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# St Aloysius College (Autonomous) Mangaluru <br> B.Sc. Semester III - Degree Examination <br> December-2022 <br> PHYSICS <br> WAVES AND OPTICS 

Time: $\mathbf{2 1}^{1 / 2}$ hrs.
Max Marks: 60

## SECTION -A

## Answer any FOUR of the following.

$(4 \times 2=8)$

1. a) On what factors does the natural frequency of a vibrating body depend?
b) Give an expression for the velocity of sound in a solid and explain the terms.
c) When are stationary waves formed?
d) What are coherent sources?
e) How is a zone plate constructed?
f) What is double refraction?

## SECTION - B <br> Answer any ONE FULL QUESTION from each unit. <br> UNIT-I

2.a) Set up the equation for a progressive wave in exponential form and hence obtain the differential equation of wave motion.
b) Deduce Newton's formula for velocity of sound in air.
3.a) Assuming an expression for the velocity of longitudinal waves in a fluid, deduce Newton's formula for the velocity of sound in air and apply Laplace correction to it.
b) Set up the equation for damped oscillations of a vibrating body and discuss the solution of the equation.

## UNIT-II

4.a) Assuming the expression for the velocity of transverse waves in a stretched string, determine the frequency of vibration and discuss the formation of different harmonics.
b) What is the nature of vibration in the air column? Explain with an example.
5.a) Derive an expression for frequency of vibration of a stretched string fixed at both ends and hence give the laws of transverse vibrations of stretched strings.
b) What is a Helmholtz resonator? Give examples of resonators that are similar to a Helmholtz resonator.

## UNIT-III

6.a) Give the theory of Newton's rings and obtain an expression for the diameter of the rings.
b) Explain why a thin film appears colored when viewed in reflected light.
7.a) Derive an expression for fringe width in case of Young's double slit experiment.
b) Derive an expression for the path difference produced when two monochromatic light rays are reflected from a thin transparent film.
8.a) What is a zone plate? Derive an expression for the radius of $\mathrm{n}^{\text {th }}$ zone and also obtain the expression for the focal length of a zone plate.
b) Compare a zone plate and a convex lens.
9.a) Discuss analytically the production of different types of polarized light.
b) Give the theory of plane diffraction grating for oblique incidence.

## SECTION -C

## Answer any THREE from the following.

10. A stone is dropped into a well of depth of 90 m . If the splash of water is heard after 4 seconds, calculate the velocity of sound in air. Given $\mathrm{g}=9.8 \mathrm{~m} / \mathrm{s}^{2}$.
11. A mass of 1 Kg when suspended through a spring is displaced by 0.3 m . Find the force constant of the spring. If the mass is further displaced downwards by an additional 6 cm and released. Calculate the time period of oscillation. Given $\mathrm{g}=9.8 \mathrm{~m} / \mathrm{s}^{2}$.
12. In a Newton's ring experiment, the diameter of the $20^{\text {th }}$ dark ring was found to be 0.61 cm and that of the $10^{\text {th }}$ ring was 0.345 cm . If the radius of curvature of the Plano-convex lens was 1 m , find the wavelength of the light used.
13. A plane transmission grating having 15,000 lines per inch is used to obtain a spectrum of light from a sodium lamp in the second order. Calculate the angular separation between the two sodium lines whose wavelengths are 589 nm and 589.6 nm respectively for normal incidence.

## St Aloysius College (Autonomous) Mangaluru

## B.Sc. Semester III - Degree Examination December - 2022

## CHEMISTRY

Time: $\mathbf{2 1}^{1 / 2}$ hrs.
Max Marks: 60
Instructions: 1. Write the question number and subdivision clearly.
2. Write equations and diagrams wherever necessary.
3. Answer Part - A in first two pages of the answer book. PART - A

## Answer all the following questions in 1 to 3 sentences. ( $1 \times 8=8$ )

1. a) State Beer's law.
b) Mention any two oxidants used in flame photometry.
c) Define $R_{f}$ value.
d) State Nernst distribution law.
e) Write the structure of anthracene.
f) Give the reaction of aldol condensation.
g) What are chiral molecules?
h) Assign R\&S configuration of the following compounds,
i)

ii)


PART - B
Answer any EIGHT of the following in 3 to 5 sentences. $\quad(3 \times 8=24)$
2. (i) A solution of thickness 2 cm transmits $40 \%$ incident light. Calculate the concentration of the solution. Given the molar extinction coefficient, is 6000 dm ${ }^{3} / \mathrm{mol} / \mathrm{cm}$
(ii) Mention any three applications of flame photometry.
(iii) How phosphate is determined by the nephelometric method?
(iv) Explain the applications of ion exchange chromatography in water softening.
(v) How chromatography techniques are classified? Give examples.
(vi) How do you convert naphthalene into phthalic acid?
(vii) Give the mechanism of Dienone-phenol rearrangement.
(viii) How kinetic study helps to determine the reaction mechanism?

## G 502 DC1.3

Page No. 2
(ix) Explain optical isomerism in lactic acid.
(x) Explain geometric isomerism in oximes.

## PART - C

Answer any SEVEN of the following questions.
$(4 \times 7=28)$
3. With a neat labeled diagram explain the instrumentation of a flame photometry.
4. Derive Beer-Lambert's Law and write its limitations.
5. Explain the instrumentation of turbidimetry with neat labeled diagram.
6. Give thermodynamic derivation of Nernst distribution law.
7. Explain thin-layer chromatography with suitable examples.
8. Describe Haworth's synthesis of naphthalene.
9. Give the mechanism of Reimer-Tiemann reaction.
10. Explain the chair form of cyclohexane.
11. Explain any two methods of resolution of racemic mixture.

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St Aloysius College (Autonomous)
Mangaluru
B.Sc. Semester III - Degree Examination

December - 2022
MATHEMATICS
ORDINARY DIFFERENTIAL EQUATIONS AND REAL ANALYSIS-I
Time: $2 \frac{1}{2} \mathrm{hrs}$.
Max Marks: 60

## PART-A

## Answer any SIX of the following:

( $6 \times 2=12$ )

1. Verify whether the given differential equation $(4 x+6 y+5) d y-$ $(3 y+2 x+4) d x=0$ is homogenous.
2. Find the integrating factor of $\frac{d y}{d x}-\frac{3 y}{x+1}=(x+1)^{4}$.
3. Find the complementary function of $\frac{d^{3} y}{d x^{3}}+2 \frac{d^{2} y}{d x^{2}}-\frac{d y}{d x}-2 y=0$.
4. Transform $x^{2} \frac{d^{2} y}{d x^{2}}-3 x \frac{d y}{d x}+4 y=2 x^{2}$ into linear differential equation with constant coefficients.
5. Represent the sequence $\left\{\frac{1}{2 n}\right\}$ graphically.
6. State Comparison test.
7. Determine whether the series $\sum_{n=2}^{\infty}(-1)^{n} \frac{1}{\log n}$ is convergent of divergent.
8. State Root test.

## PART- B

UNIT- I
Answer any Two of the following:
$(2 \times 6=12)$
1.
a) Solve: $e^{y} d x+\left(2 y+x e^{y}\right) d y=0$.
b) Solve: $\frac{d y}{d x}=x y^{2}$.
2.
a) Solve: $\left(x^{2}+y^{2}\right) d x-x y d y=0$.
b) Solve: $\left(x^{3} y^{3}+1\right) d x+\left(x^{4} y^{2}\right) d y=0$.
3. Solve: $\frac{d y}{d x}=\frac{1}{1+x^{3}}-\left(\frac{3 x^{2}}{1+x^{3}}\right) y$.

## UNIT- II

## Answer any TWO of the following:

1. Solve: $\left(D^{3}+8\right) y=x^{4}+2 x+1+e^{-3 x}$.
2. Solve: $\left(D^{2}+3 D+2\right) y=2 \sin ^{2} x$.
3. Solve: $\left(x^{2} D^{2}-2 x D-4\right) y=32(\log x)^{2}$.

