



Annai Hajira Women's College

Melapalayam, Tirunelveli-05

(A Unit of As-Sathiq Educational Society)

(Affiliated to Manonmaniam Sundaranar University)

CIA QUESTION PAPERS

2020-2021



Annai Hajira Women's College

Melapalayam, Tirunelveli-05

(A Unit of As-Sathiq Educational Society)

(Affiliated to Manonmaniam Sundaranar University)

DEPARTMENT OF ENGLISH



Annai Hajira Women's College
Melapalayam

II SEMESTER, I INTERNAL TEST- FEBRUARY-2021

B.A - I YEAR

INDIAN WRITING IN ENGLISH II

Date: 27/02/2021

Time: 1 hr

Subject Code: AMEN21

Marks: 20

PART - A

Choose the correct answer

(2 x 1 = 2)

1. How was Bholi treated in the family?

- (a) She was not given new clothes
- (b) None cared to wash her clothes
- (c) None cared to comb her hair
- (d) All of the above

2. How did the grandmother spend her time in the city?

- (a) feedings dogs
- (b) reading scriptures
- (c) spinning the wheel
- (d) talking to neighbours

PART - B

Answer all the questions choosing either (a) or (b) 2 x 5 = 10

3. (a) Elaborate on the beautiful bond of love and friendship between the author and his grandmother.

(OR)

(b) How does Bholi change into Sulekha? Explain the transformation undergone.

4. (a) Describe the feelings of the Director towards his family?

(OR)

(b) Bring out the views of Vivekananda about different types of work and the secret behind it.


PART - C

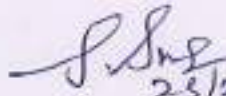
Answer the following choosing either (a) or (b) (1 x 8 = 8)

5. (a) Attempt an essay on *The Town by the Sea*

(OR)

(b) Give a brief character sketch of Bholi and describe the role the teacher played in her life?


Mrs.M. Taj Beevi Thangamma
QPS


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**Annai Hajira Women's College
Melapalayam**

II SEMESTER, II INTERNAL TEST- MARCH -2021

**I BA - ENGLISH
AMERICAN LITERATURE**

**Date: 01. 03. 2021
Subject Code: AMEN22**

**Time: 1 hr
Marks: 20**

PART-A

I. Choose the correct answer (2X 1=2Marks)

1. 'The Battle of the Ants' is the ____ chapter of Thoreau's "Walden".

- (a) 11th
- (b) 12th
- (c) 13th
- (d) 14th

2. ____ is the old artist in the story "The Last Leaf".

- (a) Behrman
- (b) Johnsy
- (c) Sue
- (d) doctor

PART - B (2 X 5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) How do the setting and the fact that Sue, Johnsy and Behrman are artists relate to the themes of "The Last Leaf"?

(OR)

(b) What is the significance of willpower in "The Last Leaf"?

4. (a) Critically analyze the poem "O Captain! My captain" by Walt Whitman.

(OR)

(b) Elucidate the theme of the poem "West Running Brook" by Robert Frost.

PART - C

(1 x 8= 8 Marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) Describe Thoreau's observations of the ants near the Walden Pond with reference to the prose, "The Battle of the Ants".

(OR)

(b) Explain Martin Luther King's views on civil rights and equality in "I Have a Dream"

[Signature]
QPS

(Ms. J. Selva Antony)

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MOD

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Annai Hajira Women's College
Melapalayam

II SEMESTER, I INTERNAL TEST- MARCH -2021
I BA - ENGLISH
LITERARY FORMS

Date: 03 .03. 2021
Subject Code: AAEN21

Time: 1 hr
Marks: 20

Part-A

I. Choose the correct answer

(2 x 1=2Marks)

1. Lyric is of _____ origin.

- (a) Rome
- (b) Greek
- (c) French
- (d) Russian

2. Mathew Arnold's Thyrsis is a pastoral elegy in memory of _____

- (a) Edward King
- (b) A.H. Clough
- (c) A.R. Entwistle
- (d) Arthur Hallam

PART – B

II. Answer all the questions choosing either (a) or (b) (2 x 5 =10 marks)

3. (a) write briefly on Elegy and it's features.

(OR)

(b) Write a note on 'The English Sonnet'

4. (a) Explain pure and impure biography.

(OR)

(b) What are the difficulties of a biographer?


PART – C

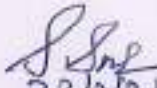
III. Answer all the questions choosing either (a) or (b) (1 x 8= 8 Marks)

5. (a) Attempt an essay on Ode

(OR)

(b) Write in detail the salient features of the Elegy


Dr. S. SUBBAMMAL @KALA
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Annai Hajira Women's College

Melapalayam, Tirumelveli - 05

I BA ENGLISH, II SEMESTER

I INTERNAL TEST - March - 2021

PROFESSIONAL ENGLISH FOR ARTS AND SOCIAL SCIENCES II

Date: 02 .03. 2021

Time: 1 hr

Subject Code: APSS21

Marks: 20

Part-A

I. Choose the correct answer

(2X 1=2Marks)

1. Why do you think we _____ hire you?

- (a) will
- (b) should
- (c) must
- (d) would

2. I spend three years _____ for that company.

- (a) working
- (b) work
- (c) worked
- (d) will be working

PART - B (2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Give the synonyms for the following terms:

- i) strange
- ii. scared
- iii. predicament
- iv. moody
- v. indolent

(OR)

(b) Choose the appropriate antonyms for the following words from the options given below:

(incentive, acceptance, improper, damp, weaken, honest)

- i. Barren
- ii. Calculating
- iii. Censure
- iv. Consolidate
- v. encumbrance

4. (a) Write a short note on the Do's and Don'ts of an interview.

(OR)

(b) What do you think are the specialties of our country?

PART - C

(1 x 8= 8 Marks)

I. Read the passage and answer the questions in a word or two.

Over the last several months, when factories, offices, restaurants, and other places of social gathering have been intermittently shut, people's creativity has taken all sorts of unexpected directions. Anything goes in the quest to overcome the feeling of blursday, one uneventful day following another so that one soon loses track of days of the week. One path leads to home baking, while another has led to people creating a slew of new words, some of which then spread with the help of social media. Only time will tell whether they will be merely evanescent or whether they will outlive the present situation. The popular words comprehensively illustrate two standard ways of coining new words: blending – often with a punning element, and repurposing existing words (eg: pandemic fatigue). Their linguistic pedigree asides, they convey a range of feelings and attitudes, from boredom to practicality to sarcasm to humour. And even a couple of loanwords from German have been added to the coronavirus word

hoard. Words that incorporate parts of the dreaded terms, coronavirus or COVID-19 like covidiot, a person who flouts social distancing guidelines, have gained enough traction to become staples of Covid discourse. It is worth noting that Spanish, which is normally more reluctant than English to create blends, also has covidiotas, which applies to all sexes. Coronacation transparently blends corona and vacation, but fatally has two meanings and so is open to misunderstanding. It can either mean a holiday taken during the epidemic or an enforced absence from work, school etc. dark humour informs corennials and coronials, twin terms proposed early during the epidemic for the babies conceived during the period. Last here on this theme comes coronacoaster, a description of the emotional ups and downs that reacting to the epidemic can induce.

During lockdown and even beyond, one thing weighed heavily on people's mind and that is food. On one hand there is concern about adequate supplies of staples while on the other hand, there is the worry about weight gain caused by obsessive home snacking and lack of exercise. Two German loanwords help describe these twin perils: hamsterkauf for panic-buying and stockpiling and coronaspeck for the extra girth acquired. A major cause of coronospeck might be the people's indulgence in fakeaways or the attempt to create their favorite takeaway dish in their own kitchen.


Another way to recreate the BC (before Coronavirus) experience of watching a sports match is homegating, a word that has been around for nearly a decade but has acquired new relevance. It is a blend of home and tailgating, the American custom of people picnicking off the tailgates of their vehicles in the parking lot of a sports stadium where they have congregated to watch a game or concert. A drink may well be required to accompany those often spicy fakeaways. One of the more fun aspects of recent months has been the creation of quarantinis, which started out meaning a martini imbibed on one's own at home

during the lockdown but now seems to apply to just about any home-stirred-and-shaken cocktail. Another term is locktail. Whatever your favorite tippie, may I wish you 'Cheers!' finally people's being at home has benefitted online retailers through what has been called a spendemic – people splashing out wildly to purchase things online. The other side of that coin is when people are able to visit shops and indulge in revenge shopping, namely, shopping that satisfies the long pent-up urge to buy something. My favorite blend-cum-pun of all, though is airgasm – that euphoric feeling of ecstasy as you leave a confined space, rip off your mask and joyously inhale deep lungfuls of air.

1. The emotional turbulence caused by the lockdown is referred to by the term _____.
2. A word adopted from a foreign language with little or no modification is called as _____.
3. Fakeaway means _____.
4. Pick the word from the passage that means 'gathered'.
5. Spendemic refers to _____.
6. Visiting shops to satisfy the long pent-up urge to buy something when the lockdown is relaxed is called _____.
7. Any home-stirred-and-shaken cocktail referred using the term _____.
8. What does the term Covidiotas refer to?

OR

b) Make notes of the above passage.


QPS
(Mrs. R.Valarmathi)
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**Annai Hajira Women's College
Melapalayam**

IV SEMESTER, II INTERNAL TEST- FEBRUARY -2021

**II B.A English
HTML**

Date: 02.03.2021

Time: 1 hr

Subject Code: SNCS4A

Marks: 20

PART- A (2X 1=2Marks)

I. Choose the correct answer

1. Every list item has a bullet, used as _____

- a) Disc
- b) circle
- c) square
- d) all of these

2. _____ tag is used for Subscript

- a)
- b)
- c) <small></small>
- d) <big></big>

PART – B (2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Explain about Type Attribute.

(OR)

(b) Explain Paragraph in HTML

4. (a) Explain Unordered Lists in HTML
(OR)

(b) Explain horizontal Rule in HTML

PART-C

(1x8=8)

III. ANSWER THE FOLLOWING

5. (a) Explain detail about Lists and its types with example program.

(OR)

(b). Explain about Header section in Html.

S. Fathima
QPS

(Mrs.K.M.N. Syed Ali Fathima)

P. S. S. S.
HOD

Lajja Datta
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IV SEMESTER, II INTERNAL TEST- MARCH -2021

II BA - ENGLISH
BRITISH DRAMA

Date: 01 .03. 2021

Time: 1 hr

Subject Code: SMEN42

Marks: 20

Part-A

I. Choose the correct answer

(2 x 1=2Marks)

1. Who was Tony's father in the drama "She stoops to conquer"? _____.

- (a) Mr. Hastings
- (b) Mr. Charles
- (c) Mr. Hardcastle
- (d) Mr .Lumpkin

2."Cicero never spoke better". Whose statement is this? _____.

- (a)Miss Neville
- (b) Mr. Charles Marlow
- (c)Mrs.Hardcastle
- (d) Tony

PART - B

II. Answer all the questions choosing either (a) or (b) (2 x 5 =10 marks)

3. (a) Briefly sketch the plot of the play "She stoops to conquer"

(OR)

(b) Contrast Hastings with Marlow?

4. (a) Sketch the character of Tony.

(OR)

(b) Sketch the character of Mr. Hardcastle.

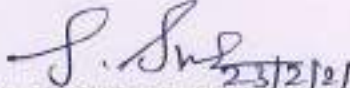
PART - C

III. Answer all the questions choosing either (a) or (b) (1 x 8= 8 Marks)

5. (a) Discuss "She stoops to conquer" as a comedy .

(OR)

(b) Attempt an essay on personal adventure of Goldsmith as presented in the play "She stoops to conquer"


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IV SEMESTER, II INTERNAL TEST- FEBURARY -2021

II BA - ENGLISH

ECO - ENGLISH

Date: 27. 02. 2021

Subject Code: SSEN4A

Time: 1 hr

Marks: 20

PART-A

I. Fill the important dates of the following: (4X ½ =2Marks)

- 1 World Environment Day _____.
- 2 World Water Day _____.
- 3 World Ozone day _____.
- 4 Earth Day _____.

PART - B

(2 X5 =10 marks)

II. Answer the following in a paragraph, choosing either A or B:

5. A) Unscramble the words and fill in the blanks:

Hint: All words end in -ly

- i) Connect with God and religion ____ (OHLY)
- ii) Something that is unpleasant to look at _____ (GUYL).
- iii) An activity or idea that shows a lack of judgment ____ (ISLYL).
- iv) A young female horse _____ (YLIFL).
- v) Move through the air using wings _____ (FYL).

(OR)

b) Rewrite the following sentence using "LET"

- i) Please allow me to speak.
- ii) I'd not permit her to leave the office.
- iii) Allow that man to come in.
- iv) Don't tell your friend what we have shared.
- v) Please get that book for me.

6. a) Imagine that you are in a zoo and you are talking about these animals with your friends. Build a conversation using the following words

Funny, Interesting, Nice, Scary, Popular, Exciting.

(OR)

b) Look at the following expression and make sentences of your own using them to bring out the difference in meaning,

- a) Weight and wait
- b) Fill and feel
- c) Two and too
- d) Teen and tin
- e) Late and let

PART - C

(1 x 8= 8 Marks)

III. Answer all the questions in 500 words. Choosing either (a) or (b)

7. a) Imagine that you got the opportunity to talk to the earth. The earth is very sad about whether is happening to her. How will you console her? Write a dialogue between you and earth about what happened.

(OR)

b) Write the American equivalent for the following British word:

- 1) Movie
- 2) Torch
- 3) Mail
- 4) Sidewalk
- 5) Shop
- 6) Restroom
- 7) Railroad
- 8) patrolman

A. Subashini
23/2/21
Mrs.A. SUBASHINI
QPS

S. S. S.
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IV SEMESTER, II INTERNAL TEST- MARCH -2021

II BA - ENGLISH

HISTORY OF ENGLISH LITERATURE-II

Date: 03.03.2021

Time: 1 hr

Subject Code: SMEN 41

Marks: 20

Part-A

I. Choose the correct answer (2X 1=2Marks)

1. Which prose writer won the Newdigate prize for his poem?

- (a) Thomas Carlyle
- (b) John Ruskin
- (c) Charles Dickens
- (d) George Eliot

2. Who was the first editor of the Quarterly Review?

- (a) Thomas De Quincey
- (b) John Lockhart
- (c) William Gifford
- (d) Sydney Smith

PART - B (2 X 5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Discuss Shelley as a Romantic poet.

(OR)

(b) Write a short note on the life and works of Byron.

4. (a) Enumerate and discuss "The Edinburgh Men".

(OR)

(b) Explain in brief the contribution of "The London Men" to literature.

PART - C

(1 x 8= 8 Marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) Discuss in detail the prose writings of Thomas Carlyle

(OR)

(b) Critically analyze the works of Charles Dickens.

