## (2016 batch onwards)

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## St Aloysius College (Autonomous) <br> Mangaluru <br> B.A./B.Sc./B.Com./B.B.A/B.C.A Semester II - Degree Examination

April - 2018
ENGLISH Time: $\mathbf{3}$ hrs.

Max Marks: 100

## PROSE

I Answer the following in a word, phrase, or sentence each.

1. What irritated the author Jerome when he started packing?
2. Who wrote the poem "She walks in beauty"?
3. Why was the plan of Space Regatta Consortium not implemented?
4. What, according to Murthy is the corner stone of self-knowledge?
5. What is Fatal to a plant as to a man, in the opinion of Bose?

II Answer any EIVE of the following in about $\mathbf{8 0}$ words each.

1. How is light pollution a biological nuisance?
2. How did Harris and George make packing exciting?
3. Can you call Narayan Murthy a visionary? Why?
4. What is the difference between "fixed mind set" and "growth mind set"?
5. Explain the stanza quoted from "She walks in beauty" in the context of "Light Pollution".
6. How does Aldous Huxley explain the agony of plants?
7. Explain the personal life journey of Mr. Murthy.

## POETRY

III Annotate any TWO of the following in about $\mathbf{8 0}$ words each.

1. Only the worm, colonel of Carrion, cries:
"Waste no compassion on these separate dead!"
Statistics justify and scholars seize.
The salients of colonial policy.
What is that to the white child hacked in bed?

ST. ALOSBEUS COLiEGE
LIERARY
MnNGNLOKA. 575003

To savages, expendable as Jews?
2. There is no shape more terrible than this -

More tongued with censure of the world's blind greed.
More filled with signs and portents for the soul.
More fraught with menace to the Universe.
3. We slowly drove - He knew no haste

And I had put away
My labor and my leisure too,
For his civility.

1. Why does Maya Angelou list a number of myths and legends in the poem Africa?
2. What are the three phases described in the poem "A Far cry from Africa"? Explain.
3. How does Markham present the degraded condition of man in the poem "The Man with a Hoe"?
4. What is the speaker's attitude towards death in the poem "Because I could not stop for death"?

## $V$ Answer any THREE of the following in about 100 words each. <br> $(5 \times 3=15)$

1. Write a note on Appa-Mam's family.
2. Why do you think Appa-Mam was called names by people in his family? Explain.
3. What did Ivan think of his poor relatives?
4. How does Ivan visualize himself in early and late autumn?

## GRAMMAR AND VOCABULARY

1. Rewrite the following sentences according to the instructions
2. He was an eminent scientist. He was also a famous author.
(Combine the two sentences using "Besides")
3. He is good dancer. He is also a good painter.
(Combine using "not only...but also")
4. This book is so boring that I cannot read it.
(Use "too - to")
5. Kishore does not own a car. Vasu also doesn't have one. (Combine using "neither ... nor")
6. Vijay said, "Thank you for your advice Sudeep. I feel greatly relieved". (write in Reported speech)
7. Fill in the blanks with appropriate phrasal verbs.
8. The plane is about to $\qquad$ (take up, take off)
9. The racing car $\qquad$ after it crashed into the fence. (blew off, blew up)
10. Please $\qquad$ your room before you go outside. (clean out, clean up)
11. Please $\qquad$ before I transfer your call to the sales department.
(hold out, hold on)
12. We are going to $\qquad$ the price of cereals today. (look into, look upon)
13. Correct the errors in the following sentences.
14. The train was being late by four hours yesterday.
15. My sister is older to me by six years.
16. A teacher takes pride of his students' successes.
17. If I am you, I would stop talking to her.
18. The branch struck him hard and lay him unconscious.
19. Read the following passage and answer the questions given below.

A European study revealed that $100 \%$ fruit and vegetable juices are as effective as their whole fruit or vegetable counter parts in reducing risk factors related to certain diseases. The conclusion is the result of the study designed to question traditional thinking that $100 \%$ juices play a less significant role in reducing risk factors for both cancer and cardio-vascular disease than whole fruits vegetables.

Juices are comparable in their ability to reduce risk vis-à-vis their whole fruit or vegetable counterparts, according to several researchers in the United Kingdom who conducted the literature review. These researchers analysed a variety of studies that looked at risk reduction attributed to the effects of both fibre and anti-oxidants. As a result they determined that the positive impact fruits and vegetables offer come not from the fibre but also from the whole fruit and vegetables.

The researchers added that the positioning of juices as being nutritionally inferior to whole fruits and vegetables in relationship to chronic disease development is "unjustified" and the policies that suggest otherwise about fruit and vegetable juices should be re-examined.

1. A person who studies a subject methodically to discover facts.
(Choose a right word from the passage)
2. What is the outcome of European study regarding fruit and vegetable Juices?
3. What is the outcome of U.K researcher's studies on various literature
4. You are elected as the Secretary of Debating Association of your college and you are expected to address its members during the inauguration of the association. Give a brief self-introduction on this occasion and welcome them giving the aims and objectives of the association.
5. Give one word substitutes for the following. Choose the appropriate answers from words given in parenthesis.
6. The European colonizers imagined native Carribeans as eating human flesh.
7. The students laughed quietly at the silly mistakes made by the English teacher.
8. The classroom was in a total state of confusion.
9. He took some time to think deeply over the matter.
10. The Maths teacher became rigid with anger.
(bristling, chaos, cannibal, mull, chuckle, flesh eater, cry)


## (2014 Batch onwards)

Reg. No. $\square$

## St Aloysius College (Autonomous) Mangaluru

## B.A./B.Com./B.B.A./B.Sc./B.C.A. Semester II - Degree Examination <br> April - 2018

HINDI
Time: $\mathbf{3}$ hrs.
Max Marks: 100
। अ) एक वाक्य में उत्तर लिखिए -

1. क्रिया की परिभाषा लिखिए।
2. माँ बच्चों को खाना पका रही है। ( दिकर्मक क्रिया को पहचानिए )
3. अनुकरणवाचक क्रिया किसे कहते हैं ?
4. हैसना ; इसका प्रथम प्रेरणार्थक शब्द $\qquad$ 1
5. रमेश नाटक खेलता है। (कर्मवाच्य में बदलिए)
6. नानी ने कहानी सुनायी होगी। $\qquad$ भूतकाल के लिए उदाहरण है।
आ) किन्हीं दो प्रश्नों का उत्तर लिखिए -
( $2 \times 7=14$ )
7. कर्म के कारण क्रिया के कितने भेद है ? परिभाषा लिखकर भेदों को उदाहरण साहित समझाइए।
8. भूतकाल किसे कहते हैं ? किन्हीं पाँच भेदों को उदाहरण सहित लिखिए।
9. बनावट के कारण क्रिया के कितने भेद हैं ? प्रेरणर्थक क्रिया बनाने के मुख्य नियमों को उदाहरण सहित स्पष्ट कीजिए।
II अ) एक वाक्य में उत्तर लिखिए -
$(6 \times 1=06)$
10. मूल क्रिया-विशेषण अव्यय किसे कहते हैं ?
11. प्रयोग के विचार से क्रिया विशेषण अव्यय के कितने प्रकार होते हैं ?
12. उसके $\qquad$ मैं कुछ नहीं कर पाऊँगा। (रिक्त स्थान की पूर्ति उचित सम्बंधबोधक अव्यय से कीजिए )
13. $\qquad$ ! तुमने वंश का नाम उज्जवल कर दिया। (विस्मयादिबोधक अव्यय का प्रयोग कीजिए )
14. संयोजक अव्यय किसे कहते हैं ?
15. परिमाणवाचक क्रियाविशेषण के लिए एक उदाहरण दीजिए।

आ) किन्हीं दो प्रश्नों का उत्तर लिखिए -

1. सम्बंधबोधक अव्यय किसे कहते हैं ? भेदों को सोदाहरण समझाइए।
2. प्रयोग के विचार से क्रिया विशेषण अव्यय के भेदों को उदाहरण सहित लिखिए।
3. विस्मयादि बोधक अव्यय किसे कहते हैं ? उसके प्रकारों को उदाहरण सहित स्पष्ट कीजिए।

III अ) एक वाक्य में उत्तर लिखिए -

1. कबीर किसे अपने पास रखने की बात कर रहे हैं ?
2. कृष्ण को मारने के लिए कंस ने किसे भेजा था?
3. विहारी किसे अपनी संपात्ति मानते हैं ?
4. रहीम ने किसे बांवरी कहा है ?
5. राम ने किससे नाव माँगी थी ?
6. मीराबाई को मारने के लिए किसने विष का प्याला भेजा था ?