## UNIT- III

## Answer any TWO of the following:

1. a) Using $\epsilon-N$ definition of convergence, prove that the sequence $\left\{\frac{8 n}{2 n+9}\right\}$ converges to 4.
b) Prove that $\left\{n \sin \frac{\pi}{n}\right\}$ is convergent and find the limit of the sequence.
2. If $|r|<1$, then prove that the sequence $\left\{r^{n}\right\}$ converges to zero.
3. a) Determine if the series $\sum_{n=1}^{\infty}(-1)^{n+1} e^{-n}$ is convergent or divergent. If convergent, find the sum.
b) Determine if the series $\sum_{n=2}^{\infty} \frac{1}{n \sqrt{\log n}}$ is convergent.

## UNIT-IV

## Answer any TWO of the following:

1. Test the convergence of the following series.
a) $\sum_{n=1}^{\infty}(-1)^{n} \frac{3}{n^{2}+1}$
b) $\sum_{n=1}^{\infty} \frac{\cos \frac{n \pi}{3}}{n^{2}}$.
2. State and prove Ratio test.
3. Determine whether the following series are convergent or divergent.
a) $\sum_{n=1}^{\infty} \frac{1.3 .5 \ldots(2 n-1)}{1.4 .7 \ldots(3 n-2)}$.
b) $\sum_{n=1}^{\infty}(-1)^{n} \frac{1}{[\log (n+1)]^{n}}$.

Reg. No.

## St Aloysius College (Autonomous) <br> Mangaluru <br> B.Sc. Semester III - Degree Examination <br> December -2022 <br> ELECTRONICS

Power control, Oscillators, wave shaping circuits, Principle of Radio Communication and Digital Circuits
Time: 2 1/2 hrs.
Max Marks: $\mathbf{6 0}$

## Note: This question paper has TWO sections- SECTION A AND SECTION B. Answer both the sections.

## SECTION - A

1. Choose the correct answer from the choices given at the end of each question and write the correct answer.
( $6 \times 1=6$ )
(i) $\qquad$ is one semiconductor device that allows the current in both directions.
a) SCR
b) Diode
c) DIAC
d) All of these
(ii) The efficiency of a power amplifier is $50 \%$ implies $\qquad$
a) only $50 \%$ of the DC input power is converted as AC output power.
b) only $50 \%$ of the DC input power is converted as DC output power
c) only $50 \%$ of the AC input power is converted as AC output power
d) only $50 \%$ of the AC input power is converted as DC output power
(iii) For an oscillator, the loop gain must be $\qquad$
a) $A \beta=0$
b) $A \beta<1$
c) $A \beta=1$
d) $A \beta>100$
(iv) The voltage across each $5 \mathrm{k} \Omega$ resistor in a 555 timer powered with 5 V is
a) $5 \mathrm{~V}, \frac{10}{3} \mathrm{~V}, \frac{5}{3} \mathrm{~V}$
b) $\frac{5}{3} \mathrm{~V}, \frac{5}{3} \mathrm{~V}, \frac{5}{3} \mathrm{~V}$
c) $5 \mathrm{~V}, \frac{5}{2} \mathrm{~V}, \frac{5}{4} \mathrm{~V}$
d) $5 \mathrm{~V}, \frac{5}{2} \mathrm{~V}, \frac{5}{3} \mathrm{~V}$
(v) If the frequency of a modulating signal is 5 kHz , then the bandwidth required in $A M$ is $\qquad$
a) 5 kHz
b) 10 kHz
c) 15 kHz
d) 10 kHz
(vi) To serially shift a byte of data in to a shift register, there must be $\qquad$
a) one clock pulse
b) one load pulse
c) 8 clock pulses
d) one clock pulse for each 1 in the data
2. Answer any SIX questions:
$(6 \times 1=6)$
(i) Write the circuit symbol of a TRIAC.
(ii) Mention one advantage of LC oscillators over RC oscillators
(iii) Give the expression for modulation index in terms of maximum and minimum amplitudes of AM wave.
(iv) Draw the circuit diagram of a positive Clamper.
(v) Why are the asynchronous counters called ripple counters?
(vi) Mention any two characteristics of memory.
(vii) Mention one advantage of inductive load power amplifier.
(viii) What is a voltage limiter?
3. Answer any SIX questions.
$(6 \times 2=12)$
(i) Draw the forward and reverse characteristics of a DIAC
(ii) Explain the classification of power amplifiers based on the placement of Q point of the transistor.
(iii) Calculate the frequency of oscillations of a phase shift oscillator that uses $\mathrm{R}=10 \mathrm{k} \Omega$ and $\mathrm{C}=0.01 \mu \mathrm{~F}$ in the feedback network.
(iv) Draw the circuit diagram of non-inverting comparator and hence draw the output waveform.
(v) Calculate the sideband power of an AM wave if the total carrier power is 1 kW and the carrier is $60 \%$ modulated.
(vi) Draw the circuit diagram of an Instrumentation amplifier using op-amp.
(vii) Mention the different types of ROM.
viii) What is a counter? Mention the modulus of a counter that counts from 0 to 12.

## SECTION - B

4. Answer any FOUR questions.
$(4 \times 4=16)$
(i) With circuit diagram explain power control using TRIAC.
(ii) In a Colpitts oscillator, $\mathrm{C}_{1}=0.001 \mu \mathrm{~F}, \mathrm{C}_{2}=0.01 \mu \mathrm{~F}$ and $\mathrm{L}=10 \mu \mathrm{H}$. Find the frequency of oscillation, voltage gain and feedback factor.
(iii) Derive the expression for the relation between total power and carrier power of an Amplitude modulated wave.
(iv) With a circuit diagram and waveform explain the working of a Noninverting comparator.
(v) Explain the READ operation in 4X4 bit diode ROM.
(vi) Write a note on fixed voltage regulators.
5. Answer any Four questions:
i) Draw the circuit of an inductive load class A power amplifier and show that its maximum efficiency is $50 \%$.
ii) With circuit diagram explain the working of a Monostable multivibrator.
iii) With a circuit diagram explain a Hartley oscillator.
iv) Explain a mod-10 asynchronous counter using T flip-flops.
v) With the help of a circuit explain the read and write operations in a bipolar transistor memory cell.
vi) With a circuit diagram and waveform explain the working of a Schmitt trigger using op-amp. Hence give the equations for UTP and LTP.
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## St Aloysius College (Aútonomous)

## Mangaluru

## B.Sc. Semester III - Degree Examination

December - 2022
COMPUTER SCIENCE - III

## Object Oriented Programming Concepts and Programming in JAVA <br> Max Marks: 60

 Time: 2 ½ Hours.PART -A

## 1. Answer any SIX of the following.

a) How to declare variable? Give syntax and example.
b) Differentiate between while and do while loop.
c) What are classes and objects?
d) What is the use of finalize() method in Java?
e) What is an exception? Write syntax of try.. catch block.
f) What is an applet?
g) List different types of JDBC drivers.
h) What is method overriding?

## PART -B

Answer any ONE FULL question from each unit.
UNIT - I
2. a) List and explain different features of Java.
b) Explain for loop with syntax and suitable example.
c) Explain the use of command-line arguments in Java with suitable example.
3. a) Explain the different types of operators available in Java.
b) What is a data type? Explain different types of data types with example.
c) Explain switch statement with suitable example.