Ms. D. Jones Sudha Vijai
Ms. D. Jones Sudha Vijai

QPS

S. S. S. S.
HOD

Lajon Chalk
Principal

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VI SEMESTER, II INTERNAL TEST- FEBURARY -2020

III BA - ENGLISH

SHAKESPEARE

Date: 24. 02. 2021

Time: 1 hr

Subject Code: SMEN62

Marks: 20

PART-A

PART – C

(1 x 8= 8 Marks)

III. Answer all the questions choosing either (a) or (b)

6. a) How Shakespeare portrayed the female characters in his plays? - Elucidate

(OR)

b) Discuss "Othello" as a typical Shakespearean tragedy.

A. Subashini
23/2/21

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Lajja Chellu
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I. Choose the correct answer

(2X 1=2Marks)

1. Shakespeare wrote _____ sonnets.

- a) 152
- b) 154
- c) 156
- d) 158

2. Who is the heroine of the play "The Merchant of Venice"?

- a) Rosalind
- b) Desdemona
- c) Olivia
- d) Portia

PART – B (2 X5 =10 marks)

II. Choose any two question from the following:

- 3. Critically comment the Sonnet – "Shall I compare thee to a summer's day".
- 4. Sketch the character of Othello.
- 5. Give a character Sketch of Desdemona.



Annai Hajira Women's College
Melapalayam

VI SEMESTER, II INTERNAL TEST - February - 2021

III BA - ENGLISH

SOUTH ASIAN LITERATURE IN ENGLISH

Date: 25 .02. 2021

Time: 1 hr

Sub Code: SMEN62

Marks: 20

Part-A

I. Choose the correct answer

(2X 1=2Marks)

1. The Irish poet -----imagines the art of writing as a process of digging.

- (a) W. B. Yeats
- (b) Seamus Heaney
- (c) Imitiaz Dharkar
- (d) Alamgir Hashmi

2. The meaning of volition is -----

- (a) Will
- (b) Nill
- (c) Kill
- (d) Bill

PART – B (2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Explain how the narrator loses her sense of self in the story, *The Assault*.

(OR)

(b) Analyse the satire in the idea of social etiquette in the story *The Assault*.

4. (a) Comment on the significance of the title, *Minority*.

(OR)

(b) Why does the poet in *Minority* takes to writing on a page?

PART – C

(1 x 8= 8 Marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) How does Rukmini express her deep seated defiance of the customs of her caste and religion in *The Remains of the Feast*.

(OR)

(b) Analyze the relationship between the author and her great grandmother.

QPS

(Mrs. R. Valarmathi)

S. S. S.
24/2/2021

Lejjan Akk

Principal

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VI SEMESTER, II INTERNAL TEST- FEBRUARY-2021

B.A – III YEAR

SHORT STORIES & ONE-ACT PLAYS

Date: 26/02/2021

Subject Code: SMEN63

Time: 1 hr

Marks: 20

PART – A

Choose the correct answer

2 x 1 = 2

1. What gestures of the boy enlightened the Giant?

- (a) Hug
- (b) Kiss
- (c) Cry
- (d) Both A and B

2. Mrs. Fitzgerald advises Mrs. Pearson to be _____.

- (a) Soft and kind
- (b) Strong and bold
- (c) Optimistic
- (d) Easy going

PART – B

Answer all the questions choosing either (a) or (b) 2 x 5 = 10

3. (a) Describe the life of the couple before and after the loss of their son.

(OR)

(b) Sketch the character of the Ragged man.

4. (a) Contrast the characters of Paul and Ellen.

(OR)

(b) What is the significance of the title *The Selfish Giant*?


PART – C

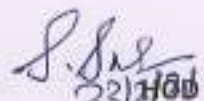
Answer the following choosing either (a) or (b) 1 x 8 = 8

5. (a) What is the dilemma faced by the Sergeant in the play?

(OR)

(b) Compare the garden before and after the Giant put up the s


Mrs.M. Taj Beevi Thangamma
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S. Suresh
22/1/2021


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Melapalayam, Tirumelveli - 05

VI SEMESTER, II INTERNAL TEST- FEBRUARY -2021

III BA - ENGLISH

REGIONAL LITERATURE IN TRANSLATION

Date: 27. 02. 2021

Time: 1 hr

Subject Code: SMEN64

Marks: 20

Part-A

I. Choose the correct answer

(2 x 1=2Marks)

1. The title "A Horse for the sun" refers to the Kannada name for a ----

- (a) Tiger (b) grasshopper
(c) bird (d) lion

2. The first person narrator in the story "Walls" is addressed as ----

- (a) Basheer (b) Ambai
(c) U.R Anathamurthy (d) Mu. Metha

PART - B

II. Answer all the questions choosing either (a) or (b) (2 x 5 =10 marks)

3. (a) How does Basheer hear a woman's voice ?

(OR)

(b) What is Basheer's first reaction after getting the release order?

4. (a) Why does Chidhambaram come to the railway station ?

(OR)

(b) What does Chandra enjoy in the story "Gifts" by C.S. Lakshmi?

PART - C

III. Answer all the questions choosing either (a) or (b) (1 x 8= 8 Marks)

5. (a) Justify the title "A Horse for the Sun".

(OR)

(b) Sketch the character of Venkata in "A Horse for the Sun"

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24/2/21
Dr. S. SUBBAMMAL @KALA
QPS

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**Annai Hajira Women's College
Melapalayam**

VI SEMESTER, II INTERNAL TEST - MARCH - 2021

**III BA - ENGLISH
AFRICAN LITERATURE**

Date: 01.03.2021

Time: 1 hr

Sub Code: SMEN62

Marks: 20

Part-A

I. Choose the correct answer (2X 1=2Marks)

1. Mazisi Kunene's poems speak about the history of the _____ people.

- (a) Zulu
- (b) African
- (c) Caribbean
- (d) English

2. The _____ was 'a most daring manifestation of affection' from the narrator's father.

- (a) necklace
- (b) gift
- (c) war
- (d) postcard

PART - B (2 X 5 = 10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) How does the poem *A Note to All Surviving Africans* reflect the interrelationship between History and Nature.

(OR)

(b) Analyze the pan African values expressed in the poem *A Note to All Surviving Africans*.

4. (a) Bring out the comic satire in the play *The Lion and the Jewel*.
(OR)

(b) Explain how 'Tradition' wins in the battle of Tradition versus Modernity with reference to the play *the Lion and The Jewel*.

PART - C

(1 x 8 = 8 Marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) Analyze how the postcard becomes 'a most daring manifestation of affection'.

(OR)

(b) Describe how the narrator's mother's efforts to learn French bring out a change in her relationship with her husband.

QPS
(Mrs. R. Valarmathi)

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VI SEMESTER, II INTERNAL TEST- MARCH -2021

III BA ENGLISH

WRITING FOR THE MEDIA

Date: 02. 03. 2021

Time: 1 hr

Subject Code: SEEN41

Marks: 20

PART-A

I. Choose the correct answer

(2X 1=2Marks)

1. ____ is the emotional tone of the play which varies with the climax and anti-climax.

- (a) setting
- (b) mood
- (c) music
- (d) None of these

2. ____ must possess poetry of its own.

- (a) dialogue
- (b) character
- (c) climax
- (d) theme

PART – B (2 X 5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Illustrate briefly about the plot of drama.

(OR)

(b) How is reasoning method useful in editorial writing?

4. (a) Explain briefly about conducting qualitative interview.

(OR)

(b) How is dialogue essential in a play?

PART – C

(1 x 8= 8 Marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) Why is there a great demand for freelance writers?

(OR)

(b) Bring out the structural link between characterization and plot in a play.

Vijaya
Mrs. D. JONES SUDHA VIJAI
QPS

S. S. S.
HOD
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Melapalayam, Tirunelveli -05

II Semester, I Internal Test – February 2021

I B.Sc Physics

Value Based Education

Sub code : AVBE21

Date: 26.02.2021

Total: 20 marks

Time : 1 hr

Part –A

(2×1=2 marks)

(I) Choose the correct answer:

1. The universal declaration of human rights is a document adopted by the-----

- (a) UNESCO
- (b) UNO
- (c) Red cross
- (d) Blue cross

2. Mandal commission report deals with the reservation quota for _____ people

- (a) scheduled tribe
- (b) scheduled caste
- (c) forward class
- (d) backward class

Part B (2×5=10 marks)

(II) Answer all questions, choosing either (a) or (b):

3.(a) Explain equality and fraternity.

(OR)

(b) Give a short profile of Dr. Ambedkar

4. (a) Explain the six fundamental human rights as enshrined in chapter III of the constitution of India.

(OR)

(b) Briefly discuss about (i) UNIFEM & (ii) DEDAW

Part C

(1×8=8 marks)

(III) Answer the following, choosing either (a) or (b):

5. (a) Explain the factors which cause the social injustice in India.

(OR)

(b) Discuss about the upper cloth revolt and the dowry problems encountered by Indian women.

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[Dr. R. LAYANIA]
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Jayalalitha
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II Semester, I Internal Test – February 2021

I B.Sc Physics

OPTICS AND THERMAL PHYSICS

Sub code: AMPH21

Total: 20 marks

Time: 1 hr

Date: 27.02.2021

Part-A

I Choose the correct answer: (2×1=2 marks)

1. For achromatism the distance between two lenses of focal lengths 12cm and 18cm must be equal to-----

- (a) 15cm
- (b) 30cm
- (c) 6cm
- (d) 3cm

2. An eyepiece with no cross-wire is-----

- (a) Kelner's
- (b) Ramsden's
- (c) Huygen's
- (d) none of the above

Part B

II Answer all questions, choosing either (a) or (b): (2×5=10 marks)

3.(a) Derive the condition for dispersion without deviation in a combination of two thin prisms.

(OR)

(b) What are the methods to minimize spherical aberration? Derive an expression for minimizing spherical aberration.

4.(a) Explain Huygen's Eyepiece.

(OR)

(b) Derive the condition for achromatism when two lenses are separated by a distance.

Part C

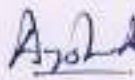
II Answer the following, choosing either (a) or (b): (1×8=8 marks)

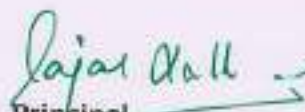
5.(a) Describe the Ramsden eyepiece with neat diagram.

(OR)

(b) Explain the constant deviation spectroscope.


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Semester II, I Internal Test - March 2021

I B.Sc Physics

PROFESSIONAL ENGLISH FOR PHYSICAL SCIENCES II

Sub code: APPS21

Total: 20 marks

Time: 1 hr

Date: 01.03.2021

Part-A

I Choose the correct answer: (2x1=2 marks)

1. A year is the distance that the earth moves in it's -----
 around the sun

- a) Orbit
- b) tangent
- c) trajectory
- d) sun

2. Igor Tomm is a professor at the university of-----

- (a) Odessa
- (b) Ukraine
- (c) Cambridge
- (d) London

Part B

II Answer all questions, choosing either (a) or (b): (2x5=10 marks)

3. (a) Give the synonyms of the following:

- (i) Synchronize (ii) Relativity (iii) Bafflement
- (iv) Levitate (v) combustion

(OR)

(b) Define the following terms each in a sentence

- (a) Gravitational field
- (b) teleconference
- (c) Modem

4. (a) Answer the following questions

- (i) List a few chemical compounds that you use every day.
- (ii) What happens when you light a lamp of sulphur.

(OR)

(b) Find out the single word for the given statement.

- i) The enclosing boundary of a curved geometric figure.
- ii) Smallest unit of ordinary matter that forms a chemical element.

Part C

III Answer the following, choosing either (a) or (b): (1x8=8 marks)

5. (a) Write a paragraph of 200 words on Tachyons.

(OR)

(b) Fill in the blanks choosing the correct forms of the verbs given within brackets

We put a slice of lemon into a cup of strong tea and the tea ----- (become) pale. We strike a match and a stick of wood----- (burst) into flame and----- (turn) into charcoal. These ----- (be) all chemical reactions. The primeval man who----- (learn) to light a fire was the first chemist. He----- (accomplish) the first chemical reaction, that of combustion. And this reaction is most necessary, the most important in the history of mankind. It ----- (give) our distant ancestors the heat to warm their dwellings on cold days. In our time it----- (open) the way to outer space by propelling rockets weighing many tons into the sky. The legend of Prometheus who gave fire to the people ----- (be) at the same time the legend of the first chemical reaction.

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Annai Hajira Women's College Melapalayam, Tirumelveli - 05

II SEMESTER

I - INTERNAL TEST - FEB 2021

I B. Sc - PHYSICS

VECTOR CALCULUS AND FOURIER SERIES

Duration: 1 Hour

Subject code : AAMA21

Marks: 20

Date : 02.03.2021

PART -A (2 X 1=2 marks)

I. Choose the correct answer

1. If $\vec{A} = u^2\vec{i} + u\vec{j} + 2u\vec{k}$ and $\vec{B} = \vec{j} - u\vec{k}$ then $\frac{d}{du}(\vec{A} \cdot \vec{B})$ is

- (a) $2u - 1$
- (b) $2u + 1$
- (c) $1 - 4u$
- (d) $1 + 4u$

2. If $\vec{r} = x\vec{i} + y\vec{j} + z\vec{k}$, then $\nabla \cdot \vec{r}$ is

- (a) 0
- (b) 1
- (c) 2
- (d) 3

PART -B

(2 X 5=10 marks)

II. Answer the following

3. (a) If $\vec{r} = \vec{a} \cos \omega t + \vec{b} \sin \omega t$ where \vec{a}, \vec{b} are constant vectors and ω is a constant prove that $\vec{r} \times \frac{d\vec{r}}{dt} = \omega (\vec{a} \times \vec{b})$ and $d^2\vec{r}/dt^2 + \omega^2\vec{r} = 0$

(OR)

(b) Find ϕ if $\nabla\phi = (6xy + z^3)\vec{i} + (3x^2 - z)\vec{j} + (3xz^2 - y)\vec{k}$.

4. (a) Prove that $\nabla \cdot (\vec{f} \times \vec{g}) = \vec{g} \cdot (\nabla \times \vec{f}) - \vec{f} \cdot (\nabla \times \vec{g})$.

(OR)

(b) Prove that $\text{curl}(\vec{r} \times \vec{a}) = -2\vec{a}$ where \vec{a} is a constant vector.

PART -C

(1 X 8=8 marks)

II. Answer the following

5. (a) Prove that $\text{div}(r^n \vec{r}) = (n+3)r^n$. Deduce that $r^n \vec{r}$ is solenoidal

iff $n = -3$.