आ) किसी एक पर टिप्पणी लिखिए -

1. रहीम।
2. सूरदास।
3. तुलसीदास।

इ) किसी एक की संदर्भ सहित व्याख्या कीजिए -

1. यह रहीम निज संग लै, जनमत जगत न कोय। बैर, प्रित, अभ्यास जस, होत-होत ही होय ॥
2. सुन केवट के बयन, प्रेम लपेटे अटपटे।

बिहैंसे करुना-अयन, चितै जानकी-लषन तन ॥

ई) किसी एक प्रश्न का उत्तर लिखिए -

1. कबीरदास के दोहों का सार लिखकर उनके विचारों पर प्रकाश डालिए।
2. मीराबाई का जीवन कृष्ण की भक्ति के लिए समर्पित है। स्पष्ट कीजिए।

IV अ) एक वाक्य में उत्तर लिखिए -

1. झाँसी दुर्ग पर किसने अपना झ्रण्डा फहराया था ?
2. गौतम ऋषि ने अहल्या को क्या अभिशाप दिया था ?
3. नाश का त्योहर कविता के रचयिता कौन है ?
4. कवि नरेन्द्र शर्मा निर्जीव शून्य़ खासों में क्या फूँक देना चाहते हैं ?
5. बच्चन के अनुसार कविता का प्याला भरनेवाला कौन है ?
6. प्रलय के प्रवाह को हिमगिरी के उत्तुंग शिखर पर बैठकर कौन देख रहा था ?

आ) किसी एक पर टिप्पणी लिखिए -

1. नरेन्द्र शर्मा।
2. हरिवंशराय बज्चन।
3. जयशंकर प्रसाद।

इ) किसी एक की संदर्भ सहित व्याख्या कीजिए -

1. पतन की महिमा सजग, सुन्दर लपकती जा रही है, एक अनहोनी कहानी-सी टपकती जा रही है।
2. कर प्रकाश बन्दी दीपक में

तम में तुमने किया उजाला, जैसे वन को, वैसे मन को फिर ईशवर भी खोज निकाला, सृजनहार के सृजनहार तुम, तुम ही प्रतिपालक, बन्दी।

ई) किसी एक प्रश्न का उत्तर लिखिए -

1. पाषाणी कविता का सार लिखिए।
2. 'झाँसी की रानी कविता में कवयित्री ने देश भक्ति की क्रांति का सिंहनाद करती लक्ष्मीबाई का वर्णन किस प्रकार किया है ? स्पष्ट कीजिए।

## （2015 batch onwards）

Reg．No．


ఎష్రలా－ 2018
శస్నడ్ భాखా 山త్రిశ్－ 2
ర్చుయి ： 3.00 ఘోంటే
ఆ०ชగฝ ： 100

I ：ซపద్ర భాగగ－ 1






1．జ．ఎశో．రిఐరుద్రひ్ప్ర
2．＇బడతేనేద బడబాగ్ని＇చురితు బరేయిరి．

1．రఠ్ృంజలియనిక్తు రణరంగదలి గక్తు ఆమురనాగుప పాల ఇల్లమదదు
సమ్ల నేక్తరేేల్ల నమ్మ ాక్తరవరర
బదుళన్ను అరియిలeణ，బార బంధు

2．సర నారాయుణరిపళర

జరమగురుฝొపవణనవర


$3 \times 2=06$


2．ఛరేయోలళกగ యీణదేవన జయిむలళవల్ల


1．＇ఎర్రమూజుణస ఎజయ＇हృకియ ఇనేన్నందు జేజరు $\qquad$
2．Шురందరరదాషర గురుగళ జ్చరొలు？
3．＇బడహతనద బ๘బాగ్న＇య శపి యీరు？

5．బలణను గడ్ర గ్రంథ యోపుదు？

II : గสద్ర జ్రబంధగట్

$10 \times 2=20$





$6 \times 1=06$



$\mathbf{1 \times 4 = 0 4}$

2. తొజస్ప్యచర తలయియ డేజరాలను?
3. 'కలఱియం' ซండు కంజిదపరు యూరు?

III : నలటళ
 $10 \times 1=10$




1. ఔళ०జ
2. ఊశ్పర
3. evళ్ర్

4. ธిงలశరర గురు యృరు?

5. అణ్ణむ్ట ळீగడే యారు?
6. కంత్రిగళల్లి उంక్రిగటాదపరు యారు?

## IV : t్రయయోత్మ శస్నడ

 $7 \times 1=07$






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## St Aloysius College (Autonomous) <br> Mangaluru

## B.Sc. Semester II - Degree Examination <br> April - 2018 <br> SANSKRIT

Max. Marks: 100

1 उलोकत्रयाणाम् अन्वयार्थ तात्पर्य च कर्णाटकभाषया आंग्लभाषया वा लिखत। $3 \times 6=18$
1.1 कैलासगौरं वृषमारुरुक्षो: पादार्पणानुग्रहपूतपृष्ठम् । अवेहि मां किङ्रामष्टमूर्ते: कुम्भोदरं नाम निकुम्भमित्रम् ॥
1.2 मातेव रक्षति पितेव हिते नियुड्के कान्तेव चाभिरमयत्यपनीय खेदम् ।

कीतिं च दिक्षु विमलां वितनोति लक्ष्म्मीं कि किं न साधयति कल्पलतेव विद्या ॥
1.3 त्रिविधा भवति श्रब्धा देहिनां सा स्वभावजा।

सात्त्विकी राजसी चैव तामसी चेति तां शृणु ॥
1.4 एकातपत्रं जगतः प्रभुत्वं नवं वयः कान्तमिदं वपुश्र ।

अल्पस्य हेतो: बहु हातुमिच्छन् विचारमूढः प्रतिभासि मे त्वम् ॥
1.5 व्याघ्रीव तिष्ठति जरा परितर्जयन्ती रोगाश्र शात्रव इव प्रहरन्ति देहम् । आयुः परिस्रवति भिन्नघटादिवाम्भः लोकस्तथाप्यहितमाचरतीति चित्रम् ॥

2 पज्चानां वाक्यविवरणं कर्णाटकभाषया आड्लभाषया वा लिखत । $5 \times 5=25$
2.1 प्रसादचिह्रानि पुरः फलानि ।
2.2 नो चेत्त्वया सह मे परलोके दर्शानम्।
2.3 आहारा राजसस्येष्टा दु:खरोकामयप्रदाः
2.4 काकोडपि जीवति चिराय बलिं च भुङ्के।
2.5 सुदक्षिणायां तनयं ययाचे ।
2.6 कि कस्यचित् हृदयद्वयं भवति ?
2.7 दीयते च परिक्लिष्टं तद्दानं राजसं स्मृत्् ।


3 द्वयो० संस्कृतभाषया टिय्पणीं लिखत ।
3.1 कालिदास: ।
3.2 भगवद्रीता ।
3.3 सूक्तयः ।

4 चतुण्णां प्रबन्धरूपेण कर्णाटकभाषया आज्ञभाषया का लिखत।
$4 \times 8=32$
4.1 वानरः मकरात् स्वप्राणान् कथं रक्षितवान् ? यथा पावं विवृणुत ।
4.2 श्रद्धत्रयविभागयोग: पाठस्य सारं लिखत ।
4.3 नन्दिन्या दिलीपसत्व परीक्षणं कथं कृतम् ? विवृ्णुत।
4.4 सूक्तिमुक्तावलिः पाठे प्रतिपादितानि जीवनमौल्यानि कानि ? विवृणुत ।
4.5 कृरानुविश्वावसो: सम्भाषणं पाठोक्तरीत्या लिखत ।

5 त्रयोदशानां प्रशनानां संस्कृतभाषया उत्तराणि लिखत ।
5.1 --- सुतरां दयालुः। (निरीक्ष्यमाण:, निरीक्ष्यमाणात्, निरीक्ष्यमाणत्वात्)
5.2 श्रेयसां एष $\qquad$ 1 (मार्ग:, मार्गस्य, मार्गेण)
5.3 _- सात्विकप्रियाः । ( आहारम्, आहारेण, आहाग:)
5.4 प्रभोः भावः __-_ (प्रभुता, प्रभुत्वम्, प्रभु:)
5.5 बाह्मणास्तेन वेदाश्र यज्ञाश्र _-- पुरा। (विहिता:, विहितेन, विहितस्य)
5.6 मम इदं _-_ 1 (मदीयम्, माम्, मदीया)
5.7 --- धेनुरियं महर्षेः। (विस्ज्यतां, विस्ज्यतात्, विसृज्यम्)
5.8 दीयते च परिक्लिष्टं तद्दानं राजसं _--। (स्मृतानि, स्मृतस्य, स्मृत्)
5.9 तद्यशः शस्त्रभृतां __-_ ( क्षिणोति, क्षिणुत, क्षिणोमि)
5.10 न $\qquad$ करोत्यरोगम् । (नाममात्र:, नाममात्रेण, नाममात्रस्य)
5.11 यदोधनो धेनुमृषे:। (मुमोच, मुमोचा:, मुमुञ्च)
5.12 न नीतिमार्ग $\qquad$ 1 (परिलङ्धयन्ति, परिलङ्ज्यसि, परिलङ्धयति)
5.13 तर्हि $\qquad$ प्रायोपवेशानं विद्धि । (मया, अहम्, सः)
5.14 विचारमूढ: प्रतिभासि मे $\qquad$ 1 (स:, अहम, त्वम्)
5.15 _-- धेनुं मुमोच । (वनस्य, वनात्, वनाय़)

## St Aloysius College (Autonomous)

## Mangaluru

B.A. /B.Sc./B.Com Semester II - Degree Examination

April - 2018
KONKANI

Time: 3 Hours

1] స్రలలంశో జల山 బరయయర

Max. Marks: 100
$(5 \times 1=5)$

ت) నలంtీంబా ఎంబాశో సర జరలా?