UNIT - II
4. a) What are constructors? Explain the use of Constructors with suitable
example.
b) Explain visibility modifier in Java.
c) Explain single inheritance with suitable example.
5. a) Explain string Buffer methods in Java.
b) What is vector? Explain any three methods in vector.
c) Explain various forms of interface implementation.
UNIT - III
6. a) Write a note on AWT containers and components. ..... (4)
b) List and explain any six methods defined by Applet. ..... (4)
c) Explain exception handling in Java with suitable example. ..... (4)
7. a) Write a note on layout managers. ..... (4)
b) With a neat diagram explain life cycle of applet. ..... (4)
c) Explain how to create user defined exceptions in Java with example. ..... (4)
UNIT - IV
8. a) Explain thread life cycle with neat diagram. ..... (4)
b) Explain components of JDBC. ..... (4)
c) Write a JDBC program to retrieve information from student database with fields stname, regno, marks of 3 subjects. ..... (4)
9. a) List and explain any five thread methods. ..... (4)
b) Write a note on RMI (Remote method invocation). ..... (4)
c) Explain different types of JDBC Driver Types. ..... (4)
(2021 Bath Onwards)

## G 506 DC 1.3

 Reg. No.: $\square$St Aloysius College (Autonomous)
Mangaluru

## B.Sc. - Semester III

December - 2022
STATISTICS
CALCULUS AND PROBABILITY DISTRIBUTIONS
Time: $2 \frac{1}{2}$ Hours.
Note: Answer all parts
Max Marks: 60

## PART - A

I. Answer any FIVE of the following:
( $2 \times 5=10$ )

1. Mention the properties of Maxima and Minima.
2. If $x$ is a rectangular variate $(a, b)$. Find the median.
3. Write the moment generating function of Gama Distribution.
4. State weak law of large numbers
5. State Chebyechev's inequality.
6. What is the purpose of a sampling distribution?
7. Define Montecarlo Simulation.

PART - B
II. Answer any FIVE of the following.
8. Find the points of maxima and minima of the function

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

9. Evaluate (i) $\int_{0}^{1} x^{2}(1-x)^{3} d x$ (ii) $\int_{0}^{\infty} e^{-\left(\frac{1}{2}\right) x} x^{3} d x$
10. Derive the mean variance of Beta distribution of second kind.
11. Derive the mode of Chi square distribution.
12. Derive the Harmonic mean of Beta distribution of first kind.
13. Find the mean and variance of Weibull distribution with parameters $\alpha$ and $c$.
14. Briefly explain the procedure to generate random observations from Exponential distribution.
PART - C
III. Answer any TWO of the following.
$(10 \times 2=20)$
15. Derive the recurrence relation for moments of Gamma distribution and hence find mean and variance.
16. Derive the pdf of Chi square distribution and hence find mean and variance.
17. Derive the mean and variance of F distribution.

Reg. No.: $\square$

## St Aloysius College (Autonomous)

## Mangaluru <br> B.Sc. Semester III- Degree Examination

December - 2022
BOTANY
PLANT ANATOMY AND DEVELOPMENTAL BIOLOGY

## Time: $\mathbf{2 1 / 2}$ Hours.

Note: i) Answer all the sections.
ii) Draw diagrams wherever necessary.

SECTION -A

## I Answer any FIVE of the following.

1) Name the living component of xylem and nonliving component of phloem.
2) Enlist two applications of anatomy in systematics.
3) Mention any two contributions of K R Shivanna.
4) What is triple fusion? Mention its significance.
5) List out two anatomical differences between monocot and dicot leaves.
6) What is collateral and closed vascular bundle? Give an example.
7) Name any two variations in leaf shape, mentioning one example for each.
8) Differentiate vegetative meristem from reproductive meristem.

## SECTION - B

II Answer any SIX of the following.
$(6 \times 5=30)$

1) Explain the structure and distribution of Living mechanical tissue.
2) Write a note on structure and functions of Root Apical Meristem.
3) Explain the internal structure of young dicot root with a neat and labelled diagram.
4) Write a note on nodal anatomy of dicot stem.
5) Give an account of Ultrastructure of meristems.
6) Explain differentiation and cell polarity in Acetabularia.
7) Explain the structure of Angiosperm ovule.
8) Write a note on Post fertilization changes.

## SECTION - C

## III Answer any TWO of the following.

1) Explain Stomatal types with neat labelled diagrams.
2) Describe the structure, distribution, types and functions of Parenchyma.
3) Describe the Polygonum type of embryo sac development with suitable sketches.
4) Write explanatory note on $A B C$ model specification of floral organs.
(2021 Batch onwards)
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St Aloysius College (Autonomous) Mangaluru
B.Sc. Semester III - Degree Examination

December - 2022
ZOOLOGY-III
MOLECULAR BIOLOGY, BIOINSTRUMENTATION AND TECHNIQUES IN BIOLOGY

## Time: $21 / 2$ Hours

Max. Marks: 60
Note: 1. Answer all questions.
2. Draw diagrams wherever necessary.

PART -A
I. Answer any TEN of the following.
$(2 \times 10=20)$

1. Write any four characteristic features of genetic code.
2. What are RNA polymerases?
3. Write a note on the central dogma in molecular biology.
4. What is RNA editing? Give an example.
5. Define Gene silencing. Where does it occur?
6. Name three post transcriptional modifications.
7. Mention the principle of Confocal microscope.
8. Expand GLC and HPLC.
9. Give the applications of ultracentrifugation.
10. Mention the two differences between colorimeter and spectrophotometer.
11. What is DNA sequencing? Mention one of its applications.
12. What is PCR? Mention two of its applications.

## PART - B

II. Answer any FOUR questions.
$(5 \times 4=20)$

1. Write a note on cistron, recon and muton.
2. Describe trp-operons in E. coli.
3. Explain the intracellular protein degradation.
4. Write the applications of phase contrast microscope.
5. How to prepare 1 M of 750 ml of $\mathrm{H}_{2} \mathrm{SO}_{4}$. (Density/ specific gravity=1.8; 95\%)
6. Give an explanatory note on SDS-PAGE.

## PART - C

## III. Answer any TWO questions.

$(10 \times 2=20)$

1. With neat diagram explain the process of translation in eukaryotes.
2. Write explanatory notes on regulation of gene expression in eukaryotes.
3. Describe paper and thin layer chromatography with neat labelled diagrams.
4. Explain the principle, procedure and applications of ELISA.
(2021 Batch Onwards)

## St Aloysius College (Autonomous) Mangaluru

## B.Sc. Semester III - Degree Examination

December - 2022
MICROBIOLOGY MICROBIAL DIVERSITY

## Time: $\mathbf{2 1}^{1 ⁄ 2}$ Hours.

Instructions: Answer PART A AND B AND C Draw Diagrams wherever necessary. PART - A

1. Define/Answer any TEN of the following:
$(2 \times 10=20)$
a) Numerical taxonomy
b) Bergey's Manual of Systematic Bacteriology
c) Scytonema
d) Spore dispersal
e) Quadrinucleate cyst
f) Name two antibiotics from Actinomycetes
g) Icosahedral Capsids
h) Virusoides
i) Continuous cell culture of viruses
j) Chlamydospores
k) Mycoplasma
I) Biodiversity

> PART - B

Answer ' $a$ ' or ' $b$ ' from each unit.

## UNIT -I

2. a) What are the various levels of diversity?
b) Give the five kingdom classification systems.

## UNIT -II

3. a) List out similarities between Cyanobacteria and Bacteria.

## OR

b) Describe the general characters of Rickettsia.
UNIT -III
4. a) Explain the life cycle of Trichomonas vaginalis.
b) Write a note on the morphological forms of Plasmodium seen in humans.

UNIT -IV
5. a) Elaborate on cultivation of viruses by chick embryo technique.

OR
b) Discuss one-step growth curve of viruses.

## PART - C

Answer any TWO of the following.
6. a) Discuss lytic and lysogenic cycle in viruses.
6. b) Discuss morphology and life cycle of Entamoeba histolytica.
6. c) Explain in detail the sexual reproduction in Penicillium.

Reg. No. : $\square$

## St Aloysius College (Autonomous) <br> Mangaluru <br> B.Sc. Semester III - Degree Examination <br> December-2022 <br> BIOCHEMISTRY <br> BIO-ORGANIC CHEMISTRY

Time: $\mathbf{2 1 / 2}$ Hours
Max. Marks: 60
Note: i) Answer all the questions
ii) Draw diagrams wherever necessary

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PART - A
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1. Answer any FIVE of the following.
$(2 \times 5=10)$
a) What is heterolysis? Give one example.
b) Write the structure of imidazole.
c) What are the effects of avidin?
d) Give Schiff base reaction.
e) What is CPPP? Write its structure.
f) Write the structure of phytol.
g) What are dihydric alcohols? Give one example.