(OR)

(b) Prove that

$$\text{Curl}(\vec{f} \times \vec{g}) = (\vec{g} \cdot \nabla)\vec{f} - (\vec{f} \cdot \nabla)\vec{g} + \vec{f} \text{div} \vec{g} - \vec{g} \text{div} \vec{f}$$

Shubhanya
23.02.21

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IV Semester, II Internal Test - February 2021

II B.Sc Physics

Electromagnetism

Sub code : SMPH41

Date:01 .03.2021

Total: 20 marks

Time : 1 hr

Part -A

(2×1=2 marks)

(I) Choose the correct answer:

1. The ballistic constant K and dead beat constant K_d of a ballistic galvanometer are related as -----

(a) $\frac{K}{K_d} = \frac{2\pi}{T}$

(b) $\frac{K}{K_d} = \frac{T}{2\pi}$

(c) $\frac{K}{K_d} = \frac{2\pi}{T^2}$

(d) $\frac{K}{K_d} = \frac{T^2}{2\pi}$

2. Ballistic Galvanometer is meant for measuring-----

- (a) steady current
- (b) large current
- (c) momentary charge
- (d) deflection

Part -B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

2. (a) Describe the experiment to find absolute capacity of a capacitor using ballistic galvanometer.

(OR)

(b) Construct desauty's bridge and obtain the balance condition.

3. (a) Derive the relation connecting three magnetic vectors.

(OR)

(b) Obtain the magnetic induction of a long solenoid.

Part -C

(1×8=8marks)

(III) Answer all the questions choosing either (a) or (b):

4. (a) With neat diagram describe the construction and working of ballistic galvanometer. Also derive the momentary charge.

(OR)

(b) (a) Draw the B-H curve and explain it.

(b) Write about hysteresis.

QPS Dr.N.Sridevi

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IV Semester, II Internal Test - February 2021

II B.Sc Physics

Maintenance of Electronic Equipments

Sub code : SSPH4A

Date:27.02.2021

Total: 20 marks

Time : 1 hr

Part -A

(2×1=2 marks)

(I)Choose the correct answer:

1. For resistance measurement with a multimeter the zero-set is adjusted to get-----
(a)full scale deflection
(b)null deflection
(c)red light
(d)green light
2. In a capacitive transducer, when the air gap decreases, its capacitance-----
(a)decreases
(b)decreases first and then increases
(c)increases
(d)remains the same

Part -B

(2×5=10 marks)

(II)Answer all the questions choosing either (a) or (b):

3. (a)Describe the action of the LCD.

(OR)

- (b) Explain the action of the RF oscillator.

4. (a) Write about Wheatstone bridge type strain gauge transducer

(OR)

- (b)Describe the working of a photo voltaic cell.

Part -C


(1×8=8marks)

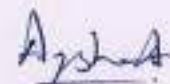
(III)Answer all the questions choosing either (a) or (b):

5. (a) Explain a cathode ray tube.

(OR)

- (b)Describe LVDT and its mode of functioning.


QPS P. Malathi


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IV SEMESTER, II INTERNAL TEST – February 2021

II B.Sc. PHYSICS
ALLIED CHEMISTRY II

Duration: 1Hr

Subject Code: SACH21

Marks : 20 marks

Date : 03.03.2021

PART – A (2×1=2 Marks)

I. Choose the Correct Answer

1. Which of the following pair corresponds to isotones?

- (a) ${}_6\text{C}^{13}$ ${}_6\text{C}^{14}$
(b) ${}_{14}\text{S}^{30}$ ${}_{16}\text{S}^{32}$
(c) ${}_{15}\text{P}^{30}$ ${}_{16}\text{S}^{32}$
(d) ${}_2\text{He}^3$ ${}_2\text{He}^4$

2. Starch is -----.

- (a) Reducing sugar
(b) Non – reducing sugar
(c) Non sugar
(d) Both b and c

PART – B (2×5=10 Marks)

II Answer any two of the following

3. (a) Write a note on packing fraction, mass defect, Binding energy.

(OR)

(b) Give the difference between nuclear fission and nuclear fusion and Natural and Artificial series.

4. (a) Explain the classification of carbohydrate .

(OR)

(b) Write a note on artificial synthetic sweetener.

PART – C

(1×8=8 Marks)

III Answer any one of the following

5. (a) Discuss the application of radioactive isotope and *write* notes on Carbon dating.

(OR)

(b) Discuss the classification of amino acids with a suitable example.

V. Cle
QPS
(Ms.V. Chithra)

HOD
23/2/2021

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VI Semester, II Internal Test - February 2021

III B.Sc Physics
Digital Electronics

Sub code : SMPH61

Date: 24 .02.2021

Total: 20 marks

Time : 1 hr

Part -A (2×1=2 marks)

(I) Choose the correct answer:

- The Boolean expression $\overline{A + B} = Y$ is a representation of output of which logic function
(a) AND
(b) OR
(c) NAND
(d) NOR
- A full adder has _____ inputs and _____ outputs
(a) 1,1
(b) 2,1
(c) 3,3
(d) 3,2

Part -B (2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):


- (a) Explain about AND gate with circuit diagram.
(OR)
(b) What is EXOR gate? Explain it.

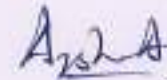
- (a) What is half subtractor? Draw and explain it.
(OR)
(b) Explain about D flip flop.

Part -C (1×8=8marks)

(III) Answer all the questions choosing either (a) or (b):

- (a) What is universal gate? Explain NAND as universal gate.
(OR)
(b) What is flip flop? Explain the operation of JK flip flop.


QPS Pratheethi


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VI Semester, II Internal Test - February 2021

III B.Sc Physics

Quantum Mechanics

Sub code : SMPH62

Date:25.02.2021

Total: 20 marks

Time : 1 hr

Part -A (2×1=2 marks)

(I) Choose the correct answer:

1. The uncertainty in the energy emitted for a average period of time 10^8 second is-----

(a) 10.54×10^{-26} J

(b) 1054×10^{-26} J

(c) $.1054 \times 10^{-26}$ J

(d) 1.054×10^{-26} J

2. The kinetic energy operator for the motion of particle in the x- direction is -----

(a) $\frac{-\hbar^2}{2m} \frac{\partial^2}{\partial x^2}$

(b) $\frac{\hbar^2}{2m} \frac{\partial^2}{\partial x^2}$

(c) $i\hbar \frac{\partial}{\partial t}$

(d) $-i\hbar \frac{\partial}{\partial t}$

Part -B (2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

3. (a) Give the elementary proof of Heisenberg's uncertainty relation.

(OR)

(b) Derive phase velocity and group velocity for De-Broglie wave.

4. (a) Write the basic postulates of quantum mechanics.

(OR)

(b) Give the consequences of the uncertainty relation.

Part -C (1×8=8marks)

(III) Answer all the questions choosing either (a) or (b):

5. (a) Illustrate Heisenberg's uncertainty relation using thought experiment.

(OR)

(b) Describe Davisson and Germer experiment to verify De-Broglie's relation.

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VI Semester, II Internal Test - February 2021

III B.Sc Physics

Nuclear Physics

Sub code : SMPH63

Date:26.02.2021

Total: 20 marks

Time : 1 hr

Part -A

(2×1=2 marks)

(I) Choose the correct answer:

1. When the multiplication factor $k=1$, then the chain reaction will be -----

- (a) Supercritical
- (b) Subcritical
- (c) Critical
- (d) None of the above

2. The amount of energy released in nuclear fission is approximately-----

- (a) 209.8 Mev
- (b) 931 Mev
- (c) 5.128×10^{26} Mev
- (d) None of the above

Part -B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

3.(a) Explain the Radio carbon dating.

(OR)

(b) State the principle and construction of an atom bomb.

4. (a) Explain the Bohr Wheeler theory of nuclear fission.

(OR)

(b) What are the main elements of a nuclear reactor?

Part -C

(1×8=8marks)

(III) Answer all the questions choosing either (a) or (b):

5. (a) Write the basic types of nuclear reaction.

(OR)

(b) Explain the principle and working of Scintillation counter.

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23/2/2021

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VI Semester, II Internal Test - February 2021

III B.Sc Physics

Solid State Physics

Sub code : SMPH64

Date:27.02.2021

Total: 20 marks

Time : 1 hr

Part -A

(2×1=2 marks)

(I) Choose the correct answer:

1. The region between H_{c1} and H_{c2} is said to be-----
 - (a) Maximum level
 - (b) Minimum level
 - (c) Vortex state
 - (d) Critical level
2. Which one is relaxation type polarization?
 - (a) electronic
 - (b) ionic
 - (c) orientation
 - (d) none of the above

Part -B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

3.(a) Explain the hysteresis loop.

(OR)

(b) Describe ionic polarization. Explain the hysteresis loop.

3. (a) Explain CVD method.

(OR)

(b) Classify the nanomaterials.

Part -C


(1×8=8marks)

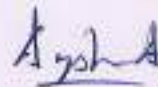
(III) Answer all the questions choosing either (a) or (b):

4. (a) Give the properties of nanomaterials.

(OR)

(b) Describe Langevin's theory of paramagnetism.


S.VIRGINBRINDHA
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VI Semester, II Internal Test –March 2021

III B.Sc Physics

Energy Physics

Sub code: SEPH6B

Date: 01.03.2021

Total: 20 marks

Time : 1 hr

Part –A

(2×1=2 marks)

(I) Choose the correct answer:

1. Photosynthesis consists of only
(a) Carbohydrates
(b) Carbon
(c) Water
(d) methane
2. A liquid flat plate collector is usually held tilted in a fixed position, facing ----- if located in the northern hemisphere
(a) North
(b) South
(c) East
(d) West

Part –B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

3. (a) Describe, with neat sketch, the functioning of solar water heater. What are the advantages and disadvantages of solar water heater?

(OR)

(b) Describe the method solar radiation heating of swimming pool.

4. (a) Explain in detail, anaerobic fermentation and pyrolysis in biomass conversion process.

(OR)

(b) Explain the principle and process of wood gasification.

Part –C

(1×8=8marks)

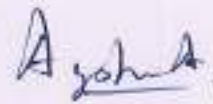
(III) Answer all the questions choosing either (a) or (b):

5. (a) Define the terms. (i) Altitude angle (ii) Incident angle (iii) Zenith angle (iv) Solar azimuth angle (v) Latitude angle (vi) Declination angle (vii) Hour angle (viii) Inclination angle and (ix) Tilt angle.

(OR)

(b) Describe, giving neat sketch, Deen Bhandu model of gober gas plant and its functioning. What are its advantages and disadvantages?


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II SEMESTER, I INTERNAL TEST – February 2021

I B.Sc. CHEMISTRY

VALUE BASED EDUCATION

Duration: 1Hr

Subject Code: AVBE21

Marks : 20 marks

Date : 26.02.2021

PART – A

(2×1=2 Marks)

I. Choose the Correct Answer

1. A good citizen must have _____.

- (a) Patriotism
- (b) Good education
- (c) Tolerance
- (d) All the above

2. ----- was the India's first woman Prime Minister.

- (a) Indira Gandhi
- (b) Fathima Beevi
- (c) Jayalalitha
- (d) Janaki Ramachandran

PART – B

(2×5=10 Marks)

II Answer the following

3. (a) Write short notes on human rights.

(OR)

(b) Explain the violence against women.

4. (a) Write short notes on the gender inequality.

(OR)

(b) Explain about the social justice.

PART – C

(1×8=8 Marks)

5. (a) How does the violation of Human Right Occur? Give examples.

(OR)

(b) Detail about any one social reformer.

[Signature]
23/2/21

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(Ms.S.P. Lishavi)

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II SEMESTER

I - INTERNAL TEST - FEB 2021

I B. Sc - CHEMISTRY

VECTOR CALCULUS AND FOURIER SERIES

Duration: 1 Hour

Subject code : AAMA21

Marks: 20

Date : 27.02.2021

PART -A

(2 X 1=2 marks)

I. Choose the correct answer

1. The value of $\vec{i} \cdot \vec{i}$ is -----

- (a) 0
- (b) 1
- (c) -1
- (d) None of the above

2. $\vec{a} \times (\vec{b} \times \vec{c}) =$ -----

- (a) $\vec{a} \times \vec{b} - \vec{b} \times \vec{c}$
- (b) $(\vec{a} \cdot \vec{c})\vec{b} - (\vec{a} \cdot \vec{b})\vec{c}$
- (c) $(\vec{a} \cdot \vec{c})\vec{b} - (\vec{a} \times \vec{b})\vec{c}$
- (d) None of the above

PART -B

(2 X 5=10 marks)

II. Answer the following

3. (a) If $\vec{r} = \vec{a} \cos \omega t + \vec{b} \sin \omega t$ where \vec{a}, \vec{b} are constant vectors and ω is a constant prove that $\vec{r} \times \frac{d\vec{r}}{dt} = \omega (\vec{a} \times \vec{b})$ and $d^2\vec{r}/dt^2 + \omega^2\vec{r} = 0$

(OR)

(b) If r is the position vector of any point $P(x, y, z)$ prove that $\text{grad } r^n = nr^{n-2} \vec{r}$

4. (a) Find the unit normal to the surface $x^3 - xyz + z^3 = 1$ at $(1,1,1)$.

(OR)

(b) Prove that $\nabla \cdot (\vec{f} \times \vec{g}) = \vec{g} \cdot (\nabla \times \vec{f}) - \vec{f} \cdot (\nabla \times \vec{g})$.

PART -C

(1 X 8=8 marks)

II. Answer the following

5. (a) Prove that $\text{curl}(\vec{r} \times \vec{a}) = -2\vec{a}$ where \vec{a} is a constant vector.

(OR)

(b) Prove that $\text{Curl}(\vec{f} \times \vec{g}) = (\vec{g} \cdot \nabla)\vec{f} - (\vec{f} \cdot \nabla)\vec{g} + \vec{f} \text{div } \vec{g} - \vec{g} \text{div } \vec{f}$

R. Pappan
QPS

S. Jayaraj
HOD
23/02/21

Lajalalakshmi
Principal

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II SEMESTER, I INTERNAL TEST – February 2021

I B.Sc. CHEMISTRY

PROFESSIONAL ENGLISH FOR PHYSICAL SCIENCES II

Duration: 1Hr

Subject Code: APPS21

Marks : 20 marks

Date :01.03.2021

PART – A

(2×1=2 Marks)

I. Choose the Correct Answer

1. Who won the noble prize in physics?

- (a) Paul Graham
- (b) Lincoln Barnett
- (c) Igor Tamm
- (d) Butler Lampson

2. What is the name of the poem that Vikram Chandra reads out?

- (a) Calculus can save life
- (b) Coding as a creative art
- (c) Relativity of time and space
- (d) The spirit of chemical sciences

PART – B

(2×5=10 Marks)

II Answer the following

3. (a) Name a few Indian mathematical wizards?

(OR)

- (b) Why did the professor (Igor Tamm) go to the neighbouring village?

4. (a) What does coding mean? What are the uses of coding?

(OR)

- (b) Write the story of the Russian physicists Igor Tamm?

PART – C

(1×8=8 Mark)

5. (a) Write the summary of the passage "Calculus can save life"

(OR)

- (b) Write a note on "Coding as a creative art"

J. Samseya
QPS 23/2/21
(Dr.J.Samseya)

[Signature]
HOD 23/2/2021

Lajae asw.
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II SEMESTER, I INTERNAL TEST – February 2021

I B.Sc. CHEMISTRY

INORGANIC CHEMISTRY I

Duration: 1Hr

Subject Code: AMCH21

Marks : 20 marks

Date : 02.03.2021

PART – A

(2×1=2 Marks)

I. Choose the Correct Answer

1. The number of orientations for a p orbital is -----.

- (a) 1
- (b) 3
- (c) 5
- (d) 7

2. The stability of half filled orbitals is due to -----.

- (a) Symmetry
- (b) Exchange energy
- (c) Symmetry and Exchange energy
- (d) Unsymmetry

PART – B

(2×5=10 Marks)

II Answer the following

3. (a) Explain Pauli's Exclusion principle and write its significance.