2] ఎంజలయా దీలనాంళా జอహో బరయో:
ఆ) రలగారా జలయ్నాచలతా
Јుష దిల్లల్రు బలరా జుడాంజా
రాష్రేరల థలప్నా

ळలంచేం బే్త
బద్లిలిం ష్ముణునో
Є) ఆజో వ్రాజ్తం
కరజ్ 2రతిరా
ఆది భాల్రం
కుజి బలకరా
ఇ) మ్ముజ్ $గ$ గాంఱ్జ్య $ం న ి ం$
ుమ్జెలాగిం అక ద్దుజ ఎనంతి
ముల్ల్ల్రు చ్వుజి ఐుఱిశో ఘౌలా

3] ఎంజాయా దిఎనాంశో జలఱో బరయా:

$(2 \times 5=10)$

ముందో ముందా దాజతా ఆయ్లిం సుజం గనం ఱలంయ్జణంం
ఆ) దిజ్ల్ల లుజ్టడ బిలంఎ్తిం ప్రచరలితా
దిబ్్రిరా జజ్ల్లి లుల్లనానా రరణ్తో

నచుం రుంయా తరా ఖూడ్లాం.
4] ఎంజాయా ఎరా షదులాశా జుబా బరయా: (ఈది జరిజయా)
ఆ) న్ల్జులు సుష్రియ
ఆ) సֹజ్లేలా उాజీอడే

## UNIT -II

1] సెబలలాం干ా బలఖో బరయయ:


ఇ) అబ్ృానా అష్లిం దస్తి ఎంయ్స్ బద్లిలిం?




2] 2ంజాయా దిలలనా మవెలాంళా జలఱా బరయా:



3] ఎంజాయో బఠర గవలాఠా జాహా బరయో:
$(1 \times 5=5)$
అ) శంస్స్రకిజ్కా బద్లాపణీజిం శరరణాం ఎపర్సియో.

4] 2ంజాయో ఎซర శెవలలశా జాహో బరయీ:
( $1 \times 4=4$ )

 2ంజీలయో దొలఁనా బ్లెఎయింం బరయా

## UNIT -III

1] గెవలాంఠా జాజో బరయయ.


ఇ) ఎల్ఫి రేబింబमాఠా ఆనాల్లిం బిరుడా 2ంజేం?

 నాంబాళ్ళ?

2] మవవలాంఠో జుజో బరయో.



3] ఎంజాయిల ఎซర శవలాలా జాబో బరయో.
 అభిఱ్రాయా శికెం?
 జలఐనాంతా ఎిణర్సియా.

## UNIT -IV

1] గవలాంళా జాజో బరయయ.
$(5 \times 1=5)$

ఆ) \&DOళ్ణంతా రాక్లెం ซరళా అనాతా?
ఇ) ఫ్రయయ ఎరిలజణార్ ఎశా లుదాదర్రా దయా.
ఈ) ధాతు మ్దుల్మార శీకెం?
లు) ఐజనాంశ్ ఎహా లుదాజరరణ ద.

2] がవలాంఠా బాహో బరయయా.



$\square$

## St Aloysius College (Autonomous)

Mangaluru
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## ADDITIONAL ENGLISH

 Time: $\mathbf{3}$ hrs.Max Marks: 100

## UNIT - I

I Answer any TWO of the following questions in about 200-250 words each:

1. Explore themes of a sympathetic portrayal of tradition and a critique of modernity in the short story 'The Sky and the Cat'.
2. Compare and contrast the characters of Krishnamurthy and Govindan Nair.
3. Sketch the character of Kubra.
UNIT - II

II A Answer the following questions:

1. Name the figure of speech used in these words 'Dark bullet, Missile, Grieving Arrow' from 'Ode to a Large Tuna in the Market'.
2. I saw you dead/a deceased $\qquad$ /of my own ocean..... Fill in the blank with the actual word used in 'Ode to a Large Tuna in the Market'.
3. Mention the four birds used in the poem 'The season of Phantasmal Peace'.
4. What is an oxymoron and mention any two oxymoron from the poem, 'The season of Phantasmal Peace'?
5. Which word is now 'obsolete' according to Meena Kandasamy?

B Answer any THREE of the following questions in about 200-250 words each:

1. How does Keki $N$ Daruwala personify Indian English in the poem 'The Mistress'?
2. What are the agnostic elements used in the poem 'The Gods Wake Up'?
3. Explicate the poem 'Ode to a Large Tuna in the Market' with special emphasis on the literary devices used in it.
4. Explain the importance of the last words "it lasted long" from the poem 'The Season of Phantasmal Peace'.
C Answer any ONE of the following questions in about 300-350 words each:
5. Walcott considers 'The Season of Phantasmal Peace' as "the equivalent of prayer, a vision of peace that must be heard continually." Justify.
6. How does Keki Daruwala show his dissatisfaction in the present status and condition of Indian English and also accept it as the medium of his expression in the poem 'The Mistress'?

## III A Answer the following questions:

1. Whom does Algernon think should set an example for the upper class?
2. Where has Cecily recorded her engagement to Algernon 'Ernest'?
3. Who is Jack's real mother?
4. What is Jack's birth name?
5. How did Miss Prism recognize the handbag?
6. Jack makes up a story about his brother Ernest dying in $\qquad$
7. When does Lady Bracknell start liking Cecily?
8. Who lost Jack when he was a baby?
9. What two things, according to Aunt Augusta, are not the same and rarely go together?
10. On what grounds does Jack Worthing, Cecily's guardian, refuse to allow Cecily and Algernon's engagement?
B Explain the context of any TWO of the following quotations in about 200-250 words
$(2 \times 5=10)$
11. Yes. But why does your aunt call you her uncle? 'From little Cecily, with her fondest love to her dear Uncle Jack.' There is no objection, I admit, to an aunt being a small aunt, but why an aunt, no matter what her size may be, should call her own nephew her uncle, I can't quite make out. Besides, your name isn't Jack at all; it is Ernest.
12. Lady Bracknell, I admit with shame that I do not know. I only wish I did. The plain facts of the case are these. On the morning of the day you mention, a day that is for ever branded on my memory, I prepared as usual to take the baby out in its perambulator.
13. So I know my constitution can stand it. If you are not quite sure about your ever having been christened, I must say I think it rather dangerous your venturing on it now. It might make you very unwell. You can hardly have forgotten that someone very closely connected with you was very nearly carried off this week in Paris by a severe chill.
C Sketch the character of ariy TWO of the following in about 200-250

## words:

$(2 \times 5=10)$

1. Algernon Moncrieff
2. Gwendolen Fairfax
3. Lady Bracknell

D Answer any ONE of the following question in about 300-400 words each:
$(1 \times 10=10)$

1. How is the gulf between the upper, middle and lower classes represented in the play 'Importance of being Earnest'?
2. Explain the pun in the title. Who is being Earnest in this play? Do Gwendolen and Cecily prefer having husbands named Ernest to having earnest husbands?

IV A Read the following comprehension passage and answer the questions
( $5 \times 1=5$ )
Experiments are sometimes made by experts to find out how many errors people make in their statements. Here is one experiment which was tried. Some students at a university were shown on a screen a picture of a bullfight. They were then asked to write a short account of what they had seen. When this was finished, they were told to put a number on every statement made.

1. If they were fairly sure about it and 2. If they were prepared to swear to the statement on oath. Every student had at least ten percent error in the statements he was prepared to swear on oath and considerably more than ten percent in the other group. Here, for example, was one mistake. A student saw the bull had its tongue out. Yet when he was shown the picture again, he was that the bull's mouth was closed, but that, because its head turned to the side, the ear looked like the tongue. So whenever you are arguing with someone about a point, remember that there is quite a good chance that you are wrong, however, confident you feel about it.
2. What was the aim of the experiment tried at the university?
3. What were the students shown on the screen?
4. What were they asked to do when it was shown?

## ST:ASOYCTIS COLLEGE

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4. What was the extent of errors in their statements?
5. One student made a mistake in regard to the position of the bull's -------. Complete this sentence with the correct alternative:
a) head
b) tongue
c) mouth
d) ear

B The line graph below shows Sam's weight from January to May. Summarise the information in the chart by selecting and reporting the (5 marks) main features.


C Write a short story on the following topic
The pretty girl next door
D Prepare an MC's draft for sports day.

## St Aloysius College (Autonomous) <br> Mangaluru

B.A./B.Sc. /B.Com./B.B.A/B.C.A Semester II - Degree Examination April - 2018<br>FRENCH

Time: 3 hrs.
Max Marks: $\mathbf{1 0 0}$
I. Choisissez entre l'imparfait et le passé composé $10 \times 1=10$

Superman Robert ( travaillait, a travaillé ) à Service Canada. Il ( aimait, a aimé ) son travail, mais il y (avait, a eu ) un problème. Robert (était, a été ) amoureux d'une collègue de travail qui s'(appelait, est appelée) Nathalie. Elle (ne savait pas, n'a pas su ) que Robert (existait, a existé).

Un jour, Robert ( écrivait, a écrit ) dans son bureau quand tout à coup il y (avait, a eu ) une explosion dans la rue. $\mathrm{C}^{\prime}$ ( était, a été ) une mission pour Superman! Robert ( entrait, est entré ) dans une cabine téléphonique. II (ne savait pas, n'a pas su ) que Nathalie (le regardait, I' a regardé ). Il ( changeait, a changé ) de vêtements et tout de suite il ( devenait, est devenu ) Superman! À ce moment, Nathalie ( savait, a su ) le secret de Robert, et elle (tombait, est tombée ) amoureuse de lui.

