marks: 70

**Answer any FIVE questions out of seven questions. (5×4=20)**

1. Distinguish between entrepreneur and entrepreneurship.
2. Explain the social responsibility of entrepreneurs.
3. List the functions of entrepreneurs.
4. What are the various sources working capital?
5. Discuss the various institutions supporting Entrepreneurs
6. Explain the significance of a Business Plan.
7. Startups come with high risk as failure. Explain

**SECTION – B**

**Answer any FOUR questions out of six questions. (4×10=40)**

8. What do you understand by 'Manpower Planning'? What factors should be kept in mind while planning for manpower in small scale enterprises?
9. Explain EDP. What are the objectives and phases of EDP?
10. Describe different types of Entrepreneurs.
11. Critically evaluate the steps for preparing Marketing Plan.
12. Discuss the different forms of ownership.
13. "The greatest problem of women entrepreneurs is that they are women". Comment.

**SECTION – C**

**(Compulsory) (1×10=10)**

14. Thousands of rupees are spent, each year on beauty products, in metros of India. Most of the cosmetics are by big company products and sold through departmental stores and shops.

Lily a housewife, felt that most of these cosmetics were not as per individual requirements i.e., suited to particular skin/climate etc. Since, she had done some beauty courses and also study of herbs, she decided to venture into business of making herbal skin care products on order basis, at Pune in 1990. With a small initial capital of rupees twenty five thousand, she started at home and her market at first was the neighbourhood.

Because of Lily's warm nature and friendly attitude and genuine concern for customers and by ensuring the quality of skin care products, she was establishing her beauty products business well, by 1995. Within five years, she had earned a good name and her sales had crossed five lakhs. However, single handedly (with only help of three assistants in making the products), she felt her services as compared to early years were deteriorating. She was, introspecting how to ensure quality service and also plan for growth.

**Contd...2**

During the same time, other herbal based big manufacturing companies were launching products in the market. One such company, has proposed to buy Beauty Products and emerge it with its big base at Mumbai. They were offering Lily, the franchise, for its products on percent basis.

All these issues made Lily worried, with reducing sales on one hand, due to deterioration of quality service and a lucrative offer financially, Lily was in a dilemma, whether to protect her venture or take a rational business decision.

Questions

- a) What should Lily have done with growing sales?
- b) What are the mistakes committed by Lily in managing Beauty Products which has led to deterioration of quality services?
- C) Will merging be a right decision for Lily as an entrepreneur?

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**St Aloysius College (Autonomous)  
Mangaluru**

**Semester III- P.G. Examination**

**December - 2022**

**Open Elective (Under CBCS)**

**CORPORATE CULTURE AND ETHICS**

**Time: 3 hrs.**

**Max Marks: 70**

**SECTION - A**

**Answer any FIVE questions.**

**(5x4=20)**

1. "There is no difference between ethics and morality" Elaborate.
2. What are the work ethics that have to be cultivated by an individual in the corporate world?
3. Give the meaning, and features of a corporation.
4. List out the parties to consumer protection and explain their role.
5. Write a note on Waste Management.
6. Explain the legal protection given to consumers in India.
7. What are the roots of unethical behavior?

**SECTION - B**

**Answer any FOUR questions.**

**(4x10=40)**

8. Explain in detail the concept of ethical dilemma. How can a person avoid this in a company?
9. "Culture is simply a shared way of doing something with a passion." Elaborate this statement bringing out the essentials of good corporate culture.
10. "Competition is not only the basis of protection to the consumer" Explain this sentence and elaborate how Indian consumers are exploited.
11. Explain the professional ethics for journalists and physicians.
12. Discuss CSR models.
13. What is environmental ethics? Explain the ecofriendly business practices that can be adopted by the corporate.