(OR)

(b) Explain the Hund's rule.

4. (a) Differentiate between an orbit and an orbital.

(OR)

(b) Write the schrodinger wave equation and mention its significances.

PART – C

(1×8=8 Marks)

5. (a) Explain the origin and significances of four quantum numbers.

(OR)

(b) State the postulates of Bohr's atom model and mention its limitations.

Anuratha
QPS 23/2/21

(Dr.M. Anuratha)

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HOD 23/2/21

Lajja Akk,
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IV SEMESTER, II INTERNAL TEST – February 2021

II B.Sc. CHEMISTRY

PHYSICAL CHEMISTRY II

Duration: 1Hr

Subject Code: SMCH41

Marks : 20 marks

Date : 01.03.2021

PART – A (2×1=2 Marks)

I. Choose the Correct Answer

1. Which of the following gives an azeotropic mixture?

- (a) Phenol - water
- (b) Nicotine - water
- (c) Hydrogen chloride - water
- (d) Methyl alcohol - water

2. An Ideal solution is one which obeys -----.

- (a) Boyle's law
- (b) Raoult's law
- (c) Gay – Lussac's law
- (d) Charle's law

PART – B (2×5=10 Marks)

II Answer any two of the following

3. (a) State Raoult's law of ideal solution. What are the characteristics of an ideal solution?

(OR)

(b) Discuss the principle of fractional distillation.

4. (a) State and explain Henry 's law.

(OR)

(b) Explain CST with the help of Nicotine – Water system.

PART – C

(1×8=8 Marks)

III Answer any one of the following

5. (a) Explain the following phase system with *the* corresponding phase diagram.

- i) Phenol – water system
- ii) Triethylamine – water system

(OR)

(b) Write notes on liquid crystals.

J. Samseya
QPS
9.31/02/2021

(Dr.J. Samseya)

HOD
20/02/2021

Sajitha K

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IV SEMESTER, II INTERNAL TEST – February 2021

II B.Sc. CHEMISTRY

CHEMISTRY IN MEDICINE

Duration: 1Hr

Subject Code: SSCH4A

Marks : 20 marks

Date : 27.02.2021

(27-02-2021)

PART – A (2×1=2 Marks)

I. Choose the Correct Answer

1. Filariasis is caused by -----.

- (a) Air contaminants
- (b) House fly
- (c) Culex mosquitoes
- (d) Rats

2. Enterovioform is used for the treatment of -----.

- (a) Amoebic dysentery
- (b) Bacillary dysentery
- (c) Jaundice
- (d) Plaque

PART – B (2×5=10 Marks)

II Answer any two of the following

3. (a) How is cholera caused? How can it be prevented?

(OR)

(b) How is asthma treated and prevented?

4. (a) Write any two air-borne diseases and explain *their* prevention and treatment.

(OR)

(b) Write about the nervous disorder disease – epilepsy.


PART – C (1×8=8 Marks)

III Answer any one of the following

5. (a) Explain the causes, symptoms, prevention and treatment *of* typhoid and diarrhea.

(OR)

(b) Write short notes on insect borne diseases with suitable examples.


QPS 23/2/2021
(Dr.R. Anuradha)


HOD 23/2/2021


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Melapalayam, Tirunelveli -05

II Semester, II Internal Test – March 2021

II B.Sc Chemistry

Allied Physics-II

Sub code: SAPHZ1

Date:03.03.2021

Total: 20 marks

Time : 1 hr

Part –A

(2×1=2 marks)

(I) Choose the correct answer:

1. Relative permeability of a medium is the permeability relative to that of -----
(a) water
(b) vacuum
(c) iron
(d) steel
2. The unit of magnetic flux is-----
(a) tesla
(b) weber
(c) henry
(d) weber/m²

Part –B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

3. (a) Derive the expression for the self inductance of a long solenoid.

(OR)

(b) State Faraday's law of electromagnetic induction.

4. (a) Explain the experiment to draw the V-I characteristics of a Zener diode. Give the uses of Zener diode.

(OR)

(b) Describe the working of a npn transistor, with the help of circuit diagram.

Part –C

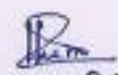
(1×8=8marks)

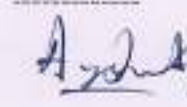
(III) Answer all the questions choosing either (a) or (b):

5. (a) Describe with theory, the experiment to determine the self inductance of a coil by Rayleigh's bridge.

(OR)

(b) Describe an experiment to determine the static characteristics of a transistor in CE mode.


QPS P. Priema.


HOD


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VI SEMESTER, II INTERNAL TEST – February 2021

III B.Sc. CHEMISTRY

INORGANIC CHEMISTRY – III

Duration: 1Hr

Subject Code: SMCH61

Marks : 20 marks

Date : 24.02.2021

PART – A

(2×1=2 Marks)

I Choose the Correct Answer

1. Which of the following cation is coloured in aqueous solution?

- (a) Cu^+
- (b) Zn^{2+}
- (c) Ti^{4+}
- (d) Ni^{2+}

2. A labile complex is generally -----.

- (a) Inner orbital complex
- (b) Diamagnetic complex
- (c) Outer orbital complex
- (d) None

PART – B

(2×5=10 Marks)

II Answer any two of the following

3. (a) Explain the stepwise and overall stability constants.

(OR)

(b) Discuss the Bjerrum method of determining of stability constants.

4. (a) Write notes on anation and aquation reactions.

(OR)

(b) What is an electron transfer reaction? Explain about the inner sphere mechanism.

PART – C

(1×8=8 Marks)

III Answer any one of the following

5. (a) What is trans effect? Explain the π bonding theory of *trans* effect.

(OR)

(b) What are the factors affecting the stability of complexes ?

J. S.P. Lishavi
25/2/2021
QPS

(Ms.S.P. Lishavi)

R. S. Lishavi
25/2/2021
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VI SEMESTER, II INTERNAL TEST – February 2021

III B.Sc. CHEMISTRY
ORGANIC CHEMISTRY – IV

Duration: 1Hr

Subject Code: SMCH62

Marks : 20 marks

Date : 25.02.2021

PART – A

(2×1=2 Marks)

I Choose the Correct Answer

1. Acidity of phenol is due to -----.

- (a) Benzene ring
- (b) Phenolic group
- (c) H – bonding
- (d) Resonance stabilization of its anion

2. Formylation of phenol with CHCl_3 and NaOH is an example of ---
-----.

- (a) Reimer – Tiemann reaction
- (b) Gattermann – Koch reaction
- (c) Benzidine rearrangement
- (d) Friedal Crafts reaction

PART – B

(2×5=10 Marks)

II Answer any two of the following

3. (a) Discuss the mechanism of Riemann – Tiemann reaction.

(OR)

(b) Discuss the mechanism of Benzilic acid rearrangement.

4. (a) Explain the Preparation and uses of Micheler's ketone and Coumarin.

(OR)

(b) Give the preparation for the following:

- i) anthranilic acid from phthalimide
- ii) Vanilin from isoeugenol

PART – C

(1×8=8 Marks)

III Answer any one of the following

5. (a) Discuss the mechanism of the following:

- i) Benzoin condensation
- ii) Claisen condensation
- iii) Perkin reaction

(OR)

(b) Explain the mechanism of the following:

- i) Pinacol – Pinacolone rearrangement
- ii) Fries rearrangement

V. Chitra
25/02/21
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(Ms.V. Chithra)

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VI SEMESTER, II INTERNAL TEST – February 2021

III B.Sc. CHEMISTRY

PHYSICAL CHEMISTRY – IV

Duration: 1Hr

Subject Code: SMCH63

Marks : 20 marks

Date : 26.02.2021

PART – A

(2×1=2 Marks)

I Choose the Correct Answer

1. The collision theory is satisfactory for ----- reaction

- (a) Unimolecular
- (b) Bimolecular
- (c) Termolecular
- (d) Any order

2. E_a of a reaction is zero. The rate constant, K is equal to -----.

- (a) Zero
- (b) Infinity
- (c) A
- (d) A^{-1}

PART – B

(2×5=10 Marks)

II Answer any two of the following

3. (a) Discuss the principle of Mass spectroscopy.

(OR)

(b) Write notes on:

- i) Molecular peak
- ii) Base peak
- iii) Isotopic peak

4. (a) The rate constant of a second order reaction is $5.7 \times 10^5 \text{ dm}^3 \text{ mol}^{-1} \text{ s}^{-1}$ at 25°C and $1.64 \times 10^4 \text{ dm}^3 \text{ mol}^{-1}$ at 40°C . Calculate the activation energy and the frequency factor A.

(OR)

(b) Explain the Lindemann's theory.

PART – C

(1×8=8 Marks)

III Answer any one of the following

5. (a) Discuss in detail the ARRT and its significance.

(OR)

(b) Discuss in detail the applications of mass spectroscopy.

Anuratha
23/2/21
QPS
(Dr.M. Anuratha)

Ad
HOD
23/2/2021

Lajja Kallu
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VI SEMESTER, II INTERNAL TEST – February 2021

III B.Sc. CHEMISTRY
NANO CHEMISTRY

Duration: 1Hr

Subject Code: SECH6B

Marks : 20 marks

Date : 27.02.2021

PART – A (2×1=2 Marks)

I. Choose the Correct Answer

1. Sonolysis is a process in which molecules undergo chemical reaction under the influence of -----.

- (a) Heat
- (b) Light
- (c) Ultrasound
- (d) Pressure

2. Which of the following is a chemical method for the synthesis of nanoparticle?

- (a) Laser ablation method
- (b) SMAD
- (c) PVD
- (d) Salt reduction method

PART – B (2×5=10 Marks)

II Answer any two of the following

3. (a) Write thermolysis method for the synthesis of nanoparticles.

(OR)

(b) Write any two methods of synthesis of nanoparticles.

4. (a) Explain the Sol-Gel synthesis of ceramics.

(OR)

(b) How will you synthesis nanoparticles by solvated metal atom dispersion method?

PART – C (1×8=8 Marks)

III Answer any one of the following

5. (a) Explain the laser ablation method and physical vapour deposition method of synthesis of nanoparticles.

(OR)

(b) Write notes on:

- i) Sonochemical process
- ii) Salt reduction method
- iii) Phase transfer process

J. Samseya
QPS
23/02/21

(Dr.J. Samseya)

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23/02/21

Lajja Datta
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(Affiliated to Manonmaniam Sundaranar University)

DEPARTMENT OF MATHEMATICS



Annai Hajira Women's College
Melapalayam, Tirumelkeli - 05

II SEMESTER

I – INTERNAL TEST – FEBRUARY 2021

I B.Sc., - MATHEMATICS

**DIFFERENTIAL EQUATIONS AND ANALYTICAL GEOMETRY
 OF THREE DIMENSIONS**

Duration: 1 Hr.

Subject Code: AMMA21

Marks: 20

Date: 27.02.2021

PART –A

(2 X 1=2 marks)

I. Choose the correct answer

1. The degree and order of the equation $x^2p^2+3xyp+2y^2=0$ are respectively

- (a) 2 and 1 (b) 2 and 2
 (c) 1 and 1 (d) 1 and 2

2. $(D^2-1)y = 2$, then the particular integral is

- (a) -2 (b) 2
 (c) x (d) x^2

PART –B

(2 X 5 = 10 marks)

II. Answer all the questions, choosing either (a) or (b).

3. (a) Solve : $(D^2+5D+6)y = e^x$

(OR)

(b) Solve : $(D^2-8D+9)y = 8 \sin 5x$

4. (a) Solve: $(D^2+2D+5)y = x e^x$.

(OR)

(b) Solve: $(D^2+3D+2)y = \sin x + x^2$

PART –C

(1 X 8 = 8 marks)

III. Answer the questions, choosing either (a) or (b).

5. (a) Solve: $(D^2+1)y = x^2 e^{2x} + x \cos x$

(OR)

(b) Solve: $(D^2-4D+3)y = e^x \cos 2x + \cos 3x$

Padma M
 QPS
S. Anu
 HOD
 27.02.21

Lajana Dolk
 Principal

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II SEMESTER

I – INTERNAL TEST – FEBRUARY 2021

I B.Sc., - MATHEMATICS

PROFESSIONAL ENGLISH FOR PHYSICAL SCIENCES II

Duration: 1 Hr.

Subject Code: APPS21

Marks: 20

Date:01.03.2021

PART –A (2 X 1=2 marks)

I. Filling the blanks

- Igor Tamm won the ----- Prize in Physics.
- is the distance light travels in one earth year.

PART –B (2X5 =10 marks)

II. Answer all the questions, choosing either (a) or (b)

- (a) Write the summary of the passage "Calculus Can Save Life".

(OR)

- (b) Write about relativity and its possible applications in real Life.

- (a) Define the following terms

- Clocking
- Modem
- Gravitational field

(OR)

- (b) Write more than five points about coding as a creative art.

PART –C

(1 X 8=8 marks)

III. Answer the questions, choosing either (a) or (b)

- (a) Narrate the events that happened in the life of Igor Tamm at the time of his arrest in Ukraine in detail.

(OR)

- (b) Explain "Asking questions is an art"

S. Arun
23/02/21
QPS

S. Arun
23/02/21
HOD

Lajja Chak
Principal

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Melapalayam, Tirunelveli - 05

II Semester, I Internal Test - March - 2021

I B.Sc Mathematics

Allied Physics-II

Sub code : AAPH21

Date: 02. 03.2021

Total: 20 marks

Time : 1 hr

Part -A (2×1=2 marks)

(I) Choose the correct answer:

- The resistance can be measured by using the principles of
(a) Galvanometer
(b) Ammeter
(c) Wheatstone's Bridge
(d) All the above
- A galvanometer can be converted into a voltmeter by connecting a high resistance in ----- with the galvanometer
(a) Series
(b) Parallel
(c) Series or Parallel
(d) none of above

Part -B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

- (a) Define current and current density. Obtain Ohm's law in vector form.

(OR)

- (b) State and explain Kirchhoff's law.

- (a) Define M , B and H . Obtain a relation connecting them.

(OR)

- (b) Define permeability and susceptibility. Obtain a relation between them.

Part -C

(1×8=8marks)

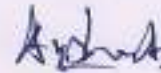
(III) Answer all the questions choosing either (a) or (b):

- (a) Describe Wheatstone's bridge. Deduce the condition for bridge balance. Obtain the condition for sensitiveness of Wheatstone's bridge.

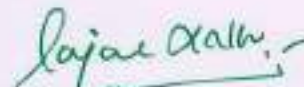
(OR)

- (b) What are diamagnetic, paramagnetic and ferromagnetic materials? Give the properties of diamagnetic materials.