PART - B

## Answer any FOUR of the following.

$(5 \times 4=20)$
2. Explain the formation and stability of carbocations.
3. Discuss basicity of amines.
4. Explain the $\mathrm{S}_{\mathrm{N}} 2$ mechanism in detail.
5. Give the structure and physiological action of nicotine.
6. Explain the role of Thiamine pyrophosphate in decarboxylation reaction.
7. Write a note on Anti-nutrition factors.

> PART - C

Answer any THREE of the following:
$(10 \times 3=30)$
8. a. Write the structure and importance of thiazole and quinoline.
b. Give the reactions of amines with $\mathrm{HNO}_{2}$.
9. a. Explain the oxidation and reduction reaction of Alcohols.
b. Give the distinguishing tests for amines.
10. a. Write the structure and biological importance of camphor and lanosterol.
b. Explain the structure and importance of cholesterol.
11. a. Discuss on the classification of Alcohols.
b. Explain the mechanism of $S_{N} 1$ reaction with a suitable example.
12. a. Define aromaticity. Write the criteria for aromaticity.
b. Distinguish between neutrophiles and electrophiles.

# Reg. No: <br> St Aloysius College (Autonomous) Mangaluru <br> B.Sc. Semester III - Degree Examination <br> December - 2022 BIOTECHNOLOGY BIOMOLECULES 

Time: 21/2 Hours
Max. Marks: 60
Note: i) Answer all the questions
ii) Draw diagrams wherever necessary

PART - A

1. Answer any FIVE of the following:
$(5 \times 2=10)$
a) Define enantiomers with an example
b) What is glycogenolysis?
c) Why glycolipids are called cerebrosides?
d) What is meant by acid number and saponification?
e) Define aromatic amino acids with an example
f) What is proteomics and why is it important?
g) Define Chargaff's rule
h) What is gout? Mention its two symptoms

PART - B
Answer any SIX of the following:
$(6 \times 5=30)$
2. Explain the structure and functions of glycogen.
3. Differentiate between saturated and unsaturated fatty acids? Give two examples of each.
4. Give a detailed note on phenylketonuria
5. Explain classifications of proteins
6. Give a note on RNA and its types
7. Explain what are reducing and non-reducing sugars?
8. Explain the structure and properties of HDL
9. How is SCID disease caused explain?

> PART - C

Answer any TWO of the following:
10. Give a detailed account of the mitochondrial electron transport chain
11. What is $\beta$-oxidation? Explain the $\beta$-oxidation of palmitic acid
12. Explain the salvage pathway of purine synthesis
13. Describe the primary and secondary structure of protein
(2021 Batch onwards)
G 110 DC1.3/G 512 DC1. 3
Reg. No.

## St Aloysius College (Autonomous)

Mangaluru

## B.A./B.Sc. Semester III - Degree Examination

December - 2022
COMPUTER ANIMATION - III
VISUAL EFFECTS
Time: 21/2 hrs.
Max Marks: 60
PART - A
Answer any FIVE of the following.

1. a) What is VFX?
b) Explain about continuity.
c) Define Rotoscoping.
d) What is HD quality video size and aspect ratio?
e) Write down the different video export format in AE.
f) Differentiate transform and transition.

PART - B
Answer any FOUR of the following.
$(4 \times 5=20)$
2. Explain steps to create Motion Graphics.
3. What is Tape to Tape and digital editing?
4. Explain AE work panels.
5. What is the difference between video editing and VFX?
6. Briefly explain about keying.

> PART - C

Answer any THREE of the following:
7. Explain over view of the layers in After Effects.
8. Explain the techniques to improve After Effects performance.
9. Write a note on cameras in AE.
10. Explain the difference between video editing and VFX
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St Aloysius College (Autonomous)
Mangaluru
B.Sc.- SEMESTER III -Degree Examination

December - 2022
ECONOMICS
MICRO ECONOMICS II
Time: $\mathbf{2 ~}^{1 / 2} \mathbf{h r s}$

## SECTION - A

## I. Answer any FIVE of the following:

1. Who coined the term micro economics?
2. Give the meaning of partial and general equilibrium?
3. Who is an economist?
4. What is distribution in Economics?
5. State the uncertainty theory of profit.
6. What is price leadership?
7. What is cartel?
8. What is asymmetric information?

## SECTION - B

## II. Answer any SIX of the following:

9. What are the uses of micro economics?
10. Explain the stable and unstable equilibrium.
11. Write a note on circular flow of economic activities.
12. Write a note on functional and personal distribution of income.
13. Write a note on theory of quasi rent.
14. Explain marginal productivity theory of wages.
15. Explain risk theory of profit.
16. Write a note on kinked demand curve.
17. Write a note on the efficient market hypothesis.

SECTION - C
III. Answer any TWO of the following:
18. Explain the nature, scope and limitations of micro economics.
19. Explain Ricardian theory of rent.
20. Explain Keynesian liquidity preference theory of interest.
21. Explain Cournot's oligopoly model.
(2021 Batch Onwards)
G 513 DC2.3
Reg. No. :
St Aloysius College (Autonomous)
Mangaluru
B.Sc. - SEMESTER III - Degree Examination

December - 2022
ECONOMICS -III (b)
BASIC ECONOMETRICS
Time: $\mathbf{2 1}^{1 / 2}$ hrs.
Max Marks: 60
Note: Graph Sheets and Econometrics log will be provided.
PART - A
Answer any FIVE of the following.

1. Distinguish between mathematics and econometrics.
2. What do you mean by Adjusted $\mathrm{R}^{2}$ ?
3. List out any four importance of stochastic term.
4. What is GQ test?
5. Define autocorrelation.
6. What is MLRM?
7. What do you mean by multicollinearity?
8. Write the procedure of SPSS to find VIF.

> PART - B

Answer any SIX of the following.
9. Briefly explain the goals of Econometrics.
10. Prove that $T S S=E S S+$ RSS
11.

| $Y$ | $X$ |
| :---: | :---: |
| 8 | 4 |
| 6 | 2 |
| 5 | 3 |
| 7 | 1 |
| 4 | 2 |

Find out the parameters form the above table using OLS \& Cramer's rule method.
12. Prove that $\hat{\beta}_{1} \sim N\left[\beta_{1}, \sigma^{2} . \Sigma X^{2} / n \Sigma x_{1}^{2}\right]$
13. Explain the procedure to find regression estimators using WLS method in SPSS.
14. Prove that $\mathrm{d} \sim 2(1-\rho)$
15. Briefly explain the assumptions of multiple regression linear model.
16. Explain the consequences and remedial measures to avoid multicollinearity.
17. Write a note on non-linear equations.

PART - C
Answer any TWO of the following.
$(2 \times 10=20)$
18.

| Output | Total Cost |
| :---: | :---: |
| 1 | 125 |
| 2 | 140 |
| 3 | 150 |
| 4 | 160 |
| 5 | 180 |
| 6 | 210 |

A) Test the following hypothesis $H_{0}: \beta_{1}=0 \& H_{0}: \beta_{2}=0$
B) Find out confidence interval of true population parameter.
19. Explain the methodology of econometrics.
20. Explain classical Linear regression model.
21. For the below table test whether autocorrelation is positive or negative.

| IMPORTS | GNP |
| :---: | :---: |
| 3748 | 21777 |
| 4010 | 22418 |
| 3711 | 22308 |
| 4004 | 23319 |
| 4151 | 24180 |
| 4569 | 24893 |
| 4582 | 25310 |
| 4697 | 25799 |
| 4753 | 25886 |
| 5062 | 26868 |
| 5669 | 28134 |
| 5628 | 29091 |
| 5736 | 29450 |
| 5946 | 30705 |
| 6501 | 32372 |
| 6549 | 33852 |
| 6705 | 33764 |
| 7104 | 34411 |
| 7609 ? | 35429 |
| 8100 | 36200 |

(2021 Batch onwards)
Reg. No. : $\square$

## St Aloysius College (Autonomous)

## Mangaluru

B.Sc. Semester III - Degree Examination

December - 2022
FOOD SCIENCE
BASICS OF FOOD SAFETY AND QUALITY CONTROL

## Time: 21/2 Hours

Max. Marks: 60
Note: i) Answer all the questions
ii) Draw diagrams wherever necessary

PART - A

1. Answer any FIVE of the following.
a) Define Nutrition labeling.
b) Give a note on Sewage Treatment Plant.
c) Give a note on Critical Control Points.
d) Write about Indian Food Laws.
e) Define Lag Phase.
f) Give a note on "FAT TOM".
g) Write the principles of Food Safety.