## II. Lisez et répondez



JEANNE D' ARC.
Tout le monde autour de vous, connaît le nom de Jeanne d'Arc. Qui est-elle ? Jeanne d'Arc est née à Domrémy, en Lorraine, le 6 janvier 1412. Ses parents étaient paysans. Elle passa les premières années de sa vie à garder, aux champs, les moutons de son père. Il faut vous dire qu'à cette époque, notre pays, la France, était presque entièrement prisonnier des Anglais. La France était en guerre contre l'Angleterre depuis bientôt cent ans. Notre armée n'existait plus, nous n'avions pas de roi et les soldats pas de chef. C'est à treize ans que Jeanne crut pour la première fois entendre des voix. Que lui disaient ces voix ? Tout simplement, de chasser les Anglais hors de France et de faire couronner roi, à Reims, le dauphin Charles VII.

Elle revêt l'armure des chevaliers, monte à cheval et conduit ses maigres troupes vers la ville d'Orléans encerclée par une solide armée anglaise. 8 mai 1429 : elle a 17 ans. Jeanne, bien droite sur son cheval, son étendard au poing, donne aux Français un si beau courage qu'ils gagnent. Elle veut ensuite conduire Charles à Reims pour qu'il soit sacré Roi de France. À la tête de ses soldats, après de nombreuses batailles, elle réussit: le 17 juillet 1429 notre pays a de nouveau un roi: Charles VII. L'année suivante, elle est faite prisonnière et vendue aux Anglais pour dix mille pièces d'or. Jeanne est conduite à Rouen et enfermée dans la prison du château. Elle est condamnée à être brûlée vive, comme une sorcière. Elle est morte le 30 mai 1431, brûlée sur la place du Vieux Marché, à Rouen. Elle avait dix-neuf ans. Elle est morte, abandonnée de tous, de son Roi, de ses soldats, alors qu'elle avait sauvé la France. Mais, grâce à l'exemple qu'elle a donné, les Français reprennent courage et en quelques années, chassent les Anglais hors du pays.
a) Quel âge Jeanne d'Arc avait-elle quand elle était morte?
b) Quelle est sa date de naissance?
c) Qui les français chassent-ils de France après la mort de Jeanne d'Arc ?
d) Comment va s'appeler le Roi de France ?
e) Dans quel château rencontre-t-elle Charles VII ?
f) Comment est morte Jeanne d'Arc ?
g) Pour combien de pieces d'or, Jeanne est-elle vendue aux anglais ?.
h) Que veut faire Jeanne après avoir délivré Orléans?
i) Qui essaye de délivrer Jeanne aux anglais?
j) A quelle date délivre-t-elle Orléans ?
III. répondez six questions au choix

1. L'école de demain, c'est quoi pour vous?
2. Parlez du système de travail en France.
3. Que pensez-vous du mot "interdiction". Quelles sont les interdictions nécéssaires pour bien vivre dans la société?
4. Que pensez-vous de la presse en générale? Est-ce que les presse sont fiables? Pourquoi?
5. Pourquoi faut-il apprendre une langue étrangère? Quells sont les avantages lors qu'on connaît une langue étrangère?
6. Quels sont vos opinions sur les fêtes sans frontiers? Pourquoi?
7. De quoile chapitre 3 parle-t-il?

## IV. Ecrivez un dialogue au choix

$10 \times 1=10$

1. Vous devez aller d'urgence dans une pharmacie. Vous garez votre voiture sur une place de stationnement interdit. Un policier arrive...

Ou
2. Votre ami(e) va un entretien pour trouver du travail. Vous lui donnez des conseils sur comment s'habiller, se présenter, comment parler etc.

## V. Ecrivez une lettre

1. Vous allez partir en France à Paris pour un program d'échange à l'Université René Descartes. Vous avez un correspondant s'appelle Pascal. Ecrivez-lui en donnant des informations vous concernant et concernant votre programme.

Reg. No:

Max. Marks: 100

## St Aloysius College (Autonomous) Mangaluru

B.A./B.Sc./B.Com./B.B.A./B.C.A Semester II - Degree Examination

## April - 2018 <br> MALAYALAM










Contd... 2








## 

Life goals are something that people themselves and work hard to active. These goals could be something you personally want to achieve in your career. Such as working your way up in a company to end up in a well paid job that you are happy in. Life goals can also be personal, where people set themselves the goal of buying a house, getting married and having a family. A further type of goal is an academic one. This could be the wish to gain a college degree or a masters. Life goals are personal to the individual who set them one person might see climbing the career ladder as more important than starting a family and getting married.
There is a debate as to whether people should actually set themselves life goals. Some people may find that the process effect on them as it provides something to work towards.

Reg. No. : $\square$

## St Aloysius College (Autonomous) <br> Mangaluru

## B.Sc. Semester II- Degree Examination <br> April - 2018 <br> PHYSICS <br> MECHANICS, RELATIVITY AND PHOTONICS

Time: $\mathbf{3}$ hrs.
Max Marks: 100

## SECTION - A

## Answer any TEN of the following.

$(10 \times 2=20)$
1.a) Distinguish between inertial and non-inertial frames of reference.
b) What are multistage rockets? Mention one of its advantages.
c) State perpendicular axes theorem.
d) What is a compound pendulum?
e) Give Galilean transformation equations.
f) State the laws of special theory of relativity.
g) What is meant by length contraction?
h) Explain the term, rest mass of a body?
i) What is induced absorption?
j) What is metastable state?
k) Define directionality of a laser beam.
I) Define neper.

## SECTION - B

Answer TWO full questions from each unit:
UNIT - I
2. a) Obtain an expression for the period of oscillation of a spiral spring.
b) State the laws of conservation of linear momentum and law of conservation of angular momentum.
3. a) State and prove parallel axes theorem.
b) Explain coriolis force with an example.
4. a) Show that the centre of suspension and centre of oscillation are interchangeable. Discuss the condition for minimum and maximum period of oscillation of a compound pendulum.
b) Define moment of inertia of a body and its radius of gyration. Give their units.

## UNIT - II

5. a) With a neat diagram, explain Michelson-Morley experiment.
b) Explain Galilean invariance of space.
6. a) Obtain relativistic mass-energy relation.
b) Give Lorenz transformation equations.

G 501.2
7. a) Obtain relativistic law of addition of velocities using Lorentz transformation equations.
b) Explain the variation of mass with velocity.
UNIT - III
8. a) Explain the laser action.
b) Give the labelled diagram of a diode laser.
9. a) Explain the action of a helium-neon laser.
b) Explain a graded index optical fibre.
10.a) What are photonic crystals? Explain one dimensional photonic crystal and mention its applications.
b) Give the characteristics of laser.

## SECTION - C

## Answer any FOUR of the following:

11. Calculate the pseudo force and apparent force acting on a body of mass 5 kg relative to a frame moving vertically upwards on earth with acceleration of $5 \mathrm{~m} / \mathrm{s}^{2}$.
12. A rocket is designed to attain a maximum speed of $4.6 \mathrm{~km} / \mathrm{s}$. Mass of the rocket without fuel is 100 kg . What should be the mass of the fuel? Given that velocity of the escaping gas is $2 \mathrm{~km} / \mathrm{s}$.
13. The rest mass of a proton is 2000 times that of an electron. Calculate the speed at which an electron should travel so that its mass will be equal to the rest of the proton.
14. Calculate the mass of the electron when it is moving with a kinetic energy of 10 MeV .
15. Laser beam has a band-width of 2500 Hz . What are the values of coherence time and coherence length?
16. A laser source of wavelength 500 nm has a power output of $10^{-3} \mathrm{~W}$. Find the number of photons emitted per second.
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## Reg. No: <br> St Aloyslus College (Autonomous)

## Mangaluru <br> B.Sc. Semester II - Degree Examination <br> April - 2018 <br> CHEMISTRY- Paper II

Time: 3 Hours
Max. Marks: $\mathbf{1 0 0}$
Instructions:

1. Write the question number and subdivision clearly.
2. Write equations and diagrams wherever necessary.
3. Answer Part - A in the first two pages of the answer book

## PART - A

## Answer any TEN of the following questions in $\mathbf{1}$ to $\mathbf{3}$ sentences

$(2 \times 10=20)$

1. a) Explain protic solvents with suitable examples.
b) State the law of constancy of interfacial angles.
c) What is meant by unit cell of a crystal?
d) Alkali metals are stronger reducing agents than alkaline earth metals. Why?
e) What are Zeolites?
f) Give a method of preparation of cyanides.
g) What are epoxides? Give an example.
h) How does ethylene glycol react with sodium?

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i) What is $S_{N} 2$ reaction? Give an example.
j) What is meant by dry test? Give any one example.
k) Give one example each for precipitation titration and complexometric titration.
I) Define Normality of a solution.