QPS
[Dr. R. LAVANYA]



HOD



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IV SEMESTER

I – INTERNAL TEST – FEB 2021

II B.Sc., - MATHEMATICS

STATISTICS II

Duration: 1 Hr.

Marks: 20

Subject Code: SAST21

Date:08.02.2021

PART –A

(2 X 1=2 marks)

I. Choose the correct answer

1. The probability level below which we reject a null hypothesis is called ---
 (a) Level of significance (b) null hypothesis
 (c) two tailed test (d) critical region

2. Given $\mu=2$, $n=25$, sample mean 2.1, standard deviation = 0.25. Then the value of test statistic in the difference in mean under 5% level of significance is-----

- (a) Significance (b) not significance
 (c) not decidable (d) highly significance

PART –B (2X5 =10 marks)

II. Answer all the questions, choosing either (a) or (b)

- 3.(a) A sample of 1000 products from a factory are examined and found to be 2.5% defective. Another sample of 1500 similar products from another factory are found to have only 2% defective. Can we conclude that the products of the first factory are inferior to those of the second?

(OR)

- (b) A sample of 900 men is found to have a mean height of 64cm. If this sample has been drawn from a normal population with S.D 20 cm, find the 99% confidence limits for the mean height of the men in the population.

4. (a) A group of 10 rats fed on a diet A and another group of 8 rats fed on a different diet B recorded the following increase in weight in gms

Diet A	5	6	8	1	12	4	3	9	6	10
Diet B	2	3	6	8	1	10	2	8	-	-

(OR)

- (b) Two random samples drawn from 2 normal populations are given below. Test whether the 2 populations have the same variance.

Sample 1	20	16	26	27	23	22	18	24	25	19	-	-
Sample 2	17	23	32	25	22	24	28	6	31	33	20	27

PART –C

(1 X 8=8 marks)

III. Answer the questions, choosing either (a) or (b)

5. (a) The nicotine content in milligrams of two samples of tobacco were found to be as follows. Can it be said that the 2 samples come from the same normal population?

Sample A	24	27	26	21	25	-
Sample B	27	30	28	31	22	36

(OR)

- (b) A cigarette manufacturing firm claims that its brand A cigarette outsells its brand B cigarette by 8%. It is found that 42 out of a sample of 200 smokers prefer brand A 18 out of another sample of 100 smokers prefer brand B. Test whether the 8% difference is a valid claim.

S. Anu
QPS 06.02.21

S. Anu
HOD 06.02.21

Lajja Datta
Principal 06/02/2021

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VI SEMESTER, I INTERNAL TEST – February 2021

III B. Sc – MATHEMATICS

COMPLEX ANALYSIS

Duration : 1 Hr

Subject Code : SMMA61

Marks : 20

Date : 02.02.2021

PART – A

(2X1 = 2 marks)

I. Choose the correct answer

1. If $f(z) = u + iv$ is analytic then $\frac{\partial(u,v)}{\partial(x,y)}$ is _____

(a) $f'(z)$

(b) $|f'(z)|$

(c) $|f(z)|^2$

(d) $|f(z)|^2$

2. The harmonic conjugate of $u = e^x \cos y$ is _____

(a) $e^{-x} \sin y$

(b) $e^{-x} \cos y$

(c) $e^x \sin y$

(d) $e^y \cos y$

PART – B

(2X5 = 10 marks)

II. Answer the following.

3.(a) Prove that $f(z) = \sin x \cosh y + i \cos x \sinh y$ is differentiable at every point

(OR)

(b) Prove that the functions $f(z)$ and $\overline{f(\bar{z})}$ are simultaneously analytic

4. (a) Prove that real and imaginary parts of an analytic function are Harmonic functions

(OR)

(b) Prove that $u = 2x - x^3 + 3xy^2$ is harmonic and find its harmonic

PART – C

(1 X 8 = 8 marks)

II. Answer the following.

5. (a) Prove that the function $f(z) = \begin{cases} \frac{x^2(1+i) - y^2(1-i)}{x^2 + y^2} & \text{if } z \neq 0 \\ 0 & \text{if } z = 0 \end{cases}$ satisfies C-R equations at the origin but $f'(0)$ does not exist.

(OR)

(b) State and prove C-R equation in polar form.

Judha.M
30/1/2021
QPS

S. Ramesh Malah
30/01/2021
HOD

Principals
30/01/2021

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VI SEMESTER, I INTERNAL TEST- FEBRUARY 2021

III B.Sc., - MATHEMATICS

NUMBER THEORY

Duration: 1 Hr.

Subject code: SMMA62

Marks: 20

Date: 03.02.2021

PART -A

(2 × 1=2 marks)

I. Choose the correct answer

1) The 4th Lucas number is

- a) 4 b) 1 c) 3 d) 7

2) The sum of the numbers appearing in the 10th row of Pascal's triangle is

- a) 10^2 b) 10^3 c) 2^{10} d) 2^{20}

PART -B

(2 × 5 =10 marks)

II. Answer the following.

3. (a) State and prove first principle of induction.

(OR)

(b) Show that the expression $\frac{(2n)!}{2^n n!}$ is an integer for all $n > 0$

4. (a) State and prove Pascal's rule.

(OR)

(b) Establish the inequality $2^n < \binom{2n}{n} < 2^{2n}$, for $n > 1$.

PART -C

(1 X 8=8 marks)

III. Answer the following.

5. (a) Use the second principle of finite induction to establish that for all $n \geq 1$,

$$a^n - 1 = (a - 1)(a^{n-1} + a^{n-2} + \dots + a + 1).$$

(OR)

(b) State and Prove the Binomial theorem.

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30.01.2021

QPS

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VI SEMESTER, I – INTERNAL TEST – FEBRUARY 2021

III B.Sc., - MATHEMATICS
GRAPH THEORY

Duration: 1 Hr.

Subject Code: SMMA63

Marks: 20

Date: 04.02.2021

PART –A (2 X 1=2 marks)

I. Choose the correct answer

1. In a (p,q) complete graph, $G =$ -----

(a) $q \leq \binom{p}{2}$

(b) $p \leq \binom{q}{2}$

(c) $q \geq \binom{p}{2}$

(d) $q = \binom{p}{2}$

2. If in a graph multiple edges between the same set of vertices are allowed, it is called? -----

(a) Simple graph

(b) Multi graph

(c) Complete graph

(d) None of these

PART –B (2X5 =10 marks)

II. Answer all the questions, choosing either (a) or (b)

3.(a) Define cubic graph. Prove that every cubic graph has an even number of vertices.

(OR)

(b) (i) Define complete Bipartite graph.

(ii) $\sum \deg(v) = 2q.$

4. (a) Prove that isomorphism preserves the degree of the vertices.

(OR)

(b) Prove that any self complementary graph has $4n$ or $4n+ 1$ points.

PART –C

(1 X 8=8 marks)

III. Answer the questions, choosing either (a) or (b)

5. (a) Prove that the maximum number of lines among all p -points

graphs with no triangles is $\lfloor \frac{p^2}{4} \rfloor$

(OR)

(b) Prove that $\alpha' + \beta' = p$

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ANNAI HAJIRA WOMEN'S COLLEGE, MELAPALAYAM
VI SEMESTER, I – INTERNAL TEST – FEBRUARY 2021

III B.Sc., - MATHEMATICS

DYNAMICS

Duration: 1 Hr.

Marks: 20

Subject Code: SMMA64

Date:05.02.2021

PART –A

(2 X 1=2 marks)

I. Choose the correct answer

1. Horizontal range of a particle projected with velocity u m/sec. at an angle of 45° is

(a) u^2

(b) $\frac{2u^2}{g}$

(c) $\frac{u^2}{g}$

(d) $\frac{u^2}{2g}$

2. If a particle is projected with a velocity 20 m/sec. at an elevation 30° then greatest height attained is

(a) 5.1 mts

(b) 2.04mts

(c) 3.5mts

(d) 4mts

PART –B

(2X5 =10 marks)

II. Answer all the questions, choosing either (a) or (b)

3.(a) Define i) Time of flight

ii) The range on the horizontal plane.

iii) Greatest height

(OR)

(b) A particle is thrown over a triangle from one end of a horizontal base and grazing the vertex falls on the other end of the base. If A, B are the base angles, and α the angle of projection, show that $\tan \alpha = \tan A + \tan B$.

4. (a) Show that, for a given initial velocity of projection there are in general two possible directions of projections to obtain a given horizontal range.

(OR)

(b) If h and h' be the greatest heights in the two paths of a projectile with a given velocity for a given range R . Prove that $R = 4\sqrt{hh'}$

PART –C

(1 X 8=8 marks)

III. Answer the questions, choosing either (a) or (b)

5. (a) Prove that the path of the projectile is a parabola.

(OR)

(b) A particle is projected so as to graze the tops of two parallel walls, the first of height 'a' at a distance b from the point of projection and the second of height b at 'a' from the point of projection. If the path of particle lies in a plane perpendicular to both the walls, find the range on the horizontal plane and show the angle of projection exceeds $\tan^{-1} 3$.

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ANNAI HAJIRA WOMEN'S COLLEGE, MELAPALAYAM
VI SEMESTER, I – INTERNAL TEST – FEBRUARY 2021

III B. Sc - MATHEMATICS
FUZZY MATHEMATICS

Duration : 1 Hour
Marks : 20

Subject code : SEMA6B
Date : 08.02. 2021
(2 X 1=2 marks)

PART –A

I. Choose the correct answer

1. Law of absorption is -----

- (a) $A \cap (A \cap B) = A$ (b) $A \cup (A \cup B) = B$
(c) $A \cup (A \cap B) = B$ (d) $A \cup (A \cap B) = A$

2. The cardinality of second order power set of A is -----

- (a) $2^{|A|}$ (b) $2^{2|A|}$ (c) 0 (d) 1

PART –B

(2 X 5=10 marks)

II. Answer the following

3. (a) Write the fundamental properties of crisp set operations

(OR)

(b) Define convex set and explain with an example Also discuss

$[0,2] \cup [3,5]$ is convex or not

4. (a) Define

- (i) Partition
(ii) Refinement
(iii) Relative complement

(OR)

- (b) (i) Explain the fuzzy variable with an example
(ii) Define height with an example.

PART –C

(1 X 8=8 marks)

II. Answer the following

5. (a) Explain the different fuzzy sets with a diagram

(OR)

(b) A fuzzy set A on R is convex iff $A(\lambda x_1 + (1 - \lambda) x_2) \geq \min(A(x_1), A(x_2))$, for all $x_1, x_2 \in R$, and all $\lambda \in [0,1]$

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IV SEMESTER

II B.Sc - MATHEMATICS

II INTERNAL TEST - FEBRUARY 2021

ABSTRACT ALGEBRA I

Duration: 1 Hr.

Marks: 20

Subject Code: SMMA41

Date: 27.02.2021

PART -A

(2 X 1=2 marks)

I. Choose the correct answer

1. The order of the element 3 in (\mathbb{Z}_8, \oplus) is _____

a) 2 b) 4 c) 6 d) 8

2. For the group $(\mathbb{Z}_{12}, \oplus)$ the number of generators is

a) 4 b) 3 c) 2 d) none

PART -B

(2 X 5=10 marks)

II. Answer the following

3) a) Prove that any permutation can be expressed as a product of disjoint cycles

(OR)

b) Let G be a group and 'a' be an element of order n . Show that $a^m = e$ iff n divides m .

4) a) Let G be a group and $H = \{a/a \in G, ax = xa \forall x \in G\}$.

Prove that H is a subgroup of G .

(OR)

b) Prove that the union of two subgroups of a group is a subgroup iff one is contained in the other.

PART -C

(1 X 8=8 marks)

III. Answer the following

5) a) Let A and B be two subgroups of a group G . Prove that AB is a subgroup of G iff $AB = BA$

(OR)

b) State and Prove Lagrange's Theorem.

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IV SEMESTER

II INTERNAL TEST- MARCH 2021

II B.Sc., - MATHEMATICS

HUMAN RIGHTS

Duration: 1 Hr.

Subject code: SNCO4B

Marks: 20

Date: 01.03.2021

PART -A (2 × 1=2 marks)

I. Choose the correct answer

- 1) The vulnerable target of abuse is
a) children b) young women c) aged people d) foreigners
- 2) In case of human rights violation, this could be approached
a) court b) police c) mediators d) opponents

PART -B (2 × 5 =10 marks)

II. Answer the following.

3. (a) What are Human Right Violations?

(OR)

- (b) Write about the interdependence between human rights violations and intractable conflict?

4. (a) Who is ultimately responsible for ensuring human rights violations don't happen?

(OR)

- (b) Write few major human rights violation in India.

PART -C (1 X 8=8 marks)

III. Answer the following.

5. (a) Illustrate with any two examples of violation of human rights.

(OR)

- (b) What action could be taken against violation of human rights?

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IV SEMESTER

II INTERNAL TEST - FEB 2021

II B.Sc., - MATHEMATICS

TRIGONOMETRY, LAPLACE TRANSFORMS

AND FOURIER SERIES

Duration: 1 Hr.

Subject code: SSMA4A

Marks: 20

Date: 02.03.2021

PART -A

(2 × 1 = 2 marks)

I. Choose the correct answer

1) $\text{Log}(-1) = \underline{\hspace{2cm}}$

- a) $i2n\pi$ b) $-i2n\pi$ c) 0 d) $i(2n+1)\pi$

2) The value of $\tan^{-1}\left(\frac{1}{2}\right) + \tan^{-1}\left(\frac{1}{3}\right)$ is _____.

- a) $\frac{\pi}{2}$ b) $\frac{\pi}{3}$ c) $\frac{\pi}{6}$ d) $\frac{\pi}{4}$

PART -B

(2 × 5 = 10 marks)

II. Answer the following.

3. (a) Prove that $\cosh^{-1}x = \log_e(x + \sqrt{x^2 - 1})$

(OR)

(b) Separate $\tanh^{-1}(1+i)$ into real and imaginary parts.

4. (a) If $i^{x+iy} = A + iB$, prove that $A^2 + B^2 = e^{-(4n+1)\pi y}$.

(OR)

(b) Sum the series to infinity

$$1 + \frac{\cos\theta}{\cos\theta} + \frac{\cos 2\theta}{\cos^2\theta} + \frac{\cos 3\theta}{\cos^3\theta} + \dots \infty$$

PART -C

(1 X 8 = 8 marks)

III. Answer the following.

5. (a) If $\tan(\theta + i\phi) = \cos\alpha + i\sin\alpha$, prove that

i) $\theta = \frac{n\pi}{2} + \frac{\pi}{4}$ ii) $\phi = \frac{1}{2} \log \tan\left(\frac{\pi}{4} + \frac{\alpha}{2}\right)$.

(OR)

(b) Sum to infinity the series

$$\cosh\theta + \frac{\sin\theta}{1!} \cosh 2\theta + \frac{\sin^2\theta}{2!} \cosh 3\theta + \dots \infty.$$

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IV SEMESTER

II – INTERNAL TEST – FEBRUARY 2021

II B.Sc., - MATHEMATICS

STATISTICS II

Duration: 1 Hr.