**SECTION - C**

**Compulsory**

**(10)**

14. Explain the role of leadership and its impact on corporate ethical culture.

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**St Aloysius College (Autonomous)**

**Mangaluru**

**Semester III – P.G. Examination**

**December -2022**

**Open Elective (Under CBCS)**

**EVOLUTION AND ECOLOGY**

**Time: 3 Hours**

**Max.Marks: 70**

**Answer any TEN of the following;**

**(10x2=20)**

1. What are the postulates of Darwin's theory?
2. What are the limitations and advantages of species concept?
3. What is the difference between allopatric and parapatric speciation?
4. What is the Hardy-Weinberg principle?
5. What are keystone species? Give examples.
6. How do trophic levels relate to ecological pyramids?
7. What is the difference between density-dependent and density-independent growth?
8. Mention any two diversity indices?
9. What are the functions of aquatic ecosystems?
10. What are the biogeochemical cycles and why are they important?
11. Define endemism.
12. What are terrestrial ecosystems?

**Answer any SIX of the following;**

**(6X5= 30)**

13. What is genetic drift? List the causes of genetic drift?
14. Write a short note on fecundity selection theory.
15. Explain the types of interaction between species.
16. Explain natural selection theory.
17. Discuss the types of behaviour ecology.
18. Write a note on misconceptions and misinformation about evolution.
19. What is bioaccumulation and biomagnification? Explain with examples.
20. Discuss the measures taken towards wildlife management.

**Answer any TWO of the following;**

**(2x 10 = 20)**

21. Discuss the important theories of evolution.
22. Explain the importance and characteristics of ecological niche.
23. What is biodiversity? Explain various methods of conservation of biodiversity.
24. What does the term global warming mean? Discuss its observed impacts on different natural ecosystems.

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**St Aloysius College (Autonomous)**

**Mangaluru**

**SEMESTER III – P.G. Examination**

**December -2022**

**Open Elective (Under CBCS)**

**OPTICAL METHODS OF ANALYSIS**

**Time: 3 Hours**

**Max. Marks: 70**

**PART – A**

1. **Answer any SEVEN sub divisions of the following: (7x2=14)**
- What are the possible errors in Flame photometry?
  - What are the various reactions occurring in a flame?
  - How does the organic solvent effect the outcome of flame spectra?
  - Define singlet and triplet state.
  - What are fluorescent indicator?
  - What is bioluminescence?
  - Define Specific rotation.
  - What is meant by polarized light?
  - What is the similarity between nephelometry and fluorimetry?

**PART – B**

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

**UNIT – I**

- What are cationic and anionic interferences in flame photometry? How can these be corrected? (4)
  - Discuss the applications of AAS in the analysis of food and meat samples with suitable examples. (5)
  - Explain Premix and Total consumption burner as sources for flame in FES. (5)
- Why is internal standard procedure seldom used in atomic absorption determination? (4)
  - Give the differences between AAS & FES (4)
  - With the help of a neat sketch, explain the principle and instrumentation involved in FES. (6)

**UNIT – II**

- Derive the relation between the phosphorescence intensity and concentration. (3)
- What is quenching? How it affects the quantum efficiency? (3)
- Distinguish fluorescence from phosphorescence in terms of the mechanism by which an excited molecule is deactivated. (4)
- Draw a neat schematic diagram of fluorimeter and explain its principle and working. (4)

**Contd...2**

- 5.a) What is intersystem crossing? Explain its effect on phosphorescence. (5)
- b) Why phosphorescence is called delayed fluorescence? Explain. (4)
- c) How fluorimeter is used in determination of organic compound? (5)

**UNIT – III**

- 6.a) What is the main criterion for deciding whether turbidimetry or nephelometry should be used in the analysis of a medium containing suspended particles? (3)
  - b) Discuss Circular Dichroism (3)
  - c) Discuss the utility of turbidimetric analysis in polymers and atmospheric pollution. (4)
  - d) Draw the schematic diagram which shows the principle components of the polarimeter. (4)
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- 7.a) How does the concentration and particle geometry affects the turbidimetric measurements? (3)
  - b) Give a comparative study of Nephelometry and Turbidimetry (3)
  - c) Discuss the theory behind the light scattering methods. (4)
  - d) Explain Optical activity, isomers, enantiomers and racemic mixture. (4)

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**St Aloysius College (Autonomous)****Mangaluru****Semester III – P.G. Examination**

December – 2022

**Open Elective (Under CBCS)****BASIC COUNSELLING SKILLS**

Time: 3 hrs.