## PART - B

Answer any SIX of the following.
$(5 \times 6=30)$
2. Explain in detail about three compartment Sink process.
3. Explain in detail about Basics of Food Safety \& standards.
4. Write a short notes on Chemical and Biological Hazards in Food Industry.
5. Explain in detail about Prevention of Food Poisoning.
6. Write a short note on Implementation of ISO in Food Safety program.
7. Give a note on importance of GMP in Food Industries.
8. Explain in detail about the role and responsibilities of Food Safety Officers.
9. Write short notes on importance of HACCP in Food Safety.

> PART - C

Answer any TWO of the following:
$(10 \times 2=20)$
10. Explain in detail about role Bureau of Indian Standards in Food Industries.
11. Write short notes on role of FSSAI in regulatory system of food in India.
12. Write a short note on Waste Water Treatment with neat diagram.
$\square$

# St Aloysius College (Autonomous) <br> Mangaluru 

## B.A./ B.Com./B.B.A./B.Sc./B.C.A. - Semester III - Degree Examination December - 2022 <br> ENGLISH

Time: $21 / 2 \mathrm{hrs}$.
Max Marks: $\mathbf{6 0}$

## UNIT - I PROSE

I. A Answer the following in a word/phrase/sentence each:
( $5 \times 1=5$ )

1. In the lesson, 'A Convocation address', what has become a global phenomenon with more than hundred countries pursuing the privatization agenda?
2. How has cinema portrayed courtesans?
3. The article 'The Diaspora Men' was published in $\qquad$ -
4. The roots of $\qquad$ are to be searched in social relationship.
5. The Mahalanobis model led to widespread suspicions of any non-governmental initiative. TRUE/ FALSE

B Answer any THREE of the following in about 150-180 words each: (3X5=15)

1. How does the author Pramod Kumar compare slave labour and indentured labour?
2. Explain how Bollywood reduced the life of tawaifs into stereotypes of immoral women?
3. How, according to Mr Murthy, has Information Technology helped in designing customer-friendly goods?
4. Do you agree with Ambedkar that caste works even in Indian commerce and industry? Explain.

## UNIT - II POETRY

II. Answer any TWO of the following in about 150-180 words each: $\quad$ (2X5=10)

1. Write a short note on the images of nature used in the poem, 'For the Dispossessed.' What message does the poet convey through these images?
2. "And mouth with myriad subtleties," is a comment on language and speech in modernity. Explain with reference to the poem, 'We Wear the Mask.'
3. Comment on the conversation between the spirit of the lover and the young man in the poem, The Unquiet Grave.'
4. Comment on the idea of death being a stepping stone for the slave's "children's children" to cross upon, according to the poem, 'Time to Die.'

## UNIT - III SHORT - STORY

III. Answer any TWO of the following in about 150-180 words each: (2X5=10)

1. What emotions were evoked in the princess, as imagined by her lover, when she met the beautiful lady upon opening the door? Write a short critical note.
2. Write a short note on the discussion between the banker and his friends that leads to the bet.
3. Write a note on the cost of human freedom with reference to the short story, "The Bet".
4. In the short story, 'The Lady or the Tiger?' what role did the public play in the theatre of the justice?

Contd... 2

## UNIT - IV GRAMMAR AND WRITING SKILLS

IV A. Choose appropriate words given in the brackets and fill in the blanks: (5x1=5)

1. She said that the rapid tests were very $\qquad$ detecting the virus. (good in, good at, good for)
2. The passenger $\qquad$ to change seats. (flatly refused, badly refused, deeply refused)
3. Little remained of the bus after it $\qquad$ in the centre of the city. (caught fire, got fire, set fire)
4. Photography is $\qquad$ in the museum. (fully forbidden, highly forbidden, strictly forbidden)
5. If you $\qquad$ the light will dim just a bit each time a cloud goes by. ( watch clearly, watch closely, watch nicely)
B. Choose appropriate phrasal verbs from the given list and fill in the blanks. (5x1=5)
6. Sheldon had an emotional $\qquad$ yesterday.
7. I need some new clothes. Why don't you $\qquad$ these jeans?
8. My friend finally $\qquad$ at the wedding.
9. I found a box of some strange substance in the river. It $\qquad$ a strange odour. So, I left it where it was and called the police.
10. Please don't $\qquad$ all your money.
(break down, give off, try on, put on, give up, give away, show up, come up,
C. Fill in the blanks with Simple Past/ Past Perfect forms of verbs given in brackets:
(5x1=5)
I can't believe I (get) $\qquad$ (1) that apartment. I (submit) (2) my application last week, but I didn't think I had a chance of actually getting it. Nearly twenty people had already filled out their applications. The landlord said I could still apply, so I (do) $\qquad$ (3). The landlord wanted me to include references. I was confused and ended up listing my father as a reference. It was lucky he (decide) $\qquad$ (4) to give me the apartment. It turns out that the landlord and my father (go) $\qquad$ (5) to high school together.
D. Read the following context carefully and write a report in about 200 words:
( $1 \times 5=5$ )
The human resource manager has requested the members of the human resource department to examine the high turn over rate of employees at the GHS Corporation. A five member team has analyzed the administration records and working conditions as well has interviewed staff.

## HINDI

Time: 21/2 hrs.
Max Marks: 60
। अ) एक वाक्य में उत्तर लिखिए:

1. आलेखन की परिभाषा लिखिए।
2. आलेखन के कितने प्रकार हैं?
3. किस पत्र को 'गश्ती पत्र कहते हैं?
4. नौकरी पाने के लिए कौन सा पत्र लिखा जाता है?

आ) किन्हीं दो प्रश्नों का उत्तर लिखिए:

1. आलेखन किसे कहते हैं? उसके गुणों को समझाइए।
2. मुंबई के नेताजी महाविद्यालय में हिन्दी अध्यापक के पद के लिए रोहन शर्मा के नाम से आवेदन पत्र लिखिए।
3. वाणी प्रकाशन दिल्ली से सुष्मा ने जो किताबें मंगवाई थी वे किताबें आदेशानुसार नहीं हैं। उन्हें शिकायती पत्र लिखकर क्षतिपूर्ति की प्रार्थना कीजिए।
II अ) निम्नलिखित अंग्रेजी शब्दों को हिन्दी में अनुवाद कीजिए:
4. Cabinet
5. Gazette
6. Provident Fund
4.Transfer

आ) निम्नलिखित अवतरण को पढकर संबंधित प्रश्नों का उत्तर लिखिए:
( $4 \times 1=4$ ) सभ्यता के लक्षणों में समाचार पत्र एक है। कोई राष्ट्र जितना ज्यादा शिक्षित होता है, उतनी ही ज्यादा वहाँ समाचार पत्रों की माँग होती है; क्योंकि शिक्षित व्यक्ति यह जानने के लिए सदा उत्सुक रहता है कि दुनिया में क्या हो रहा है और इसकी जानकारी उसे समाचार पत्रों के माध्यम से ही मिल सकती है। हर प्रकार का स्थानीय और विदेशी समाचार हमें देना समाचार पत्र का प्राथमिक कार्य है। हमारे देश में तथा दुनिया के अन्य देशों में क्याक्या हो रहा है, इसकी सूचना समाचार पत्र हमें देता है। समाचार पत्रों से ही हम दुनिया की महत्वपूर्ण और दिलचस्प घटनाओं के बारे में जान सकते हैं।

1. समाचार पत्र किसके लक्षणों में एक है?
2. कोई राष्ट्र जितना ज्यादा शिक्षित होता है, उतनी ही ज्यादा वहाँ किसकी माँग होती है?
3. शिक्षित व्यक्ति क्या जानने के लिए उत्सुक रहता है?
4. समाचर पत्र का प्राथमिक कार्य क्या है?