## PART - B

Answer any TEN of the following questions in $\mathbf{2}$ to $\mathbf{5}$ sentences
$(3 \times 10=30)$
2. i) What is dielectric constant of a solvent? How does it affect solubility?
ii) Define plane of symmetry. How many planes of symmetry are there in a cubic crystal?
iii) Explain Enzyme catalysis with an example.
iv) Discuss the complexation tendencies of alkali metals with crown ethers.
v) Explain the extraction of Lithium from silicate mineral.
vi) Discuss the diagonal relationship between Beryllium and Aluminum.
vii) Explain the mechanism of $E_{2}$ reaction.
viii) How does oxalic acid react with Glycerol at $110^{\circ} \mathrm{C}$.
ix) Explain auto oxidation of ethers with an example.
x) Give the Principle behind the gravimetric analysis.
xi) How are the qualitative analytical techniques classified on the basis of sample size?
xii) Give the principle behind the precipitation titrations.

## PART - C <br> Answer any TEN of the following questions <br> $(5 \times 10=50)$ <br> 3. Explain the complex formation reactions in water and liquid ammonia with suitable examples.

4. Derive Bragg's equation $n \lambda=2 d \sin \theta$ for a crystalline solid.
5. Explain how structure NaCl is determined by Bragg's method?
6. Compare ionization potential and flame coloration of alkali metals and Alkaline earth metals.
7. Explain the extraction of Beryllium from mineral beryl.
8. What is diagonal relationship? What are its causes? Discuss the diagonal relationship between lithium and magnesium (any two properties).
9. Describe Ziesel's method for the estimation of alkoxy group in ethers.
10. Explain the synthesis of glycerol from propene.
11. Discuss the mechanism of $\mathrm{S}_{\mathrm{N}} 1$ reaction.
12. Explain the principles involved in volumetric analysis.
13. Explain Classification of titrations based on reactions involved. Name the suitable indicators required for these titrations.
14. Define the terms molarity and molality.

49 g of Sulphuric acid dissolved in 500 ml of solution. Calculate the molarity of the solution. (molecular wt of $\mathrm{H}_{2} \mathrm{SO}_{4}$ is 98).
(2014 Batch onwards)

Reg. No:


# St Aloysius College (Autonomous) <br> Mangaluru <br> B.Sc. Semester II - Degree Examination April - 2018 <br> MATHEMATICS - Paper II <br> Calculus, Number Theory and Differential Equation 

Time: 3 Hours
Max. Marks: 100
Note: Answer all parts
PART - A

## Answer any TEN of the following.

1. Find $\lim _{x \rightarrow 0} \frac{x}{1-e^{x}}$.
2. Suppose $f(x)=x^{3}, g(x)=x^{2}$, find the number $z$ in $(0,2)$ which satisfies the conclusion of Cauchy Mean Value theorem.
3. Evaluate $\int_{-\infty}^{2} \frac{d x}{(4-x)^{2}}$.
4. Define length of an arc.
5. Given the parametric equations $x=3 t^{2}$ and $y=4 t^{3}$, find $\frac{d y}{d x}$ and $\frac{d^{2} y}{d x^{2}}$ without eliminating $t$.
6. If $R(t)$ is the position vector of curve $C$ at a point $P$ on $C$, define unit tangent vector of $C$ at $P$ and unit normal vector at $C$.
7. Prove that square of an integer is of the form $4 k$ or $4 k+1$.
8. If $a \mid c$ and $b \mid c$ with g.c.d. $(a, b)=1$, prove that $a b \mid c$.
9. Determine if the Diophantine equation $14 x+35 y=93$ has a solution.
10. Solve: $y^{\prime}=x-4 x y$.
11. Determine whether the function $f(x, y)=\left[x-y \tan ^{-1}\left(\frac{y}{x}\right)\right] d x+\left[x \tan ^{-1}\left(\frac{y}{x}\right)\right] d y$ is homogeneous or not. If it is homogeneous find the degree.
12. Solve : $(x+y) d x+(x-y) d y=0$.
13. Find the orthogonal trajectories of the family of parabolas $y^{2}=4 a x$.
14. Solve : $p^{2}+p(x+y)+x y=0$
15. Find the singular solution of the equation $x p^{3}-y p^{2}+1=0$.

## PART - B <br> UNIT - I

## Answer any THREE of the following.

1. Evaluate $\int_{0}^{\infty} x e^{-x} d x$ if it converges.
2. State Cauchy Mean Value theorem and verify the theorem for $f(x)=3 x^{2}+3 x-1$ and $g(x)=x^{3}-4 x+2$ in the interval $(0,1)$.
3. Let $f$ and $g$ be functions that are differentiable for all $x>N$, where $N$ is positive constant, and suppose that for all $x>N, g^{\prime}(x) \neq 0$. Then if $\lim _{x \rightarrow \infty} f(x)=0$ and $\lim _{x \rightarrow \infty} g(x)=0$ and if $\lim _{x \rightarrow \infty} \frac{f^{\prime}(x)}{g^{\prime}(x)}=L$ then prove that $\lim _{x \rightarrow \infty} \frac{f(x)}{g(x)}=L$.
4. State and prove Taylor's theorem.
5. Use a Maclaurin polynomial to find the value of $\sqrt{e}$ accurate to four decimal places.

## UNIT - II

## Answer any THREE of the following.

1. Given the curve having parametric equations $x=t^{3}-3 t$ and $y=3 t^{2}$, find the unit tangent vector and unit normal vector.
2. If $\vec{R}$ is a differentiable vector-valued function on an interval and $\|\vec{R} t\| \|$ is constant for all ' $t$ ' in the interval then prove that $\overrightarrow{R(t)}$ and $D_{1} \overrightarrow{R(t)}$ are orthogonal.
3. Find the length of the cardioid $r=2(1+\cos \theta)$.
4. Find the radius of curvature of the curve $y=\frac{1}{x}$ at the point $(1,1)$.
5. If $\vec{R}$ is vector valued function defined by $\overrightarrow{R(t)}=f(t) i+g(t) j$ then prove that $\overrightarrow{R^{\prime}(t)}=f^{\prime}(t) i+g^{\prime}(t) j$ if $f^{\prime}(t)$ and $g^{\prime}(t)$ exists.

## UNIT - III

## Answer any THREE of the following.

1. If $S$ be a set of positive integers with the properties
(i) $1 \in S$ (ii) Whenever the integer $k \in S, k+1 \in S$
then prove that $S$ is the set of all positive integers.
2. If $a$ and $b$ are integers with $b>0$ then prove that there exist unique integers $q$ and $r$ such that $a=q b+r, 0 \leq r<b$.
3. Prove that the expression $\frac{a\left(a^{2}+2\right)}{3}$ is an integer for all $a \geq 1$.
4. Solve the Diophantine equation $172 x+20 y=1000$.
5. State and prove fundamental theorem of Arithmetic.

## UNIT - IV

## Answer any THREE of the following.

1. Solve: $x y d x+\left(x^{2}+y^{2}\right) d y=0$
2. Solve: $3 x(x y-2) d x+\left(x^{3}+2 y\right) d y=0$.
3. Solve: $y d x+(3 x-x y+2) d y=0 .$.
4. Solve: $\frac{d y}{d x}=y-x y^{3} e^{-2 x}$.
5. Solve: $(y-x+x y \cot x) d x+x d y=0$.


UNIT - V

## Answer any THREE of the following.

$(3 \times 5=15)$

1. Find the orthogonal trajectories of the family of cardioids $r=a(1+\cos \theta)$. Draw a few curves of each family.
2. Solve the differential equation $x y p^{2}+(x+y) p+1=0$.
3. Find the $p$-discriminant and the solutions contained in the $p$-discriminant of $p^{2}-x p+y=0$.
4. Find the general solution and also the singular solution, if it exists, of the differential equation $p^{2}+x^{3} p-2 x^{2} y=0$
5. Define Clairaut's equation and solve the differential equation $2 x p^{3}-6 y p^{2}+x^{4}=0$.
$\square$

# St Aloysius College (Autonomous) <br> Mangaluru 

B.Sc. Semester II - Degree Examination

April - 2018

## ELECTRONICS

## Transistor Biasing Circuits, Small Signal Amplifiers, Field Effect Transistors and Digital Circuits

Note: This question paper has three sections. Section A, Section B and Section c. Answer all sections.
Time: $\mathbf{3}$ hrs.
Max Marks: 100