Max Marks: 70

**I. Answer any FIVE of the following.****(5×2=10)**

1. What is empathy?
2. Define counselling.
3. What is an open question? Give an example.
4. What is the difference between punishment and reinforcement.
5. Difference between transference and counter transference.
6. What is reflection of feeling?
7. What is confidentiality?

**II. Answer any FOUR of the following.****(4×5=20)**

8. What are the qualities of an effective counsellor?
9. Attending skills are important in counselling. Elaborate.
10. Write a note on confrontation in counselling.
11. Explain the listening and responding skills in counselling.
12. Elaborate on the role of values in helping.
13. Briefly explain the scope of counseling.

**III. Answer any FOUR of the following.****(4×10=40)**

14. Explain any two stages of counselling with an example.
15. Elaborate on the common concerns of beginning helpers.
16. Explain the defense mechanisms used by people with example.
17. Discuss ethical relationships and issues in counselling
18. What are the counselling skills? Discuss the importance of listening and questioning in counselling.
19. Explain the techniques used to deal with difficult clients.

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**St Aloysius College (Autonomous)**  
**Mangaluru**  
**Semester III – P.G. Examination**  
**December- 2022**  
**Open Elective (Under CBCS)**  
**DIFFERENTIAL EQUATIONS AND APPLICATIONS**

Time: 3 Hours

Max. Marks: 70

Answer any **FIVE FULL** questions from the following: (5x14=70)

1. Solve the differential equations:

a)  $x^4 \frac{dy}{dx} + x^3 y = -\sec(xy)$

b)  $(x + 2y)(dx - dy) = dx + dy.$

c)  $dr + (2r \cot \theta + \sin 2\theta)d\theta = 0.$  (4+7+3)

2. a) Solve:  $\frac{dy}{dx} + xy = x^3 y^3$

b) Solve:  $(1 + e^{x/y}) + e^{x/y} \left(1 - \frac{x}{y}\right) \frac{dy}{dx} = 0.$  (7+7)

3. a) A condenser of capacity  $C$  farads with  $V_0$  volt is discharged through a resistance  $R$  ohms. If  $q$  coulomb is the charge on the condenser,  $i$  Ampere the current and  $V$  the voltage at time  $t$ , then show that  $V = V_0 e^{-t/RC}$

Given :  $q = CV$ ,  $V = Ri$  and  $i = \frac{dq}{dt}$

b) Solve:  $\frac{dy}{dx} - \frac{\tan y}{1+x} = (1+x)e^x \sec y.$  (8+6)

4. Solve the differential equations:

a)  $(D^2 - 4D + 3)y = 2xe^{2x} + 3e^x \cos 2x + xe^{3x}$

b)  $(D^2 - 4D + 4)y = 8x^2 e^{2x} \sin 2x.$  (7+7)

5. a) Solve the differential equation:  $\frac{d^2 y}{dx^2} + 9y = \sec 3x$

b) Solve  $\frac{d^2 y}{dx^2} - 3\frac{dy}{dx} + 2y = \frac{e^x}{1+e^x}$  using the method of variation of parameters.

(7+7)

Contd...2

6. a) Form the partial differential equation from  $z = (x + a)(y + b)$ .

b) Solve  $(mz - ny)\frac{\partial z}{\partial x} + (nx - lz)\frac{\partial z}{\partial y} = ly - mx$

c) Solve  $zp + yq = x$ .

(3+7+4)

7. a) Solve  $(D^3 - 4D^2D' + 3DD'^2)z = 0$

b) Solve the following partial differential equations:

i)  $(D^2 + 2DD' - 8D'^2)z = \sqrt{2x + 3y}$ .

ii)  $\frac{\partial^2 z}{\partial x^2} + 3\frac{\partial^2 z}{\partial x\partial y} - 4\frac{\partial^2 z}{\partial y^2} = x + \sin y$ .

iii)  $(D^3 - 7DD'^2 - 6D'^3)z = e^{3x+y}$ .