इ) निम्नलिखित अवतरण का संक्षिप्त रूप लिखकर शीर्षक दीजिए:
भारत सरकार आजकल ज्यादा से ज्यादा निर्यात की जानेवाली चीजों का उत्पादन व विक्रय बढाने की कोशिश कर रही है। निर्यात-वस्तु-बीमा-कॉर्पोरेशन एक ऐसी संस्था है जिसके द्वारा विदेश भेजे जानेवाले माल की सुरक्षा का निश्चय और माल की क्षति संभावना के कारण का निवारण होता है। यह एक सरकारी संस्था है। इसका उद्देश्य तत्समान कार्य करनेवाली बीमा- कंपनियों के काम में दखल देना नहीं, बल्कि विशेष परिस्थिति में भेजे जानेवाले माल पर निर्यातक को आर्थिक सहायता बैंकों से दिलाना है। बीमा-कंपनियाँ साधारणत: जिस प्रकार की जोखिम से बचने केलिए माल का बीमा स्वीकृत करती है उससे बढ़कर जोखिम उठाकर इस कार्पोरेशन का कितना कारोबार होगा और इससे निर्यात में कितनी वृद्दि होगी यह कॉप्पोरेशन द्वारा चार्ज किए हुए प्रीमियम की रकम पर निर्भर होगा।
III अ) एक वाक्य में उतार लिखिए:
(3x1=3)

1. अविनाश किसको बेढब चीज कहता है?
2. ‘सीमा रेखा' एकांकी के रचनाकार कौन है?
3. 'समरथ को नहिं दोष गुसाईं' एकांकी के रचनाकार कौन है?

आ) किसी एक का पात्र परिचय दीजिए।
$\begin{array}{ll}\text { 1. 'सीमा रेखा' एकांकी की सविता } & \text { 2. जान से प्यारे एकांकी के अविनाश }\end{array}$
इ) किसी एक की संदर्भ सहित व्याख्या कीजिए:
$(1 \times 4=4)$

1. "आपका दु:ख वाकई बहुत बडा है। मैं आपकी पत्नी को नया जीवन देने आया हूँ।"
2. "कल तक मेरे इशारे पर दुम हिलानेवाले तेरी यह जुर्रत कि मुझे ही आँखें दिखाता है। क्या तू भूल गया मेरे चौकीदार बंदूकों से लैस हैं और मेरे एक ही इशारे पर तुझे रंग से बदरंग कर देंगे।
ई) किसी एक प्रश्न का उत्तर लिखिए:
(1x7=7)
3. 'सीमा रेखा' एकांकी का सारांश लिखकर विशेषताओं पर प्रकाश डालिए।
4. पठित एकांकी के आधार पर जान से प्यारे एकांकी का विश्लेषण कीजिए।

IV अ) एक वाक्य में उत्तर लिखिए:
(3x1=3)

1. 'अंडे के छिलके' एकांकी के लेखक का नाम लिखिए।
2. राय साहब की बेटी का नाम क्या है?
3. वज्रकीट किसकी जाँघ को काटने लगा?

आ) किसी एक पात्र का परिचय दीजिए:
(1x4=4)

1. अंडे के छिलके एकांकी की जमुना
2. आखेट एकांकी का ब्राह्मण

इ) किसी एक की संदर्भ सहित व्याख्या कीजिए:
(1x4=4)

1. "पराया घर तो लगता ही है, भाभी! तुमने आते ही वह नक्शा बदला है इस कमरे का कि मेरा अंदर पैर रखने का हौसला ही नहीं पडता।"
2. "बधाई कर्ण, बधाई! आज सर्वसम्मित से तुम्हें कुरु सेना का सेनापति बनाया गया है। तुम्हें सारी सेना सौंपकर मैं निश्चिंत हो जाऊँगा।"
ई) किसी एक प्रश्न का उत्तर लिखिए:
( $1 \times 7=7$ )
3. 'वापसी' एकांकी का सार लिखकर उसकी विशेषताओं पर प्रकाश डालिए।
4. 'आखेट' एकांकी में कर्ण एक दुरंत नायक है। इस कथन का स्पष्टिकरण कीजिए।

#  

> జననంబరా - 2022
> చన్నిడి భాజాふ

మెమయయ ： $21 / 2$ ¥ోంటే
గెరిత్ં అంశ： 60









```
 ఎిఐరిసిర
```



```
3X 3=09
```





```
    ఎిఐారిసి
```



```
    ఎిఐరరిసి
```










```
    ఎళ゙బబిర బణణ
```





```
15. ชిలతిళ నిలుక్రదు, నరర బలటో దిటమిదల్ల
```




```
18. ఒש゙గ నండుదిలజ ఆరి జౌఎగగి
v ఆ) fేజగిన ఎరడుర శురితు టిట్బణణ బరొయిరి
3\times2= 06
19. లష్ష్మి`ర
20. 山ురందర బా帀
21. చే`\varpiయాని
22. ముడుહాళ మూజే山్\omega
```


## G 537 LA2.3

ఆ) శేళగిన ఎరడడర శురితు టిహ్టణి బరియిరి ..... $3 \times 2=06$
23. మూస్ ఐెంశటెలత ఆయ్ $ం$ గగలర
24. నది-నగగర సుబంధ
25. ฉిజిటలా కంత్రజ్ఞలస
26. Шౌటిల Ш్టట్ట山్డ

$1 \times 10=10$
27. 'లుజమాలాలలల' ఎందు జుసిద్ధనాద ఈటి యారు?





33. ఒందు సుబోధ ఇంజినో నేన్ను ळేసెరిసి
34. రృమురననాయోశ \&ంరియ మొండతి యూరు?
35. కిలరలముజంద్రన తందేయ 玉ేసేరేలు?
36. 'జอనజుద జీอగి' ఎందు జుసిద్ధరలదజరు యృరు?

# St Aloysius College (Autonomous) <br> Mangaluru <br> B.Sc. Semester III - Degree Examination <br> December-2022 <br> SANSKRIT 

Time: $\mathbf{2 1}^{11 / 2} \mathrm{hrs}$.
Max Marks: 60
1 रलोकद्वयम् अनुवादं कृत्वा विवृणुत ।
1.1 वालाग्रशातभागस्य रातधा कल्पितस्य च।

भागो जीवः सः विज्ञेयः स चानन्त्याय कल्पते ॥
1.2 वक्त्रेण उत्पलनालेन यथोर्ध्वं जलमाददेत् । तथा पवनसंयुक्तः पादैः पिबति पादपः ।।
अस्ति प्रशास्ता जनलोचनानामानन्दसन्दायिषु कोसलेषु । आज्ञासमुत्सारितदानवानां राज्ञामयोध्येति पुरी रघूणाम् ॥
1.4 यथा रिखा मयूराणां नागानां मणयो यथा। तद्वद्वेदाङ्गशास्त्राणां ज्यौतिषं मूर्धिन्न संस्थितम् ॥
चतुणां सन्दर्भसहितविवरणं लिखत।
मित्रो दाधार पृथिवीमुतद्याम्।
2.2 मोक्षो नाम दुःखत्र्यात् मुक्तिः ।
2.3 अहुमेव तं हनिष्यामि ।
2.4 जात्यत्रिभुजे भुजकोट्योर्वर्गयोगः कर्णवर्गसमः।
2.5 चम्पूप्रबन्धरचनां रसना मदीया।

3 त्रीन प्रबन्धरूपेण उत्तरयत ।
3.1 ज्योतिष्यशास्त्रस्य विषये पाठोक्तरीत्या विषदयत ।
3.2 रामस्य अवतारनिर्धारं यथा पाठोक्तं लिखत।
3.3 प्राचीनभारतीयविज्ञाने खगोलशास्त्रमधिक्त्य लिखत ।
3.4 पातञ्जलयोगदर्शानम् - पाठोक्त विचारान् विषदयत ।
3.5 वृक्षायुर्वेदः - पाठोक्त विचारान् लिखत ।

4 एकं संस्कृतेन टिप्पणीं लिखत।
$1 \times 6=06$
4.1 रामायणम्।
4.2 चम्पूकाव्यम् ।
4.3 योगशास्त्रम् ।