Marks: 20

Subject Code: SAST21

Date: 03.03.2021

PART –A

(2 X 1=2 marks)

I. Choose the correct answer

1. With standard notations Paasche's index number is -----

(a) $\frac{\sum p_1 q_0}{\sum p_0 q_1} \times 100$ (b) $\frac{\sum p_1 q_0}{\sum p_1 q_1} \times 100$

(c) $\frac{\sum p_1 q_1}{\sum p_0 q_1} \times 100$ (d) $\frac{\sum p_1 q_1}{\sum p_0 q_0} \times 100$

2. With the usual notations the time reversal test is-----

(a) $I_{(01)} \times I_{(10)} = \frac{\sum p_1 q_1}{\sum p_0 q_0}$ (b) $I_{(01)} \times I_{(10)} = \frac{\sum p_0 q_0}{\sum p_1 q_1}$

(c) $I_{(01)} \times I_{(00)} = 1$ (d) $I_{(01)} \times I_{(10)} = 1$

PART –B

(2 X 5 = 10 marks)

II. Answer all the questions, choosing either (a) or (b).

3.(a). From the following average prices of the three groups of commodities given in rupees per unit find (i) fixed base index number (ii) chain base index numbers with 1988 as the base year and

Commodity	1988	1989	1990	1991	1992
A	2	3	4	5	6
B	8	10	12	15	18
C	4	5	8	10	12

(OR)

(b) From the following data construct the aggregate index number for 1991 taking 1990 as the base:

Commodities	Prices in 1990 Rs.	Prices in 1991 Rs.
A	50	70
B	40	60
C	80	90
D	110	120
E	20	20

4. (a) Prove that the Fisher's index number is an ideal index number.

(OR)

(b) Find the missing price in the following data if the ratio between Laspeyre's and Paasche's index numbers is 25:24.

PART –C

(1 X 8 = 8 marks)

III. Answer the questions, choosing either (a) or (b).

5. (a) Calculate (i) Laspeyre's (ii) Paasche's (iii) Fishers' index numbers for the following data given below. Hence or otherwise find Edgeworth and Bowley's index numbers.



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VI SEMESTER

II - INTERNAL TEST - FEBRUARY 2021

III B.Sc., - MATHEMATICS

COMPLEX ANALYSIS

Duration: 1 Hr.

Marks: 20

Subject Code: SMMA61

Date: 24.02.2021

PART -A

(2 X 1=2 marks)

I. Choose the correct answer

3. If C is the circle $|z - 1| = 1$ then the value of $\int_C \bar{z}^2 dz = \dots$

- (a) πi (b) $2\pi i$
(c) $4\pi i$ (d) 0

2. If C is the circle with centre a and radius r then the value of

$$\int_C \frac{dz}{z-a} =$$

- (a) πi (b) $2\pi i$
(c) $4\pi i$ (d) 0

PART -B

(2 X 5 = 10 marks)

II. Answer all the questions, choosing either (a) or (b).

3.(a). Prove that $\left| \int_a^b f(t) dt \right| \leq \int_a^b |f(t)| dt$
(OR)

(b) Prove that $\int_C \frac{dz}{(z-a)^n} = \begin{cases} 0 & \text{if } n \neq 1 \\ 2\pi i & \text{if } n = 1 \end{cases}$

4. (a) State and prove Maximum modulus theorem
(OR)

(b) Evaluate $\int_C \frac{e^z}{z^2+4} dz$ where C is positively oriented circle $|z-i| = 2$.

PART -C

(1 X 8 = 8 marks)

III. Answer the questions, choosing either (a) or (b).

5. (a) Find the analytic function $f(z) = u+iv$ if $u+v = \frac{\sin 2x}{\cos 2y - \cos 2x}$

(OR)

(b) State and Prove Cauchy's Integral Formula

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VI SEMESTER

II – INTERNAL TEST – FEBRUARY 2021

III B.Sc., - MATHEMATICS

GRAPH THEORY

Duration: 1 Hr.

Marks: 20

Subject Code: SMMA63

Date: 03.03.2021

PART –A

(2 X 1=2 marks)

I. Choose the correct answer

1. The Partition $P = (6,6,5,4,3,3,1)$ is -----

- (a) Graphic (b) Not graphic
(c) Not Partition (d) None

2. If G is not connected then \bar{G} is -----

- (a) Not connected (b) Connected
(c) Walk (d) None

PART –B

(2X5 =10 marks)

II. Answer all the questions, choosing either (a) or (b)

3.(a) Prove that $\alpha + \beta = p$.

(OR)

(b) Prove that $[G = [\bar{G}$

4. (a) Prove that a closed walk of odd length contains a cycle.

(OR)

- (b) Define (i) Walk (ii) Path (iii) Trail
(iv) If $\delta \geq k$, then G has a path of length k .

PART –C

(1 X 8=8 marks)

III. Answer the questions, choosing either (a) or (b)

5. (a) Let G_1 be a (p_1, q_1) graph and G_2 be a (p_2, q_2) graph.

- (i) $G_1 \cup G_2$ is a (p_1+p_2, q_1+q_2) graph
(ii) $G_1 \times G_2$ is a $(p_1p_2, q_1p_2 + q_2p_1)$ graph

(OR)

(b) A graph G is connected iff for any partition V into subsets V_1 and V_2 , there is a line of G joining a point of V_1 to a point of V_2 .

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VI SEMESTER

II – INTERNAL TEST – FEB. 2021

III B.Sc., - MATHEMATICS

DYNAMICS

Duration: 1 Hr.

Marks: 20

Subject Code: SMMA64

Date: 27.02.2021

PART –A

(2 X 1=2 marks)

I. Choose the correct answer

1. The period of S.H.M is

(a) $\frac{2\pi}{\sqrt{\mu}}$

(b) $2\frac{2\pi}{\sqrt{m}}$

(c) $\frac{\sqrt{\mu}}{2\pi}$

(d) None

2. The maximum velocity of a particle moving with S.H.M is 2ftsec. If the amplitude is 4ft. the value of $\sqrt{\mu}$ is---

(a) 1/16

(b) 1/8

(c) 1/2

(d) 2

PART –B (2X5 =10 marks)

II. Answer all the questions, choosing either (a) or (b)

3.(a) Find the resultant of two S. H. Ms of the same period in two perpendicular directions.

(OR)

(b) Show that the energy of a system executing S. H. M is proportional to the square of the amplitude and of the frequency.

4. (a) Two S. H. Ms, the same straight line of equal periods and differing in phase by $\frac{\pi}{2}$ are imposed simultaneously on a particle. If the amplitudes are 4 and 6, find the amplitude and phase of the resulting motion.

(OR)

(b) The displacement x of a particle moving along a straight line is given by $x = a \cos nt + b \sin nt$. Show that the motion is S.H with amplitude $\sqrt{a^2 + b^2}$ and period $\frac{2\pi}{n}$

PART –C

(1 X 8=8 marks)

III. Answer the questions, choosing either (a) or (b)

5. (a) Define S. H. M and solve the differential equation of the S. H. M.

(OR)

(b) A particle is performing a S. H. M of period T about a centre O and it passes through a point P with a velocity V in the direction OP . If OP be equal to x , and if the particle returns to P in time t , prove that $t = \frac{T}{\pi} \tan^{-1} \left(\frac{VT}{2\pi x} \right)$

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VI SEMESTER,
II – INTERNAL TEST – FEBRUARY 2021
III B.Sc., - MATHEMATICS
NUMERICAL METHODS

Duration: 1 Hr.

Marks: 20

Subject Code: SMMA65

Date: 01.03.2021

PART – A (2 X 1=2 marks)

I. Choose the correct answer

1. The order of convergence for Newton Raphson method is _____

- (a) 2 (b) 3 (c) 1 (d) 4

2. Gauss forward interpolation formula is useful when p lies between _____

- (a) -1 and 0 (b) 0 and 1
(c) -1 and -2 (d) None of these

PART – B (2 X 5 = 10 marks)

II. Answer all the questions, choosing either (a) or (b).

3.(a) Find a root of the equation $x^3 - 4x - 9 = 0$ correct to three decimal places by using bisection method.

(OR)

(b) Using Newton-Raphson method, establish the formula

$x_{n+1} = \frac{1}{2} \left(x_n + \frac{N}{x_n} \right)$ to calculate the square root of 5 correct to four places of decimals.

4. (a) Apply Gauss's forward formula to find the value of $f(x)$ at $x = 3.75$ from the table.

x	2.5	3.0	3.5	4.0	4.5	5.0
f(x)	24.145	22.043	20.225	18.644	17.262	16.047

(OR)

(b) Interpolate by means of Gauss's backward formula the sales of a concern for the year 1966 given that

Year	1931	1941	1951	1961	1971	1981
Sales(in lakhs of rupees)	12	15	20	27	39	52

PART – C (1 X 8 = 8 marks)

III. Answer the questions, choosing either (a) or (b).

5. (a) Solve by Gauss-elimination method.

$$2x + y + 4z = 12$$

$$8x - 3y + 2z = 20$$

$$4x + 11y - z = 33$$

(OR)

(b) Find a real root of the equation $\cos x = 3x - 1$ correct to 3 decimal places by using iteration method.

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VI SEMESTER

II – INTERNAL TEST – FEBRUARY 2021

III B. Sc - MATHEMATICS
 FUZZY MATHEMATICS

Duration : 1 Hour
 Marks: 20

Subject code : SEMA6B
 Date : 02.03.2021

PART -A (2 X 1=2 marks)

I. Choose the correct answer

1. Law of De Morgan is -----
 (a) $(A \cap B)' = A' \cup B'$
 (b) $(A \cap B)' = A' \cap B'$
 (c) $(A \cap B) = B$
 (d) $(A \cap B) = A$

2. $C(0) =$ -----
 (a) 2
 (b) -1
 (c) 0
 (d) 1

PART -B (2 X 5=10 marks)

II. Answer the following

3. (a) Let $A, B \in F(X)$, then prove that the following property hold for all $\alpha, \beta \in [0,1]$ $\alpha_{A \cap B} = \alpha_A \cap \alpha_B$

(OR)

- (b) Let $A, B \in F(X)$, then for all $\alpha, \beta \in [0,1]$ $A = B$ iff $\alpha_A^+ = \alpha_B^+$

4. (a) State and prove First Decomposition theorem.

(OR)

(b) Let $f: X \rightarrow Y$ be an arbitrary crisp function, then for $A_i \in F(X)$ and any $B_i \in F(Y)$, $i \in I$. Prove that the following properties of function obtained by the extension principle hold.

- (i) $f(A) = \emptyset$ iff $A = \emptyset$
 (ii) $f(\cup_{i \in I} A_i) = \cup_{i \in I} f(A_i)$

PART -C (1 X 8=8 marks)

II. Answer the following

5. (a) Let a function $C: [0,1] \rightarrow [0,1]$, satisfy the axiom C_2 & C_4 , then prove that C also satisfy C_1 & C_3 . Moreover, C must be bijective function.

(OR)

- (b) For any $A \in F(X)$, prove that the following properties hold.

- (i) $\alpha_A = \cap_{\beta < \alpha} \beta_A = \cap_{\beta < \alpha} \beta_A^+$
 (ii) $\alpha_A^+ = \cup_{\alpha < \beta} \beta_A = \cup_{\alpha < \beta} \beta_A^+$

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VI SEMESTER

II – INTERNAL TEST – FEBRUARY 2021

III B.Sc., - MATHEMATICS

Operations Research II

Duration : 1 Hour

Subject code : SEMA6D

Marks : 20

Date : 26.02.2021

PART –A (2 X 1=2 marks)

I. Choose the correct answer

1. The problem of replacement is not concerned about the _____

- a) Items are deteriorate graphically
- b) Items that fails suddenly
- c) Determination of optimum replacement interval
- d) Maintenance of an item to work out profitability

2. Multiple servers may be _____

- a) In parallel
- b) In series
- c) In combination of parallel and series
- d) All of the above

PART –B (2 X 5=10 marks)

II. Answer the following

3) a) Machine A costs Rs. 9,000. Annual operating cost are Rs 200 for the first year and then increase by Rs 2000 every year . Determine the best age at which to replace the machine. If the optimum replacement policy is followed, what will be the average yearly cost of owning and operating the machine?

(OR)

b) A manual stamper currently valued at Rs 1000 is expected to last 2 years and costs Rs 4000 per year to operate. An automatic stamper which can be purchased for Rs 3000 will last for 4 years and can be operated at an annual cost of Rs 3000. If money carries the rate of interest 10% per annum, determine which stamper should be purchased.

4) a) A TV repairman finds that the time spent on his job has an exponential distribution with mean 30 minutes. If he repairs sets in the order in which they come in and if the arrival of sets is approximately Poisson with an average rate of 10 per 8 hour day (i) how many jobs are ahead of the sets just brought in ? (ii) what is the repairman's expected idle time each day?

(OR)

b) At a one man barber shop customers arrive according to poisson distribution with a mean arrival rate of 5 per hour and his hair cutting time is exponentially distributed with an average haircutting 10 minutes. It is assumed that because of his excellent reputation, customers are willing to wait. Calculate the following

- (i) Average number of customers in the shop and the average number of customers waiting for a haircut
- (ii) The percentage of customers who have to wait prior to getting into the barber's chair.

III. Answer the following

5) a) The following failure rates have been observed for a certain type of transistors in a digital computer:

End of the week	1	2	3	4	5	6	7	8
Probability of failure rate	0.05	0.13	0.25	0.43	0.68	0.88	0.96	1.00

The cost of replacing an individual failed transistor is Rs 1.25. The decision is made to replace all these transistors simultaneously at fixed intervals and to replace the individual transistors as they fail in service. If the cost of group replacement is 30 paise per transistor, what is the best interval between group replacement?

(OR)

b) An airline requires 200 assistant hostesses, 300 hostesses and 50 supervisors. Girls are recruited at age 21, if still in service retire at the age 60. Given the following life table determine

- How many girls should be recruited each year?
- At what age promotion should take place

Age	No. in Service	Age	No. in Service	Age	No. in Service
21	1000	34	155	47	80
22	600	35	150	48	73
23	480	36	146	49	66
24	384	37	141	50	59
25	307	38	136	51	53
26	261	39	131	52	46
27	228	40	125	53	39
28	206	41	119	54	33
29	190	42	113	55	27
30	181	43	106	56	22
31	173	44	99	57	18
32	167	45	93	58	14
33	161	46	87	59	11

Q. No. 14
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DEPARTMENT OF PHYSICS



Annai Hajira Women's College
Melapalayam, Tirunelveli -05

II Semester, I Internal Test – February 2021

I B.Sc Physics

Value Based Education

Sub code : AVBE21

Date: 26.02.2021

Total: 20 marks

Time : 1 hr

Part –A

(2×1=2 marks)

(I) Choose the correct answer:

1. The universal declaration of human rights is a document adopted by the-----

- (a) UNESCO
- (b) UNO
- (c) Red cross
- (d) Blue cross

2. Mandal commission report deals with the reservation quota for _____ people

- (a) scheduled tribe
- (b) scheduled caste
- (c) forward class
- (d) backward class

Part B (2×5=10 marks)

(II) Answer all questions, choosing either (a) or (b):

3.(a) Explain equality and fraternity.