(2+(4+4+4))

8. a) Solve  $(D^2 + D'^2)z = x^2y^2$ .

b) Solve the partial differential equation:

$$(D - D' - 1)(D + D' - 2)z = e^{2x-y}.$$

c) Classify the following partial differential equation :  $2\frac{\partial^2 u}{\partial x^2} + 4\frac{\partial^2 u}{\partial x\partial y} + 3\frac{\partial^2 u}{\partial y^2} = 0$ .

(5+7+2)

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## St Aloysius College (Autonomous)

Mangaluru

SEMESTER III - P G Examination

December-2022

Open Elective(Under CBCS)

Experimental Techniques

Time: 3 hrs

Max. Marks :70

### PART - A

Answer all questions choosing ONE from each unit

(18x3=54)

#### UNIT- I

- 1 a) Explain the construction and working of Neodymium laser. 8
- b) Explain the basic principle of Q- switching and how it is achieved? 6
- c) Explain the following terms as applicable to laser 4
  - i) Intensity ii) Coherence.

#### OR

- 2 a) Explain the construction and working of CO<sub>2</sub> laser with necessary diagram. 8
- b) Discuss the theory of phase matching. 6
- c) Discuss Third Harmonic Generation. 4

#### UNIT - II

- 3 a) Discuss the principle, construction and working of rotary vane pump. 8
- b) With a neat diagram explain the construction and working of penning gauge. 6
- c) Explain 'pumping speed' and 'conductance of pipe' of vacuum technique. 4

#### OR

- 4 a) With a neat sketch explain the construction and working of oil diffusion pump. 8
- b) Discuss industrial applications of vacuum technique. 6
- c) Distinguish between viscous flow and molecular flow. 4

#### UNIT - III

- 5 a) Explain in detail construction and working principle of SEM. 10
- b) With a neat diagram explain the principle of atomic force microscopy. 8

#### OR

- 6 a) Explain the principle of EDS. 6
- b) Write a note on low energy electron diffraction. 6
- c) Explain the principle of XPS. 6

### PART - B

Answer any FOUR questions

(4x4=16)

- 7 a) Write a note on optical mixing phenomenon.
- b) Explain the working of He- Ne laser system.
- c) Write a note on vacuum spectrum.
- d) What is the role of rotary pump in high vacuum system?
- e) Discuss the applications of TEM.
- f) Explain the principle of EPMA.

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**St Aloysius College (Autonomous)  
Mangalore**

**SEMESTER III- P.G.Examination**

**December - 2022**

**Open Elective (Under CBCS)**

**BIOINORGANIC CHEMISTRY, GREEN CHEMISTRY AND ENVIRONMENTAL  
CHEMISTRY**

**Time: 3 Hours**

**Max.Marks:70**

**PART-A**

1. Answer any **SEVEN** sub divisions of the following: **(7×2=14)**
- Enumerate the features of active transport.
  - How does ferritin store and release iron?
  - What are ionophores?
  - Write any four advantages of green chemistry.
  - How is caprolactum synthesized using green technique?
  - What is atom economy? Give one example
  - Mention the control measures for SO<sub>2</sub> pollution
  - What are the biochemical effects of CO? How can it be minimised?
  - What is reverse osmosis? Give its importance in water treatment.