5 द्वयो: टिप्पणीं लिखत । $2 \times 4=08$
5.1 वृक्षायुर्वेदः ।
5.2 दिनचर्या ।
5.3 गणितशास्त्रम् ।

6 न्यायत्रयं विषदयत । $3 \times 3=09$
6.1 सिंहावलोकनन्यायः।
6.2 कूपमण्डूकन्यायः।
6.3 भिक्षुपादप्रसारणन्यायः।
6.4 रज्नुसर्पन्यायः।
6.5 अरण्यरोदनन्यायः ।

St Aloysius College（Autonomous）
Mangaluru
B．A．／B．Sc．／B．Com／B．C．A／B．B．A－Semester III－Degree Examination

## December．－ 2022

KONKANI
Time： $21 / 2$ Hours

I 2ంజాయో ఎซర ళపనాజిం నారాంలా బరయో．
Max．Marks： 60

## యునిటో 1 －చదేనాం

అ）గుటొอనో నిలదో．గాయీอ గโఁత్
మొంయో భాజెళో మూగల నిఁతో

ఉరా లైొశో రాపునో లాణిం
తే మెళింతో శిత్య శో లుణెం

ఆ）$ః ం$ నాకిం ఃం బంద్ృం
సగ్యం జేలా ซాళอభిం
గజాఁ జలల్లిశో ఐయీ
దెอతోఁひో
మూగిరా భియోంశో
మోతి జొఁణ గి．
ఇ）గాంబా గై びడావ్వ
బ్జుజీల గాంహో గగం
బలరా గాంబో భరరా
उంฬేం నాంబో గై

నాంగ్కు స్ఱయ
ఱళెల్ $2 ర ి త ో ~ హ ు చ ా ~$
శళ్కి న్లయ
กอంపాశో యిలగై
మూగిర నాంగో గై
దుదా దేలంపాజ్ల
W్జుజై గాంహో గగం
II ఎซర ఎార్రిగో జాజో బరయో．


ఇ）జేఁణ బుద్వంతో జాలอ？


III 2ంజాయో ఎణా శుఐలాశో జాహా బరయా．
అ）బుద్ఎంతో జాల్ల్ ${ }^{6}$ దూజాృం ఎిిం బరయో．
ఆ）లగగనా హపనాబేః నారాంలో బరయయో．

## G 739.LA 8.1

I జెవలాంశే జాహో బరయో:
యునిటో 2 -గెద్రా భలగో
Page No. 2

ఆ) ఱ్లనాదా ఖులా ఫతంం జలఱా్ననలల?

ఈ) అరుణ స్నంగారల థలఱ్నా ఫితెం లిఱయీ్త?

II 2ుంజలయా ఎணా 山లత్రఙ జరిజియా దియా
$అ) ~ బ ల$
ఆ) ఔంఱృఱేతి
III 2ుంజాయో ఎซా న్నవలలాశో జాఱో బరయో.

ఆ) సిండ్ృెల్ల్ థంయో జలల్లి బద్ల్లచణ ఎిదెసికయా.
యుననిటో 3 - నలటెซో
I ఎซర ఎార్కానో జాహో బరయయో.



ఔ) బంగอరో మ్మననిసో చైలణో?


$(1 \times 5=5)$ ఫళయో.

అ) బరెం ేటో బరెం ఖై
"ఆ) ळలతో ధరా లిల్ల ఱతి యో అంబలడ్యాశి चుతి.
III. 2ంజాయో ఎซర నుజలాశో జాహో బరయో.


IV ఎซర ఎార్శానా జలజో బరయయా.
అ) జారింరలతో మ్లుళ్యారో ఫితెం?

ఇ) ఱరిఱతో మ్లుళ్యార ఫితెం?


V 2ంజాయో దిలలనో గెవలాంశ్ జాむి బరయీ.
$(5 \times 2=10)$
 ఆముంశ్తృణో ఱత్ృ తేయారో ₹రర.
 నిదిల్ర్రాశో ఱతతో బరయయర.
 ఱృంరుఱ్లలలశో ఱతృ బరయయ

## St Aloysius College (Autonomous)

Mangaluru

## B.A./B.Sc./B.Com./B.B.A./B.C.A. Semester III- Degree Examination December - 2022 ADDITIONAL ENGLISH World Literature - I

Max Marks: $\mathbf{6 0}$

## UNIT - I (PROSE)

## I. A Answer the following in a word/phrase/sentence each:

1. According to Swami Vivekananda, the national ideals of India are service and
$\qquad$ -.
2. The essay, 'The Spirit of Freedom', has been taken from the collection entitled
$\qquad$ _.
3. Who believed that economic reform must have more priority than other reforms?
4. The Jat-Pat-Todak Mandal was an organization of $\qquad$ .
5. What does 'in toto' mean? (in parts, as a whole, incomplete)
B. Answer any FOUR of the following in about 180-200 words each: ( $\mathbf{4} \times 5=\mathbf{2 0}$ )
6. Critically analyze the essay 'The Spirit of Freedom' by Rabindranath Tagore.
7. What according to Vivekananda, does India lack in? Justify your point of view with reference to the essay, 'India Our Motherland'.
8. Explain how the untouchables were ill-treated by the high caste Hindus with reference to the lesson, 'The Annihilation of Caste'.
9. Caste is not just a division of labour; it is a division of labourers. Elucidate.
10. "My faith is younger generation, the modern generation". Elucidate with reference to the essay, 'India: Our Mother Land.'
11. Why is the internal reform of the caste system virtually impossible? Justify with reference to the lesson, 'Annihilation of Caste',

UNIT - II (POETRY)
II. Answer any THREE of the following in about 180 words each: ( $\mathbf{3} \times 5=15$ )

1. What are the different literary devices used in the poem, 'Success is Counted Sweetest'?
2. How does Rudyard Kipling present the themes of hopes and fears in the poem, 'If'?
3. What does the poet advise people to do when they are in a difficult or conflicting situation? Elaborate in the light of what you have understood, reading the poem, "Stay Calm".
4. Make an assessment of how humans generally respond to insults, disappointments and conflicts in life? What alternative response does the poet present to us in the poem, 'Stay Calm'?

## UNIT - III (NOVEL)

III Answer any ONE of the following in about $\mathbf{2 5 0}$ words:
$(1 \times 10=10)$

1. Discuss the theme of partition in, 'Train to Pakistan'.
2. Analyze the role of women in, 'Train to Pakistan'.
3. Compare and contrast the character of Jugga and Iqbal with reference to the novel, 'Train to Pakistan'.

## UNIT - IV (GRAMMAR AND WRITING SKILLS)

1. A sad song
a) Ditty
b) knell
c) dirge d) lay

A pioneer of a reform movement
a) apostle b) apothecary
c) apotheosis
d) renegade
3.
4.
5.
A. Give one-word substitutes choosing the right word given in the brackets:

Extreme old age when a man behaves like a fool
a) Imbecility
b) youth
c) Dotage
d) superannuation

A style in which a writer makes a display of his knowledge
a) pedantic
b) verbose
c) pompous
d) ornate

A person who knows many foreign Languages
a) Linguist
b) grammarian
c) Polyglot
d) Bilingual
B. Write a dialogue in about $\mathbf{1 5 0}$ words in five turns:

Write a dialogue that takes place between you and the counsellor of your block, seeking help to apply for the scholarship.
$\square$

## St. Aloysius College (Autonomous) Mangaluru

## B.A./B.Sc. /B.Com./B.B.A./B.C.A. - Semester III - Degree Examination December-2022 <br> FRENCH

Time: $\mathbf{2 1 / 2} \mathbf{h r s}$.
Max Marks: 60
I. Mettez les verbes au voix passive

1. L'ambulance conduit le blessé à l'hôpital
2. On a volé des diamants chez le bijoutier
3. Mes amis regardent les oiseaux
4. Les enfants suivront le guide.
5. Molière a écrit L'Avare.
II. Mettez les verbes au conditionnel.
6. Si les hommes pouvaient, ils ............ (faire)
7. Nous ..........(acheter) une maison.
8. S'ils ..........(vouloir) du pain, ils me le diraient.
9. J'achèterais une grande maison, si je ..........(gangner)le lotto.
10. J' $\qquad$ .(aller) au marché, si tu fais la vaiselle.