(OR)

(b) Give a short profile of Dr. Ambedkar

4. (a) Explain the six fundamental human rights as enshrined in chapter III of the constitution of India.

(OR)

(b) Briefly discuss about (i) UNIFEM & (ii) DEDAW

Part C

(1×8=8 marks)

(III) Answer the following, choosing either (a) or (b):

5. (a) Explain the factors which cause the social injustice in India.

(OR)

(b) Discuss about the upper cloth revolt and the dowry problems encountered by Indian women.

QPS
[Dr. R. LAYANIA]
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Melapalayam, Tirumelveli - 05

II Semester, I Internal Test – February 2021

I B.Sc Physics

OPTICS AND THERMAL PHYSICS

Sub code: AMPH21

Total: 20 marks

Time: 1 hr

Date: 27.02.2021

Part-A

I Choose the correct answer: (2×1=2 marks)

1. For achromatism the distance between two lenses of focal lengths 12cm and 18cm must be equal to-----

- (a) 15cm
- (b) 30cm
- (c) 6cm
- (d) 3cm

2. An eyepiece with no cross-wire is-----

- (a) Kelner's
- (b) Ramsden's
- (c) Huygen's
- (d) none of the above

Part B

II Answer all questions, choosing either (a) or (b): (2×5=10 marks)

3.(a) Derive the condition for dispersion without deviation in a combination of two thin prisms.

(OR)

(b) What are the methods to minimize spherical aberration? Derive an expression for minimizing spherical aberration.

4.(a) Explain Huygen's Eyepiece.

(OR)

(b) Derive the condition for achromatism when two lenses are separated by a distance.

Part C

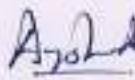
II Answer the following, choosing either (a) or (b): (1×8=8 marks)

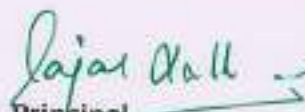
5.(a) Describe the Ramsden eyepiece with neat diagram.

(OR)

(b) Explain the constant deviation spectroscope.


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Melapalayam, Tirumelveli - 05

Semester II, I Internal Test - March 2021

I B.Sc Physics

PROFESSIONAL ENGLISH FOR PHYSICAL SCIENCES II

Sub code: APPS21

Total: 20 marks

Time: 1 hr

Date: 01.03.2021

Part-A

I Choose the correct answer: (2x1=2 marks)

1. A year is the distance that the earth moves in it's -----
 around the sun

- a) Orbit
- b) tangent
- c) trajectory
- d) sun

2. Igor Tomm is a professor at the university of-----

- (a) Odessa
- (b) Ukraine
- (c) Cambridge
- (d) London

Part B

II Answer all questions, choosing either (a) or (b): (2x5=10 marks)

3. (a) Give the synonyms of the following:

- (i) Synchronize (ii) Relativity (iii) Bafflement
- (iv) Levitate (v) combustion

(OR)

(b) Define the following terms each in a sentence

- (a) Gravitational field
- (b) teleconference
- (c) Modem

4. (a) Answer the following questions

- (i) List a few chemical compounds that you use every day.
- (ii) What happens when you light a lamp of sulphur.

(OR)

(b) Find out the single word for the given statement.

- i) The enclosing boundary of a curved geometric figure.
- ii) Smallest unit of ordinary matter that forms a chemical element.

Part C

III Answer the following, choosing either (a) or (b): (1x8=8 marks)

5. (a) Write a paragraph of 200 words on Tachyons.

(OR)

(b) Fill in the blanks choosing the correct forms of the verbs given within brackets

We put a slice of lemon into a cup of strong tea and the tea ----- (become) pale. We strike a match and a stick of wood----- (burst) into flame and----- (turn) into charcoal. These ----- (be) all chemical reactions. The primeval man who----- (learn) to light a fire was the first chemist. He----- (accomplish) the first chemical reaction, that of combustion. And this reaction is most necessary, the most important in the history of mankind. It ----- (give) our distant ancestors the heat to warm their dwellings on cold days. In our time it----- (open) the way to outer space by propelling rockets weighing many tons into the sky. The legend of Prometheus who gave fire to the people ----- (be) at the same time the legend of the first chemical reaction.

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II SEMESTER

I - INTERNAL TEST - FEB 2021

I B. Sc - PHYSICS

VECTOR CALCULUS AND FOURIER SERIES

Duration: 1 Hour

Subject code : AAMA21

Marks: 20

Date : 02.03.2021

PART -A (2 X 1=2 marks)

I. Choose the correct answer

1. If $\vec{A} = u^2\vec{i} + u\vec{j} + 2u\vec{k}$ and $\vec{B} = \vec{j} - u\vec{k}$ then $\frac{d}{du}(\vec{A} \cdot \vec{B})$ is

- (a) $2u - 1$
- (b) $2u + 1$
- (c) $1 - 4u$
- (d) $1 + 4u$

2. If $\vec{r} = x\vec{i} + y\vec{j} + z\vec{k}$, then $\nabla \cdot \vec{r}$ is

- (a) 0
- (b) 1
- (c) 2
- (d) 3

PART -B

(2 X 5=10 marks)

II. Answer the following

3. (a) If $\vec{r} = \vec{a} \cos \omega t + \vec{b} \sin \omega t$ where \vec{a}, \vec{b} are constant vectors and ω is a constant prove that $\vec{r} \times \frac{d\vec{r}}{dt} = \omega (\vec{a} \times \vec{b})$ and $d^2\vec{r}/dt^2 + \omega^2\vec{r} = 0$

(OR)

(b) Find ϕ if $\nabla\phi = (6xy + z^3)\vec{i} + (3x^2 - z)\vec{j} + (3xz^2 - y)\vec{k}$.

4. (a) Prove that $\nabla \cdot (\vec{f} \times \vec{g}) = \vec{g} \cdot (\nabla \times \vec{f}) - \vec{f} \cdot (\nabla \times \vec{g})$.

(OR)

(b) Prove that $\text{curl}(\vec{r} \times \vec{a}) = -2\vec{a}$ where \vec{a} is a constant vector.

PART -C

(1 X 8=8 marks)

II. Answer the following

5. (a) Prove that $\text{div}(r^n \vec{r}) = (n+3)r^n$. Deduce that $r^n \vec{r}$ is solenoidal iff $n = -3$.

(OR)

(b) Prove that

$$\text{Curl}(\vec{f} \times \vec{g}) = (\vec{g} \cdot \nabla)\vec{f} - (\vec{f} \cdot \nabla)\vec{g} + \vec{f} \text{div} \vec{g} - \vec{g} \text{div} \vec{f}$$

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IV Semester, II Internal Test - February 2021

II B.Sc Physics

Electromagnetism

Sub code : SMPH41

Date:01 .03.2021

Total: 20 marks

Time : 1 hr

Part -A

(2×1=2 marks)

(I) Choose the correct answer:

1. The ballistic constant K and dead beat constant K_d of a ballistic galvanometer are related as -----

(a) $\frac{K}{K_d} = \frac{2\pi}{T}$

(b) $\frac{K}{K_d} = \frac{T}{2\pi}$

(c) $\frac{K}{K_d} = \frac{2\pi}{T^2}$

(d) $\frac{K}{K_d} = \frac{T^2}{2\pi}$

2. Ballistic Galvanometer is meant for measuring-----

- (a) steady current
- (b) large current
- (c) momentary charge
- (d) deflection

Part -B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

2. (a) Describe the experiment to find absolute capacity of a capacitor using ballistic galvanometer.

(OR)

(b) Construct desauty's bridge and obtain the balance condition.

3. (a) Derive the relation connecting three magnetic vectors.

(OR)

(b) Obtain the magnetic induction of a long solenoid.

Part -C

(1×8=8marks)

(III) Answer all the questions choosing either (a) or (b):

4. (a) With neat diagram describe the construction and working of ballistic galvanometer. Also derive the momentary charge.

(OR)

(b) (a) Draw the B-H curve and explain it.

(b) Write about hysteresis.

NM
QPS Dr.N.Sridevi

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Lajal Aksh
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IV Semester, II Internal Test - February 2021

II B.Sc Physics

Maintenance of Electronic Equipments

Sub code : SSPH4A

Date:27.02.2021

Total: 20 marks

Time : 1 hr

Part -A

(2×1=2 marks)

(I)Choose the correct answer:

1. For resistance measurement with a multimeter the zero-set is adjusted to get-----
(a)full scale deflection
(b)null deflection
(c)red light
(d)green light
2. In a capacitive transducer, when the air gap decreases, its capacitance-----
(a)decreases
(b)decreases first and then increases
(c)increases
(d)remains the same

Part -B

(2×5=10 marks)

(II)Answer all the questions choosing either (a) or (b):

3. (a)Describe the action of the LCD.

(OR)

- (b) Explain the action of the RF oscillator.

4. (a) Write about Wheatstone bridge type strain gauge transducer

(OR)

- (b)Describe the working of a photo voltaic cell.

Part -C


(1×8=8marks)

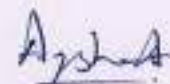
(III)Answer all the questions choosing either (a) or (b):

5. (a) Explain a cathode ray tube.

(OR)

- (b)Describe LVDT and its mode of functioning.


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IV SEMESTER, II INTERNAL TEST – February 2021

II B.Sc. PHYSICS
ALLIED CHEMISTRY II

Duration: 1Hr

Subject Code: SACH21

Marks : 20 marks

Date : 03.03.2021

PART – A (2×1=2 Marks)

I. Choose the Correct Answer

1. Which of the following pair corresponds to isotones?

- (a) ${}_6\text{C}^{13}$ ${}_6\text{C}^{14}$
(b) ${}_{14}\text{S}^{30}$ ${}_{16}\text{S}^{32}$
(c) ${}_{15}\text{P}^{30}$ ${}_{16}\text{S}^{32}$
(d) ${}_2\text{He}^3$ ${}_2\text{He}^4$

2. Starch is -----.

- (a) Reducing sugar
(b) Non – reducing sugar
(c) Non sugar
(d) Both b and c

PART – B (2×5=10 Marks)

II Answer any two of the following

3. (a) Write a note on packing fraction, mass defect, Binding energy.

(OR)

(b) Give the difference between nuclear fission and nuclear fusion and Natural and Artificial series.

4. (a) Explain the classification of carbohydrate .

(OR)

(b) Write a note on artificial synthetic sweetener.

PART – C

(1×8=8 Marks)

III Answer any one of the following

5. (a) Discuss the application of radioactive isotope and *write* notes on Carbon dating.

(OR)

(b) Discuss the classification of amino acids with a suitable example.

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(Ms.V. Chithra)

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23/2/2021

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VI Semester, II Internal Test - February 2021

III B.Sc Physics
Digital Electronics

Sub code : SMPH61

Date: 24 .02.2021

Total: 20 marks

Time : 1 hr

Part -A (2×1=2 marks)

(I) Choose the correct answer:

- The Boolean expression $\overline{A + B} = Y$ is a representation of output of which logic function
(a) AND
(b) OR
(c) NAND
(d) NOR
- A full adder has _____ inputs and _____ outputs
(a) 1,1
(b) 2,1
(c) 3,3
(d) 3,2

Part -B (2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):


- (a) Explain about AND gate with circuit diagram.
(OR)
(b) What is EXOR gate? Explain it.

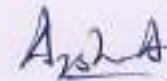
- (a) What is half subtractor? Draw and explain it.
(OR)
(b) Explain about D flip flop.

Part -C (1×8=8marks)

(III) Answer all the questions choosing either (a) or (b):

- (a) What is universal gate? Explain NAND as universal gate.
(OR)
(b) What is flip flop? Explain the operation of JK flip flop.


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VI Semester, II Internal Test - February 2021

III B.Sc Physics

Quantum Mechanics

Sub code : SMPH62

Date:25.02.2021

Total: 20 marks

Time : 1 hr

Part -A (2×1=2 marks)

(I) Choose the correct answer:

- The uncertainty in the energy emitted for a average period of time 10^8 second is-----
 (a) 10.54×10^{-26} J
 (b) 1054×10^{-26} J
 (c) $.1054 \times 10^{-26}$ J
 (d) 1.054×10^{-26} J

- The kinetic energy operator for the motion of particle in the x- direction is -----

- (a) $\frac{-\hbar^2}{2m} \frac{\partial^2}{\partial x^2}$ (b) $\frac{\hbar^2}{2m} \frac{\partial^2}{\partial x^2}$
 (c) $i\hbar \frac{\partial}{\partial t}$ (d) $-i\hbar \frac{\partial}{\partial t}$

Part -B (2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

- (a) Give the elementary proof of Heisenberg's uncertainty relation.

(OR)

- (b) Derive phase velocity and group velocity for De-Broglie wave.

- (a) Write the basic postulates of quantum mechanics.
(OR)
(b) Give the consequences of the uncertainty relation.

Part -C (1×8=8marks)

(III) Answer all the questions choosing either (a) or (b):

- (a) Illustrate Heisenberg's uncertainty relation using thought experiment.

(OR)

- (b) Describe Davisson and Germer experiment to verify De-Broglie's relation.

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VI Semester, II Internal Test - February 2021

III B.Sc Physics

Nuclear Physics

Sub code : SMPH63

Date:26.02.2021

Total: 20 marks

Time : 1 hr

Part -A

(2×1=2 marks)

(I) Choose the correct answer:

1. When the multiplication factor $k=1$, then the chain reaction will be -----

- (a) Supercritical
- (b) Subcritical
- (c) Critical
- (d) None of the above

2. The amount of energy released in nuclear fission is approximately-----

- (a) 209.8 Mev
- (b) 931 Mev
- (c) 5.128×10^{26} Mev
- (d) None of the above

Part -B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

3.(a) Explain the Radio carbon dating.

(OR)

(b) State the principle and construction of an atom bomb.

4. (a) Explain the Bohr Wheeler theory of nuclear fission.

(OR)

(b) What are the main elements of a nuclear reactor?

Part -C

(1×8=8marks)

(III) Answer all the questions choosing either (a) or (b):

5. (a) Write the basic types of nuclear reaction.

(OR)

(b) Explain the principle and working of Scintillation counter.

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VI Semester, II Internal Test - February 2021

III B.Sc Physics

Solid State Physics

Sub code : SMPH64

Date:27.02.2021

Total: 20 marks

Time : 1 hr

Part -A

(2×1=2 marks)

(I) Choose the correct answer:

1. The region between H_{c1} and H_{c2} is said to be-----

- (a) Maximum level
- (b) Minimum level
- (c) Vortex state
- (d) Critical level

2. Which one is relaxation type polarization?

- (a) electronic
- (b) ionic
- (c) orientation
- (d) none of the above

Part -B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

3.(a) Explain the hysteresis loop.