**PART-B**

Answer any **FOUR** of the following choosing at least one full question from each unit. **(4×14=56)**

**UNIT-I**

- Write the structure of rubredoxin and ferredoxin proteins (3)
  - With a neat sketch describe the mechanism of active transport of K<sup>+</sup> and Na<sup>+</sup> (4)
  - Discuss the physiology of myoglobin (4)
  - Explain the role of bacterial nitrogenase enzyme in biological nitrogen fixation (3)
- Explain the function of haemocyanin (3)
  - Pictorially represent the role of transferrin in the cellular iron uptake and explain (3)
  - Write a note on iron sulphur proteins (4)
  - Give the structure of haemoglobin and explain the mechanism of binding of dioxygen (4)

**UNIT II**

- Write a note on Zero Technology. (3)
  - Explain solvent free techniques using solid mineral support. (3)
  - Compare between the conventional and green synthesis methods (4)
  - Elaborate on the use of microwave irradiation in green synthesis (4)
- Catalytic reactions are more preferred than stoichiometric reaction in green chemistry-illustrate with example (3)
  - Write a note on Solid-Liquid phase transfer catalysis (PTC) (3)
  - Discuss on solvent free reactions with suitable examples (4)
  - Write a note on any six principles of green chemistry (4)

**Contd...2**

**UNIT III**

- 6. a) Explain desalination water by Electro Dialysis method (3)
- b) Explain the determination of NO<sub>x</sub> in air by Spectroscopic method. (3)
- c) Discuss the cause and prevention of water pollution (4)
- d) Discuss the uses of nanotechnology in the environmental studies. (4)
  
- 7. a) Explain the classification of air pollutants (3)
- b) What is photochemical smog? How is it formed? What are its harmful effects? (3)
- c) What are the major water pollutants coming from industry? Explain any two primary treatment processes for these pollutants. (4)
- d) Write a note on impact of toxicity in enzymes by heavy metals. (4)

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**St Aloysius College (Autonomous)  
Mangaluru**

**Semester III – P.G. Examination**

**December - 2022**

**Open Elective (Under CBCS)**

**BASICS OF FOOD SAFETY AND LABELLING**

**Time: 3 hrs.**

**Max Marks: 70**

**I. Answer any SIX of the following**

**(6×3=18)**

1. Define food safety and give its importance
2. Differentiate between quality control and quality assurance
3. Write on standard operating procedures.
4. Write a short note on personal hygiene.
5. What is Front of Pack Nutrition Labeling?
6. Why TQM is known as people's process? Justify.
7. Why is allergen labelling important in food labels?

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

**(4×7=28)**

8. Elaborate on pest prevention and control in food industry.
9. Write a note on Good Manufacturing Practices - GMP.
10. Write in detail about the food quality standards (FSSAI & BIS)
11. What is Food Adulteration? Explain the types and methods of evaluation of adulteration in milk and honey.
12. Discuss on Food labelling regulations and guidelines.

**III. Answer any TWO of the following**

**(2×12=24)**

13. Explain in detail the role of food labelling in traceability and food recall.
14. What is HACCP? Explain the seven principles of HACCP in detail.
15. Discuss on the different types of food hazards and methods to control them.

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**St Aloysius College (Autonomous)  
Mangaluru**

**Semester III – P.G. Examination  
December - 2022**

**Open Elective (Under CBCS)  
HEALTH AND FITNESS**

**Time: 3 hrs.**

**Max Marks: 70**

**(6×3=18)**

**I. Answer any SIX of the following**

1. What is the importance of psychological and social health?
2. What are aerobic and anaerobic physical activities with example?
3. What is importance of micronutrients in exercise?
4. What is the role of fat during a physical activity?
5. Write a note on fluid management during exercise.
6. What are the different commercial sports supplements?
7. What is anthropometric measurement?

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

**(4×7=28)**

8. Benefits of nutrition and physical fitness in weight related disorders.
9. What are the different physical fitness tests, and write a note on muscle endurance tests.
10. Write a detail note on mobilization of carbohydrate stores during an exercise.
11. What are the alternative approaches to the management of fitness and health?
12. Write the special nutritional needs for monitoring space and military foods.

**III. Answer any TWO of the following**

**(2×12=24)**

13. Write a detailed note on metabolic pathways of macronutrients fuel which support physical activity.
14. What are the different disorders of bones? Explain the significance of fitness and nutrition in management of bone health.
15. Write a detailed note on the use of different nutrigenic aids and commercial supplements in sports performance.

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