## III. Rapporte des paroles

1. C'est super! La fille dit
2. Que pensez-vous? Dites moi
3. Avez vous une crevette ? il demande
4. Comment voyages- tu ? Elle veut savoir.....
5. Ne sois pas en retard! La mère demande. $\qquad$
IV. Répondez aux questions
6. Que feriez - vous si vous ganniez une grosse somme d'argent?
7. Expliquez l'art de la renaissance.
8. Écrivez une note sur le prix de Césars.
9. Donnez la significance de le langage des couleurs.

## V. Dialogue

Vous devez faire une activité originale mais deux entre vous ne sont pas
d'accord. $\quad \mathbf{5 x 1 = 5}$
Jouzez la scene en utilisons Ou
Choisissez un context librement.
VI. Lettre

Vous écrivez à un ami français qui a un grand appartement. Vous lui $\mathbf{1 0 \times 1 = 1 0}$ demamdez s'il peut loger pendant 15 jours un(e) amie (e) de vor bi vien faire un stage en France. Vous lui décrivez amie (e) de votre pays qui ami français et vous lui donnez quelques consez cet ami. Vous rassurez votre ami français et vous lui donnez quelques conseil pour que tout se passe bien.

## VII. COMPREHENSION

La philosophie de l'éducation est une étiquette appliquée à l'étude du but, du processus, de la nature et des idéaux de l'éducation. Il peut être considéré comme une branche à la fois de la philosophie et de l'éducation. L'éducation peut être définie comme l'enseignement et l'apprentissage de compétences spécifiques, et la transmission de connaissances, de jugement et de sagesse, et est quelque chose de plus large que l'institution sociétale de l'éducation dont nous parlons souvent.

De nombreux pédagogues le considèrent comme un domaine faible et flou, trop éloigné des applications pratiques du monde réel pour être utile. Mais les philosophes remontant à Platon et aux Grecs de l'Antiquité ont beaucoup réfléchi et mis l'accent sur ce domaine, et il ne fait aucun doute que leur travail a contribué à façonner la pratique de l'éducation au cours des millénaires. Platon est le premier penseur pédagogique important, et l'éducation est un élément essentiel de "La République" (son ouvrage le plus important sur la philosophie et la théorie politique, écrit vers 360 av .) Il y prône des méthodes assez extrêmes : soustraire les enfants à la garde de leur mère et les élever comme pupilles de l'État, et différencier les enfants adaptés aux différentes castes, les plus élevées recevant le plus d'éducation, afin qu'ils puissent agir en tant que gardiens de la ville et prendre soin des moins capables. Il croyait que léducation devrait être holistique, y compris les faits, les compétences, la discipline physique, la musique et l'art. Platon croyait que le talent et l'intelligence ne sont pas distribués génétiquement et se retrouvent donc chez les enfants nés de toutes les classes, bien que son système proposé d'éducation publique sélective pour une minorité instruite de la population ne suive pas vraiment un modèle démocratique.
Aristote considérait la nature humaine, l'habitude et la raison comme des forces d'égale importance à cultiver dans l'éducation, dont le but ultime devrait être de produire de bons et vertueux citoyens. Il a proposé que les enseignants dirigent systématiquement leurs élèves et que la répétition soit utilisée comme un outil clé pour développer de bonnes habitudes, contrairement à l'accent mis par Socrate sur le questionnement de ses auditeurs pour faire ressortir leurs propres idées. Il a souligné l'équilibre entre les aspects théoriques et pratiques des matières enseignées, parmi lesquelles il mentionne explicitement la lecture, l'écriture, les mathématiques, la musique, l'éducation physique, la littérature, l'histoire et un large éventail de sciences, ainsi que le jeu, qu'il a également considéré important.
Au cours de la période médiévale, l'idée de pérennialisme a été formulée pour la première fois par saint Thomas d'Aquin dans son ouvrage "De Magistro". Le pérennialisme soutient quil faut enseigner les choses considérées comme étant d'une importance éternelle pour tout le monde, à savoir les principes et le raisonnement, pas seulement les faits (qui sont susceptibles de changer avec le temps), et qu'il faut d'abord enseigner les gens, pas les machines ou les techniques. . Il était à l'origine de nature religieuse, et ce n'est que beaucoup plus tard qu'une théorie de la pérennité laïque s'est développée.

1. Quelle est la différence entre les approches de Socrate et d'Aristote ?
a) Aristote a souligné l'importance de prêter attention à la nature humaine; Socrate insiste sur la science
b) Aristote a ressenti le besoin d'apprendre par cœur ; Socrate a mis l'accent sur l'apprentissage dialogique
c) Il n'y avait pas de difference
d) Aristote ressentait le besoin de répétition pour développer de bonnes habitudes chez les élèves; Socrate a estimé que les étudiants doivent être constamment interrogés
2. Pourquoi les pédagogues considèrent-ils la philosophie comme un domaine «faible et flou»?
a) Ce n'est pas pertinent pour l'éducation
b) Ses concepts théoriques sont faciles à comprendre
c) Ce n'est pas applicable dans la pratique
d) Aucune de ces réponses
3. Que comprenez-vous par le terme «pérenalisme», dans le contexte du passage de compréhension donné ?
a) Il se réfère à quelque chose qui est d'une importance incessante
b) Il fait référence à quelque chose qui est tout à fait inutile
c) Il fait référence à quelque chose d'abstrait et de théorique
d) Il se réfère à quelque chose qui existait dans le passé et n'existe plus maintenant
4. Les croyances de Platon sur l'éducation étaient-elles démocratiques?
a) Il croyait que seuls les riches ont le droit d'acquérir une éducation
b) Oui
c) Il croyait que seuls quelques privilégiés sont destinés à fréquenter les écoles
d) Il croyait que tous les élèves n'étaient pas doués
5. Pourquoi Thomas d'Aquin a-t-il proposé un modèle d'éducation qui n'insiste pas beaucoup sur les faits?
a) Les faits ne sont pas importants
b) Les faits ne mènent pas à une éducation holistique
c) Les faits changent avec les temps qui changent
d) Les faits sont figés dans le temps
$\square$

## St Aloysius College (Autonomous)

Mangaluru

## B.A./B.Sc./B.Com./B.B.A./B.C.A Semester III - Degree Examination December-2022

MALAYALAM

## Time: $\mathbf{2 1 / 2} \mathbf{h r s}$.

Max Marks: 60
































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## St Aloysius College (Autonomous) Mangaluru

## B.A./B.SC./B.C.A. - Semester III -Degree Examination <br> December - 2022 <br> FOUNDATION COURSE IN GENDER EQUITY AND VALUE EDUCATION

I. Answer any FIVE of the following questions in just one sentence each.

1. What are gender roles?
2. Mention the forms of domestic violence
3. Expand PMLA
4. Who is the chairperson of the National commission for women
5. What is Female Feticide?
6. Define sex ratio
7. What is wife battering?

## II. Answer any FIVE of the following questions in about two sentences each.

8. Differences between patriarchy and matriarchy
9. Differences between femininity and masculinity
10. What is honour killing?
11. What are the changes made to the MTP act in 2021?
12. What is globalization?
13. Expand ICDS
14. Define human trafficking
III. Answer any TWO of the following questions in $\mathbf{2 0}$ lines each. ( $\mathbf{2 \times 1 0 = 2 0}$ )
15. Discuss the need for gender sensitization
16. What are the measures taken by the government to promote the rights of the girl child
17. Describe some of the laws protecting women and children
18. Explain the functions of National commission for women

## PART - B <br> VALUE EDUCATION

IV. Answer any ONE of the following in not less than a page. $\quad(5 \times 1=5)$
19. Write a short note on In Vitro Fertilization (IVF).
20. What is functional family? Explain their characteristics.

## v. Answer any ONE of the following in not less than two pages.

21. Explain the desirable qualities required for a successful marriage.
22. Discuss the various temporary family planning methods.