## SECTION - A

1. Choose the correct answer from the choices given at the end of each question and write the correct answer.
( $12 \times 1=12$ )
i) The maximum peak to peak output voltage swing in a transistor amplifier is obtained when the Q-point of a circuit is located $\qquad$
a) Near saturation point
b) At the centre of the load line
c) Near cut-off point
d) At least on the load line
ii) If the two stages of a cascaded amplifier have voltage gains of 90 dB and 60 dB , the overall gain in dB is $\qquad$
a) 5400
b) 150
c) 3500
d) 75
iii) $\qquad$ transistor amplifier has the lowest input impedance.
a) CE
b) $C B$
c) CC
d) cascaded CE
iv) The charge carriers responsible for conduction in p-channel FET are $\qquad$
a) electrons
b) holes
c) both holes \& electrons
d) positrons
v) The constant current area of a FET lies between
a) cutoff and saturation
b) cutoff and pinchoff
c) pinchoff and breakdown
d) $o$ and Idss
vi) A certain JFET has $V_{\text {Gsoff }}=-4 \mathrm{~V}$. The pinchoff voltage is $\qquad$
a) -2 V
b) -4 V
c) +4 V
d) depends on $V_{G S}$
vii) The output frequency of a Wein-Bridge oscillator is given by
a) $f=\frac{1}{2 \pi R C}$
b) $f=\frac{1}{2 \pi \sqrt{3 R C}}$
c) $f=\frac{1}{2 \pi \sqrt{6} R C}$
d) $f=\frac{1}{2 \pi \sqrt{R C}}$
viii) Which of the following statement is wrong with respect to oscillators?
a) It is DC to AC converter.
b) It is a positive feedback amplifier
c) It is a positive feedback amplifier with external input
d) It gives repetitive output waveform without any external input.
ix) In a phase shift oscillator a minimum number of $\qquad$ RC sections are required in the feedback network.
a) 2
b) 3
c) 4
d) 1
x) A full adder is $\qquad$ Inputs and $\qquad$ Outputs.
a) 2,2
b) 3,2
c) 2,1
d) 1,2
xi) A 2-bit magnitude comparator has $A=1, B=0$ on its inputs, the outputs are
$\qquad$
a) $A>B$
b) $A<B$
c) $A=B$
d) $A=B=0$
xii) RS flip-flops resets when
a) $R=0, S=0$
b) $R=1, S=0$
c) $R=0, S=1$
d) $R=1, S=1$
2. Answer any TEN questions.
(10x1=10)
i) Mention the merit of universal bias circuit.
ii) The CE amplifier is most widely used. Why?
iii) Write the expression for dc load line of emitter feedback bias circuit.
iv) Draw the symbol of $p$-channel D-MOSFET.
v) Define the term pinchoff voltage with respect to JFET.
vi) Write the truth table of T-flipflop.
vii) Write any one advantage of crystal oscillator.
viii) State Barkhaussen criterion.
ix) Why master slave JK flip-flop is used in place of normal JK flip-flop?
$x)$ What is a half subtractor?
xi) What is the drawback of an encoder?
xii) What is a bypass capacitor?
3. Answer any TEN questions.
( $10 \times 2=20$ )
i) What is meant by stabilization of a Q-point? Why we need to stabilize the Q-point of a transistor?.
ii) Define cutoff frequency of an amplifier. Why is it called -3 dB frequency?
iii) Compare any four parameters of $\mathrm{CE}, \mathrm{CB}$ and CC amplifiers.
iv) For a JFET, drain current varies from 5 mA to 4.2 mA when $\mathrm{V}_{\mathrm{GS}}$ changes from 5 V to 8 V . Calculate $\mathrm{r}_{\mathrm{d}}$.
v) Write any two differences between DMOSFET and EMOSFET.
vi) Derive the relation between FET parameters.
vii) Mention any two advantages of LC oscillators over RC oscillators.
viii) What are damped oscillations? Draw its waveform.
ix) Draw the logic diagram of 1 to 4 DE-MUX using logic gates.
x) What is a decoder? Explain.
xi) Draw the logic circuit symbol and truth table of $D$ flip flop.
xii) Write the Boolean expression and truth table of Half Adder.

## SECTION - B

4. Answer any SEVEN questions.
i) Write a note on CB amplifier.
ii) Draw the Dc loadline for a voltage divider bias circuit and mark Q-point on the Dc load line for the following data.
$V_{C C}=12 \mathrm{~V}, \mathrm{R}_{1}=2 \mathrm{k} \Omega, \mathrm{R}_{\mathrm{Z}}=1.2 \mathrm{k} \Omega, \mathrm{R}_{\mathrm{C}}=330 \Omega_{L} \mathrm{R}_{\mathrm{L}}=100 \Omega, \mathrm{~V}_{\mathrm{DE}}=0.7 \mathrm{~V}$ and $\beta_{\mathrm{dc}}=100$.
iii) Explain the action of Emitter feedback bias.
iv) Mention the differences between a JFEJ and BJT .
v) Explain transfer characteristics of $n$-changel enhancement type MOSFET.
vi) With block diagram explain any two types of feedback connections.
vii) Design a Wein bridge oscillator to get, its frequency of oscillations as 10 kHz . Choose $\mathrm{C}_{\mathrm{F}}=0.02 \mu \mathrm{~F}$.
viii) Design a full adder using combinational circuit design procedure.
ix) Design 4 to 1 MUX for the Boolean expression $Y(A, B, C)=\Sigma m(1,3,4,5)$
x) Explain the working of clocked RS flip-flop.

## SECTION - C

## Answer any THREE full questions.

5. a) Draw the circuit diagram of collector feedback bias. Derive the expression for the DC load line of a collector feedback circuit.
b) Calculate the voltage gain and output resistance of common source JFET amplifier having $R_{D}=3 k \Omega, R_{G}=1 M \Omega$ and $R_{S}=800 \Omega$. The FET used has $r_{d}=80 \mathrm{k} \Omega$ and $g_{m}=-3.2 \mathrm{mv}$. Also calculate the amplification factor $\mu$ of the FET.
6. a) Using combinational circuit design procedure, design a code converter to convert 4-bit binary code to gray code.
b) With circuit diagram explain the working of Colpitts oscillator. Give the expression for its frequency of oscillations.
7. a) With logic circuit and timing diagram explain the working of JK flipflop.
b) Obtain the $h$-parameter ac equivalent circuit of a CE amplifier and hence obtain the expression for voltage gain.
8. a) Draw the circuit diagram of common source FET amplifier. Using AC equivalent circuit of the FET, derive an expression for voltage gain and input resistance.
b) With necessary diagram derive the expression for the gain of a negative feedback amplifier.
$\square$

# St Aloysius College (Autonomous) <br> Mangaluru <br> B.Sc. Semester II - Degree Examination <br> April - 2018 <br> COMPUTER SCIENCE C PROGRAMMING 

Max Marks: 100
PART - A

1. Answer any TEN of the following.
$(10 \times 2=20)$
a) What are keywords? Give example.
b) Write the syntax of defining enumerated date types.
c) Write the equivalent ' $C$ ' expression for the following:
i) side $=\sqrt{a^{2}+b^{2}-2 a b \cos (x)}$
ii) Area $=\Pi r^{2}+2 \Pi r h$
d) What is the use of sizeof() operator? Give example.
e) Write any two rules to be followed while defining a variable.
f) What is the use of getchar() function?
g) Write the equivalent conditional operator statement for the following:

$$
\begin{aligned}
& \quad \begin{array}{l}
i f(a>b) \\
\quad n=50 \\
\text { else } \\
\quad n=100
\end{array}
\end{aligned}
$$

h) Why "continue" statement is used in C?
i) Write the syntax of while statement.
j) What are actual and formal parameters?
k) Write the syntax of gets() function. What is the advantage of using 'gets' over scanf with \%s?
I) Differentiate between Union and Structure.

PART - B

## Answer any ONE full question from each unit.

## Unit I

2. a) Explain logical, Increment/Decrement and conditional operators along with suitable examples to each.
b) Explain the basic structure of a C program.
c) Explain different primary data types with examples to each.
3. a) What are preprocessor directives? Explain.
b) Explain any four mathematical functions used in $C$.
c) Write a note on precedence of operator and associativity.
d) Explain the formatted input and formatted output statements in $\mathbf{C}$.

## Unit II

4. a) What do you mean by looping? Explain for loop with its syntax andsuitable example.b) Explain switch statement along with its syntax and suitable example.(8)c) What are arrays? Describe how we can declare and initialize one-dimensional array.5. a) Explain different types of if statements with syntax and examples.(8)b) Explain do-while statement along with its syntax and example.(6)c) Write a C program to find GCD of two numbers.(6)
Unit III
5. a) Explain any four string handling functions along with their syntax and examples to each. ..... (8)b) What is a function? What is the need for user defined function?(6)
C) Write a C program to count number of vowels in a string.(6)
6. a) List the categories of user defined functions based on their arguments and return values. Explain any two with suitable examples. ..... (8)b) List various storage classes and explain any two.(6)c) What is recursion? Explain with suitable example.(6)
Unit IV8. a) What is a structure? With syntax and example explain how structurevariables and members are declared and defined.
b) What is a pointer? With a suitable example, explain how we can declare, and initialize a pointer variable.
c) Explain getw() and putw() functions along with their syntax and examples
7. a) A file named DATA.DAT contains a series of integers, Write a $C$ program to read these numbers and then write odd numbers to a file ODD.DAT and even numbers to another file EVEN.DAT.
b) Write a note on union.
c) Explain how we can pass pointers to functions.

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Reg. No: <br> St Aloysius College (Autonomous) <br> Mangaluru <br> B.Sc. Semester II - Degree Examination
$\square$

\title{

April - 2018

# April - 2018 <br> STATISTICS Probability Distributions 

Time: 3 Hours
Note: Answer all parts


Max. Marks: 100

## PART - A

Answer any TWELVE of the following.
$(2 \times 12=24)$

1. Define mathematical expectation of a continuous random variable.
2. Define expectation of a linear combination of random variables.
3. With usual notations prove that $\operatorname{cov}(a x, b y)=a b \operatorname{cov}(x, y)$
4. Compute the mode of a binomial distribution with $\mathrm{n}=7$ and $P=1 / 4$
5. Give two examples for Poisson distribution.
6. If $X$ has an exponential distribution with mean $\theta$. Find the distribution function.
7. If $X$ and $Y$ are independent normal variates, what is the distribution of $X+Y$.
8. State its relation of Beta variate with Gamma variate.
9. Show that uniform distribution is the particular case of the Beta distribution of first kind.
10. Write down the p.d.f. of Beta distribution of first kind.
11. Obtain the distribution function of a rectangular distribution over the range ( $a, b$ )
12. Give two real life situations where in the exponential distribution is appropriate.
13. If $x_{1}, x_{2} \ldots x_{n}$ is a random sample from normal with mean $\mu$ and variance $\sigma^{2}$.

What is the probability distribution of $\bar{X}$ ?
14. When is Binomial distribution said to be symmetric?
15. For a Binomial distribution mean is 6 and standard deviation is 2 , write down the p.m.f.

## PART - B

Answer any SIX of the following.
16. State and prove the addition theorem of expectation of two discrete random
17. If $X$ has uniform distribution $[0,1]$ find the distribution of $Y=-2 \log X$.
18. Show that mean and variance of Poisson distribution are equal.
19. Derive the mean and variance of Beta distribution of first kind.
20. Find the median of Cauchy distribution with parameter $\lambda$ and $\theta$.
21. Obtain the m.g.f of the distribution with p.d.f $f(x)=\frac{1}{\theta} e^{-x / \theta} x>0, \theta>0$.
22. Show that hypergeometric distribution tends to binomial distribution.
23. If X follows exponential distribution with density function, $f(x)=\frac{1}{\beta} e^{-x / \beta}, x>0, \beta>0$. Find the mean and variance.
24. Find the m.g.f. of gamma variate with parameter $n$ and $\lambda$ and hence derive its mean and variance.

## PART - C <br> Answer any FOUR of the following. <br> $(10 \times 4=40)$

25. a) Prove that higher order moments does not exist for Cauchy distribution.
b) Find mode of binomial distribution.
26. a) Obtain the recurrence relation for the central moments of Poisson distribution.
b) Obtain the mean deviation from mean for normal distribution.
27. a) Derive the expression of even order central moments of normal distribution.
b) Define beta distribution of the second kind. Find its mean and variance.
28. a) Obtain the variance of a linear combination of discrete random variables.
b) Obtain the mean and variance of hypergeometric distribution.
29. a) State and prove memoryless property of geometric distribution.
b) If $X$ and $Y$ are two independent gamma variates with parameters $m$ and $n$ respectively. Find the distribution of $\frac{x}{x+y}$ and identify the distribution.
30. a) If $x \sim \beta_{1}(m, n), y \sim \gamma(2, m+n)$. Find the distribution of $z=x y$ and identify the distribution.
b) Obtain the m.g.f. of negative binomial distribution.
$\square$

## St Aloysius College (Autonomous) Mangaluru

B.Sc. Semester II - Degree Examination April - 2018
BOTANY
Biodiversity II, Cell Biology, Histology and Anatomy
Time: $\mathbf{3}$ hrs.
Note: 1) Answer all the sections
Max Marks: 100
ii) Draw the diagrams wherever necessary

## SECTION - A

Answer any TEN of the following in a few sentences each. ( $10 \times 2=20$ )

1. What are bast fibers? Where do you find them?
2. Write any four economic importance of lichens.
3. What is lignicolous fungus? Give an example.
4. What is a moss flower?
5. What are biopesticides? Give an example.

6. Draw a neat labelled sketch of asexual stage in Penicillium.
7. Name the pathogens of a) Bunchy top of Banana
b) Bud rot of coconut
8. Mention any four characteristic features of collenchyma.
9. What are bulliform cells? Mention the significance.
10. What are pseudo-elators? Where do you find them?
11. Write two features of class Hepaticopsida.
12. Name any four disease causing species of Phytophthora.

## SECTION - B

II. Answer any SIX of the following:

1. With a neat labelled diagram, explain the structure of Xylem vessels.
2. Write a note on Tunica corpus theory.
3. Explain the anatomy of Anthoceros thallus.
4. Describe the morphology of Porella.
5. Write a note on Root knot of tomato.
6. Explain different types of lichens based on morphology.
7. Explain the Asexual stage of Rhizopus.
8. Explain V.S of Peziza apothecium.

## III. Answer any FIVE of the following:

1. Describe the stelar secondary growth in dicot stem.
2. Describe the stages of Mitosis.
3. Describe the stages of Puccinia in secondary host.
4. Explain V.S of capsule in Funaria.
5. Write a detailed account on endomycorrhizae.
6. Describe (a) Blast disease in rice \& (b) smut disease in sorghum.
7. Describe the morphology and anatomy of Riccia thallus.
8. Give a detailed account on the economic importance of fungi.

## (2014 Batch onwards)

Reg. No.: $\begin{array}{r}\square \\ \\ \hline\end{array}$
St Aloysius College (Autonomous)
Mangaluru

## B.Sc. Semester II - Degree Examination <br> April - 2018 <br> ZOOLOGY <br> Animal Diversity (Chordata)

rime: 3 Hours.
Max Marks: 100
Note: I) Answer any TEN questions from PART A and ONE FULL question from each unit of PART B.
ii) Draw diagrams wherever necessary.

PART-A
I Answer any TEN of the following.
(10×2=20)
a) What is retrogressive metamorphosis? Give an example.
b) Write any four differences between lampreys and hagfishes.
c) Name the different types of lateral fins. Where are they found in fishes?
d) Write the scientific names of mackerel and dog fish.
e) Draw a diagram of atlas vertebra.
f) Name any four amphibians.
g) What are arcades and fossae?
h) Write any four salient features of order squamata.
i) What is heterocoelous vertebra? Where do you find it?
j) Give any two examples of prototheria.
k) Explain the term - i) diphyodont ii) blubber
I) What is diastema?

## PART - B

## Select ONE full question from each unit.

## Unit I

II a) With a neat labelled diagram, explain the externals of Amphioxus.
b) Enumerate the general characters of urochordata.
c) Discuss the structure of Ammocoete larva.

## OR

III a) Enumerate the general characters of cyclostomata with two examples.
b) With a neat labelled diagram describe the external features of lamprey.
c) Give the schematic classification of subphylum vertebrata.

## Unit II

IV a) Give an account of general characters of amphibia. Classify upto orders with examples.
b) Enumerate the differences between chondrichthyes and osteichthyes.
c) Draw a neat labelled diagram of the dorsal view of frog's skull.
$\mathbf{V}$ a) With a neat labelled diagram describe the hindlimb skeleton of frog. ..... (10)
b) Enumerate the differences between anurans and urodeles. ..... (5)
c) Describe the structure of mackerel. ..... (5)
Unit III
VI a) Write the general characteristics of class reptilia. Classify upto ..... (10) orders giving two characters and two examples for each.
b) Describe poison apparatus in cobra. ..... (5)
c) Give brief account of flight adaptation in birds. ..... (5)
OR VII a) Compare subclass archaeornithes with subclass neornithes. ..... (10)
b) Enlist the general characters of chelonia with examples. ..... (5)
c) Enumerate the distinctive features of impennae with example. ..... (5)
Unit IV
VIII a) With a neat labelled diagram explain the male reproductive system ..... (10) of rat.
b) Explain the reptilian features of prototheria. ..... (5)
c) Enumerate the characteristic features of order cetacea with two ..... (5) examples.
OR
IX a) Enumerate the distinctive features of sub class metatheria with two ..... (10) examples.
b) Write a note on ruminant stomach. ..... (5)
c) Enumerate the characteristic features of order perissodactyla with ..... (5) two examples.

# St Aloysius College (Autonomous) <br> Mangaluru 

B.Sc. - Semester II - Degree Examination

April - 2018
MICROBIOLOGY

## Basic Microbiology

[nstructions: Draw Diagrams wherever necessary.
Answer Questions from Part -A, B and C.
PART - A

1. Define/Answer any TEN of the following:
$(2 \times 10=20)$
a) Capsule
b) Halophiles
c) TMV
d) Virusoides
e) Plaque formation
f) Budding

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LIERARY MANGALORE. - 25 000:
g) Heterocyst
h) Amoebiasis
i) Causative agent of rocky mountain spotted fever
j) Capsid
k) Macro conidia
l) $\operatorname{Lipid} A$
PART - B

Answer ' $a$ ' or ' $b$ ' and ' $c$ ' is compulsory from each unit. ( $15 \times 4=60$ )

## UNIT - I

2.a) Explain the general properties and classification of mycoplasma.

OR
2.b) Give a detailed account on the structure of bacterial flagella. Add a note on the arrangement of bacterial flagella.
2.c) Write a note on cytoplasmic inclusions.
UNIT - II
3. a) Give an account on lysogenic cycle. Add a note on one step growth curve of viruses.
OR
3.b) Discuss on the methods used for virus cultivation.
3.c) Give an account on viroids.

## UNIT - III

4. a) Explain the morphology of penicillium. Discuss on the sexual reproduction.

## OR

4.b) Discuss the general characteristics of fungi. Write a note on spores and spore dispersal.
4. c) Briefly discuss the morphology of Rhizopus.

## UNIT - IV

5. a) Explain the general characteristics of cyanobacteria. Add a note on its classification.

OR
5. b) Explain the life cycle of plasmodium in man.
5. c) Write a short note on Balantidium coli.

PART - C
Answer any FOUR of the following.
6. a) Peptidoglycan
b) Morphology of yeast
c) Prions
d) Anabaena
e) Bacterial endospore
f) Actinomycetes

# St Aloysius College (Autonomous) Mangaluru <br> B.Sc. Semester II- Degree Examination <br> April 2018 <br> BIOCHEMISTRY <br> Human Physiology and Nutritional Biochemistry 

Time: 3 Hours
Max. Marks: 100
Instructions:

1. Write the question number and subdivision clearly
2. Write equations and diagrams wherever necessary
3. Answer Part - A I ithe first two pages of the answer book
PART - A

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

1. a) Define Blood volume.
b) Name the organs involved in maintaining the acid base balance of the body.
c) What is resting membrane potential?
d) Name any factors affecting BMR.
e) What are essential aminoacids? Give an example.
f) Mention the dietary sources for invisible fats.
g) Why selenium is important to the body?
h) Give the structural formula of vitamin B6.
i) What are the deficiency disorders of Folic acid?
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j) Mention the chief dietary source and daily requirement for vitamin-D.
k) Name the principle toxin present in Lathyrus sativa and which disease does it cause?
I) What is an appetite?

PART - B

## Answer any SIX of the following

$(6 \times 5=30)$
2. Give an account on acidosis and alkalosis.
3. What are blood buffers? Explain.
4. How do you determine the colorific value of foods by Bomb calorimeter?
5. Define i) NPU ii) PER iii) BV of proteins.
6. What are macronutrients? Explain the role of calcium in biological system.
7. Explain the biological role and deficiency symptoms of vitamin-A.
8. Explain the sources and harmful effects of dicoumarol and lead chromate.
9. Explain the composition and function of saliva.

PART -C
Answer any FIVE of the following
10. Describe the structure of liver lobule and add a note on detoxification mechanisms.
11. Write a short note on a) Structure of neuron.
b) Absorption and deficiency disorders of iodine.
12. Explain the physiological function and excretion of sodium and zinc in the body.
13. Write a short note on a) Vitamin-C as a redox reagent
b) Deficiency and dietary sources of pantothenic acid.
14. Give the structural formula, coenzymic forms and biological role of riboflavin.
15. What are carcinogens and procarcinogens? Write a note on trypsin inhibitors.
16. Give a detailed account on digestion, absorption and transport of proteins.

## (2014 batch onwards)

Reg. No.

## St Aloysius College (Autonomous) <br> Mangaluru

B.Sc. Semester II - Degree Examination

April - 2018
BIOTECHNOLOGY - Paper II
BIOCHEMISTRY
Time: $\mathbf{3}$ hrs.
Max Marks: 100

## Note: i) Answer all the questions <br> ii) Draw diagrams wherever necessary <br> PART - A

## Answer any TEN of the following.

1.a) Name two pyrimidine bases found in RNA.
b) Define reducing sugar. Give any two examples.
c) Mention any two properties of phospholipids.

d) List any two functions of vitamin A .
e) What is LB plot? Write its significance.
f) Define catabolism and anabolism.
g) What are alkaloids? Give an example.
h) Define secondary metabolism.
i) Define apoenzyme and holoenzyme.
j) Mention any two functions of adrenal hormones.
k) What is mutarotation?
I) What is $K_{m}$ ? Mention its significance.

PART - B
Answer any SIX of the following.
2. Why ATP is called Biological Energy currency? Justify.
3. Write a note on ETC.
4. Explain single and double displacement reactions with suitable example.
5. Describe the structure of DNA.
6. Explain the types of enzyme specificity.
7. Describe $\alpha$-helix structure of proteins.
8. Explain the structure and functions of starch.
9. Explain ring structure of glucose.

## PART - C

## Answer any FIVE of the following.

10. Discuss classification, physical properties and chemical reactions of fatty acids.
11. Give a detailed account on classification of standard amino acids.
12. Explain different factors affecting rate of enzymatic reaction.
13. Explain characteristics of enzyme catalyzed reaction and add a note on classification of enzymes.
14. Explain fat soluble vitamins.
15. Give a detailed account on glycolysis.
16. Discuss $\beta$-oxidation of fatty acids in detail.
17. Explain structure and functions of Maltose and Lactose.

Reg. No. $\square$

## St Aloysius College (Autonomous) Mangaluru

## B.Sc. Semester II - Degree Examination April - 2018 <br> ECONOMICS Principles of Economics - II

Max Marks: 100 time: $\mathbf{3}$ hrs.

PART - A

Answer any FOUR of the following questions in about 10 sentences each: ( $4 \times 5=20$ )

1. What is price discrimination?
2. What are the striking features of Oligopoly?
3. Differentiate between real wage and nominal wage.
4. Write a note on National Income.
5. What are the determinants of multiplier?
6. What do you mean by Inflationary Gap?


PART - B
Answer any FOUR of the following questions in about $\mathbf{2 0}$ sentences each:
( $4 \times 10=40$ )
7. Examine the role of time-element in price determination.
8. Explain the features of monopolistic competition.
9. Analyse liquidity preference theory of interest.
10. Examine the methods of national income estimation.
11. What is consumption function? What are its determinants?
12. Explain the causes responsible for inflation.

> PART - C

Answer any TWO of the following questions in about $\mathbf{5 0}$ to $\mathbf{6 0}$ sentences each:
( $2 \times 20=40$ )
13. What is Monopoly? Explain equilibrium price output determination under monopoly.
14. Explain Ricardian theory of rent. What are its limitations?
15. Explain the Keynesian theory of employment. What are its criticisms?
16. What are business cycles? Explain the different phases of business cycles.

## (2016 Batch onwards)

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## St Aloysius College (Autonomous)

 MangaluruB.A./B.Sc./B.C.A. - Semester II - Degree Examination<br>April - 2018

## FOUNDATION COURSE IN INDIAN CONSTITUTION AND VALUE EDUCATION

 Time: 3 HoursMax. Marks: 100

## PART - A

## INDIAN CONSTITUTION

I. Answer all the following questions in three sentences each. Each questions carries one mark:
$(1 \times 5=5)$


1. Name the plan, under which Constituent Assembly was set up in India.

2. How many members are nominated by the President of India to Lok Sabha and Rajya Sabha?

3. Name the constitutional amendment through which the right to property was deleted from the list of Fundamental Rights of Indian constitution.
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4. Who acts as a link between the President and Cabinet?

5. Name the two Houses of state legislature.

II. Answer any FIVE questions in about a paragraph each. Each question carries 3 marks:
( $3 \times 5=15$ )

6. Radha and Rahim were studying in a college together for five years. When they became 25 years old and were employed they wanted to get married to each other. But their parents did not approve this alliance as both of them belonged to different religions. However both Radha and Rahim decided to go ahead and get married. Radha's family got upset about it as they thought that she had brought dishonour to the family. They got Rahim beaten up by goons and abducted Radha and put her on house arrest. When Rahim complained it to the police, the police expressed their helplessness.
i) Do you think Radha's family is right in taking such a stand against Radha?
ii) Name the right of Radha and Rahim that is violated in this incident.
iii) Do you approve the behaviour of the police?





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7. What is the recent judgement of the Supreme Court on honour killing?

8. Explain any three types of writs enshrined in the constitution.

9. Prime minister is considered as "primus inter pares" (first among equals).

State the reasons.

10. Write your opinion on Triple Talaq Bill.

11. Mr. Shakti was arrested by the police authorities. He was detained in the custody and the police did not book a charge sheet against Mr. Shakti. Describe the remedy available for Mr. Shakti in Indian Constitution. Who can tender application for such a remedy?




## III. Answer any FIVE questions in about 10 sentences each. Each question carries 5 marks: <br> ( $5 \times 5=25$ ) <br> 

12. State the preamble of Indian Constitution. State its significance.

13. Examine the federal features of Indian Constitution.

14. Explain the Gandhian principles incorporated in the Directive Principles of
State Policy.

15. Explain the method of election of the President of India.

16. What are the functions of Speaker of Lok Sabha?

17. Examine the role of TRAI.

TRAI యి పౌక్రెపస్ను పరిరాలఃర.
18. Explain SEBI and Competition Commission of India.


## IV. Answer any ONE question in about $\mathbf{2 0}$ sentences each. Each question carries 10 marks:


19. Explain Right to Equality and Right to Freedom as fundamental rights of Indian citizens.
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20. Explain the organization and functions of Lok Sabha.

V. Answer any ONE question in about 40 sentences each. Each question carries 15 marks:
( $15 \times 1=15$ )

21. Explain the salient features of Indian Constitution.

22. Describe the powers and functions of the President of India.


## PART - B <br> (VALUE EDUCATION)

VI. Answer any FOUR questions in about 8-10 sentences. Each question carries FIVE marks:
( $5 \times 4=20$ )

23. Explain human personality as a positive of self image of five components.

24. Mention the characteristics of a good human personality.

25. Write a note on alcoholism.

26. "The choice of a career is a process not an event". Explain.

27. Name the drugs of abuse and their effects.

28. What are the five steps in family counseling?


VII. Answer any ONE question in about $\mathbf{2 0}$ sentences. The Question carries 10 marks:

29. What are the causes of dysfunctional family? Suggest remedies.

30. Explain the important points one has to keep in mind while facing an interview?