(OR)

(b) Describe ionic polarization. Explain the hysteresis loop.

3. (a) Explain CVD method.

(OR)

(b) Classify the nanomaterials.

Part -C


(1×8=8marks)


(III) Answer all the questions choosing either (a) or (b):

4. (a) Give the properties of nanomaterials.

(OR)

(b) Describe Langevin's theory of paramagnetism.


S.VIRGINBRINDHA
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VI Semester, II Internal Test – March 2021

III B.Sc Physics

Energy Physics

Sub code: SEPH6B

Date: 01.03.2021

Total: 20 marks

Time : 1 hr

Part –A

(2×1=2 marks)

(I) Choose the correct answer:

1. Photosynthesis consists of only
(a) Carbohydrates
(b) Carbon
(c) Water
(d) methane
2. A liquid flat plate collector is usually held tilted in a fixed position, facing ----- if located in the northern hemisphere
(a) North
(b) South
(c) East
(d) West

Part –B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

3. (a) Describe, with neat sketch, the functioning of solar water heater. What are the advantages and disadvantages of solar water heater?

(OR)

(b) Describe the method solar radiation heating of swimming pool.

4. (a) Explain in detail, anaerobic fermentation and pyrolysis in biomass conversion process.

(OR)

- (b) Explain the principle and process of wood gasification.

Part –C

(1×8=8marks)

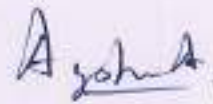
(III) Answer all the questions choosing either (a) or (b):

5. (a) Define the terms. (i) Altitude angle (ii) Incident angle (iii) Zenith angle (iv) Solar azimuth angle (v) Latitude angle (vi) Declination angle (vii) Hour angle (viii) Inclination angle and (ix) Tilt angle.

(OR)

- (b) Describe, giving neat sketch, Deen Bhandu model of gober gas plant and its functioning. What are its advantages and disadvantages?


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DEPARTMENT OF CHEMISTRY



Annai Hajira Women's College
Melapalayam

II SEMESTER, I INTERNAL TEST – February 2021

I B.Sc. CHEMISTRY

VALUE BASED EDUCATION

Duration: 1Hr

Subject Code: AVBE21

Marks : 20 marks

Date : 26.02.2021

PART – A

(2×1=2 Marks)

I. Choose the Correct Answer

1. A good citizen must have _____.

- (a) Patriotism
- (b) Good education
- (c) Tolerance
- (d) All the above

2. ----- was the India's first woman Prime Minister.

- (a) Indira Gandhi
- (b) Fathima Beevi
- (c) Jayalalitha
- (d) Janaki Ramachandran

PART – B

(2×5=10 Marks)

II Answer the following

3. (a) Write short notes on human rights.

(OR)

(b) Explain the violence against women.

4. (a) Write short notes on the gender inequality.

(OR)

(b) Explain about the social justice.

PART – C

(1×8=8 Marks)

5. (a) How does the violation of Human Right Occur? Give examples.

(OR)

(b) Detail about any one social reformer.

[Signature]
23/2/21

QPS

(Ms.S.P. Lishavi)

[Signature]
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II SEMESTER

I - INTERNAL TEST - FEB 2021

I B. Sc - CHEMISTRY

VECTOR CALCULUS AND FOURIER SERIES

Duration: 1 Hour

Subject code : AAMA21

Marks: 20

Date : 27.02.2021

PART -A

(2 X 1=2 marks)

I. Choose the correct answer

1. The value of $\vec{i} \cdot \vec{i}$ is -----

- (a) 0
- (b) 1
- (c) -1
- (d) None of the above

2. $\vec{a} \times (\vec{b} \times \vec{c}) =$ -----

- (a) $\vec{a} \times \vec{b} - \vec{b} \times \vec{c}$
- (b) $(\vec{a} \cdot \vec{c})\vec{b} - (\vec{a} \cdot \vec{b})\vec{c}$
- (c) $(\vec{a} \cdot \vec{c})\vec{b} - (\vec{a} \times \vec{b})\vec{c}$
- (d) None of the above

PART -B

(2 X 5=10 marks)

II. Answer the following

3. (a) If $\vec{r} = \vec{a} \cos \omega t + \vec{b} \sin \omega t$ where \vec{a}, \vec{b} are constant vectors and ω is a constant prove that $\vec{r} \times \frac{d\vec{r}}{dt} = \omega (\vec{a} \times \vec{b})$ and $d^2\vec{r}/dt^2 + \omega^2\vec{r} = 0$

(OR)

(b) If r is the position vector of any point $P(x, y, z)$ prove that $\text{grad } r^n = nr^{n-2} \vec{r}$

4. (a) Find the unit normal to the surface $x^3 - xyz + z^3 = 1$ at $(1,1,1)$.

(OR)

(b) Prove that $\nabla \cdot (\vec{f} \times \vec{g}) = \vec{g} \cdot (\nabla \times \vec{f}) - \vec{f} \cdot (\nabla \times \vec{g})$.

PART -C

(1 X 8=8 marks)

II. Answer the following

5. (a) Prove that $\text{curl}(\vec{r} \times \vec{a}) = -2\vec{a}$ where \vec{a} is a constant vector.

(OR)

(b) Prove that $\text{Curl}(\vec{f} \times \vec{g}) = (\vec{g} \cdot \nabla)\vec{f} - (\vec{f} \cdot \nabla)\vec{g} + \vec{f} \text{div } \vec{g} - \vec{g} \text{div } \vec{f}$

R. Pappan QPS
S. Jayaraj HOD
23.02.21

Lajal Datta
Principal

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II SEMESTER, I INTERNAL TEST – February 2021

I B.Sc. CHEMISTRY

PROFESSIONAL ENGLISH FOR PHYSICAL SCIENCES II

Duration: 1Hr

Subject Code: APPS21

Marks : 20 marks

Date :01.03.2021

PART – A

(2×1=2 Marks)

I. Choose the Correct Answer

1. Who won the noble prize in physics?

- (a) Paul Graham
- (b) Lincoln Barnett
- (c) Igor Tamm
- (d) Butler Lampson

2. What is the name of the poem that Vikram Chandra reads out?

- (a) Calculus can save life
- (b) Coding as a creative art
- (c) Relativity of time and space
- (d) The spirit of chemical sciences

PART – B

(2×5=10 Marks)

II Answer the following

3. (a) Name a few Indian mathematical wizards?

(OR)

(b) Why did the professor (Igor Tamm) go to the neighbouring village?

4. (a) What does coding mean? What are the uses of coding?

(OR)

(b) Write the story of the Russian physicists Igor Tamm?

PART – C

(1×8=8 Mark

5. (a) Write the summary of the passage "Calculus can save life"

(OR)

(b) Write a note on "Coding as a creative art"

J. Samseya
QPS
23/2/21
(Dr.J.Samseya)

[Signature]
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23/2/2021

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II SEMESTER, I INTERNAL TEST – February 2021

I B.Sc. CHEMISTRY

INORGANIC CHEMISTRY I

Duration: 1Hr

Subject Code: AMCH21

Marks : 20 marks

Date : 02.03.2021

PART – A

(2×1=2 Marks)

I. Choose the Correct Answer

1. The number of orientations for a p orbital is -----.

- (a) 1
- (b) 3
- (c) 5
- (d) 7

2. The stability of half filled orbitals is due to -----.

- (a) Symmetry
- (b) Exchange energy
- (c) Symmetry and Exchange energy
- (d) Unsymmetry

PART – B

(2×5=10 Marks)

II Answer the following

3. (a) Explain Pauli's Exclusion principle and write its significance.

(OR)

(b) Explain the Hund's rule.

4. (a) Differentiate between an orbit and an orbital.

(OR)

(b) Write the schrodinger wave equation and mention its significances.

PART – C

(1×8=8 Marks)

5. (a) Explain the origin and significances of four quantum numbers.

(OR)

(b) State the postulates of Bohr's atom model and mention its limitations.

Anuratha
QPS 23/2/21

(Dr.M. Anuratha)

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Lajja Akter
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IV SEMESTER, II INTERNAL TEST – February 2021

II B.Sc. CHEMISTRY

PHYSICAL CHEMISTRY II

Duration: 1Hr

Subject Code: SMCH41

Marks : 20 marks

Date : 01.03.2021

PART – A (2×1=2 Marks)

I. Choose the Correct Answer

1. Which of the following gives an azeotropic mixture?

- (a) Phenol - water
- (b) Nicotine - water
- (c) Hydrogen chloride - water
- (d) Methyl alcohol - water

2. An Ideal solution is one which obeys -----.

- (a) Boyle's law
- (b) Raoult's law
- (c) Gay – Lussac's law
- (d) Charle's law

PART – B (2×5=10 Marks)

II Answer any two of the following

3. (a) State Raoult's law of ideal solution. What are the characteristics of an ideal solution?

(OR)

(b) Discuss the principle of fractional distillation.

4. (a) State and explain Henry 's law.

(OR)

(b) Explain CST with the help of Nicotine – Water system.

PART – C

(1×8=8 Marks)

III Answer any one of the following

5. (a) Explain the following phase system with *the* corresponding phase diagram.

- i) Phenol – water system
- ii) Triethylamine – water system

(OR)

(b) Write notes on liquid crystals.

QPS

(Dr.J. Samseya)

HOD

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IV SEMESTER, II INTERNAL TEST – February 2021

II B.Sc. CHEMISTRY

CHEMISTRY IN MEDICINE

Duration: 1Hr

Subject Code: SSCH4A

Marks : 20 marks

Date : 27.02.2021

(27-02-2021)

PART – A (2×1=2 Marks)

I. Choose the Correct Answer

1. Filariasis is caused by -----.

- (a) Air contaminants
- (b) House fly
- (c) Culex mosquitoes
- (d) Rats

2. Enterovioform is used for the treatment of -----.

- (a) Amoebic dysentery
- (b) Bacillary dysentery
- (c) Jaundice
- (d) Plaque

PART – B (2×5=10 Marks)

II Answer any two of the following

3. (a) How is cholera caused? How can it be prevented?

(OR)

(b) How is asthma treated and prevented?

4. (a) Write any two air-borne diseases and explain *their* prevention and treatment.

(OR)

(b) Write about the nervous disorder disease – epilepsy.


PART – C (1×8=8 Marks)

III Answer any one of the following

5. (a) Explain the causes, symptoms, prevention and treatment *of* typhoid and diarrhea.

(OR)

(b) Write short notes on insect borne diseases with suitable examples.


QPS 23/2/2021
(Dr.R. Anuradha)


HOD 23/2/2021


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Melapalayam, Tirunelveli -05

II Semester, II Internal Test – March 2021

II B.Sc Chemistry

Allied Physics-II

Sub code: SAPHZ1

Date:03.03.2021

Total: 20 marks

Time : 1 hr

Part –A

(2×1=2 marks)

(I) Choose the correct answer:

1. Relative permeability of a medium is the permeability relative to that of -----
(a) water
(b) vacuum
(c) iron
(d) steel
2. The unit of magnetic flux is-----
(a) tesla
(b) weber
(c) henry
(d) weber/m²

Part –B

(2×5=10 marks)

(II) Answer all the questions choosing either (a) or (b):

3. (a) Derive the expression for the self inductance of a long solenoid.

(OR)

(b) State Faraday's law of electromagnetic induction.

4. (a) Explain the experiment to draw the V-I characteristics of a Zener diode. Give the uses of Zener diode.

(OR)

(b) Describe the working of a npn transistor, with the help of circuit diagram.

Part –C

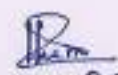
(1×8=8marks)

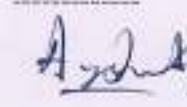
(III) Answer all the questions choosing either (a) or (b):

5. (a) Describe with theory, the experiment to determine the self inductance of a coil by Rayleigh's bridge.

(OR)

(b) Describe an experiment to determine the static characteristics of a transistor in CE mode.


QPS P. Priema.


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VI SEMESTER, II INTERNAL TEST – February 2021

III B.Sc. CHEMISTRY

INORGANIC CHEMISTRY – III

Duration: 1Hr

Subject Code: SMCH61

Marks : 20 marks

Date : 24.02.2021

PART – A

(2×1=2 Marks)

I Choose the Correct Answer

1. Which of the following cation is coloured in aqueous solution?

- (a) Cu^+
- (b) Zn^{2+}
- (c) Ti^{4+}
- (d) Ni^{2+}

2. A labile complex is generally -----.

- (a) Inner orbital complex
- (b) Diamagnetic complex
- (c) Outer orbital complex
- (d) None

PART – B

(2×5=10 Marks)

II Answer any two of the following

3. (a) Explain the stepwise and overall stability constants.

(OR)

(b) Discuss the Bjerrum method of determining of stability constants.

4. (a) Write notes on anation and aquation reactions.

(OR)

(b) What is an electron transfer reaction? Explain about the inner sphere mechanism.

PART – C

(1×8=8 Marks)

III Answer any one of the following

5. (a) What is trans effect? Explain the π bonding theory of *trans* effect.

(OR)

(b) What are the factors affecting the stability of complexes ?

J.
25/2/2021
QPS

(Ms.S.P. Lishavi)

R.L.
20/2/2021
HOD

Lajal Dabw.
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VI SEMESTER, II INTERNAL TEST – February 2021

III B.Sc. CHEMISTRY
ORGANIC CHEMISTRY – IV

Duration: 1Hr

Subject Code: SMCH62

Marks : 20 marks

Date : 25.02.2021

PART – A

(2×1=2 Marks)

I Choose the Correct Answer

1. Acidity of phenol is due to -----.

- (a) Benzene ring
- (b) Phenolic group
- (c) H – bonding
- (d) Resonance stabilization of its anion

2. Formylation of phenol with CHCl_3 and NaOH is an example of ---
-----.

- (a) Reimer – Tiemann reaction
- (b) Gattermann – Koch reaction
- (c) Benzidine rearrangement
- (d) Friedal Crafts reaction

PART – B

(2×5=10 Marks)

II Answer any two of the following

3. (a) Discuss the mechanism of Riemann – Tiemann reaction.

(OR)

(b) Discuss the mechanism of Benzilic acid rearrangement.

4. (a) Explain the Preparation and uses of Micheler's ketone and Coumarin.

(OR)

(b) Give the preparation for the following:

- i) anthranilic acid from phthalimide
- ii) Vanilin from isoeugenol

PART – C

(1×8=8 Marks)

III Answer any one of the following

5. (a) Discuss the mechanism of the following:

- i) Benzoin condensation
- ii) Claisen condensation
- iii) Perkin reaction

(OR)

(b) Explain the mechanism of the following:

- i) Pinacol – Pinacolone rearrangement
- ii) Fries rearrangement

V. Chitra
25/02/21
QPS

(Ms.V. Chithra)

HOD
25/02/2021

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VI SEMESTER, II INTERNAL TEST – February 2021

III B.Sc. CHEMISTRY

PHYSICAL CHEMISTRY – IV

Duration: 1Hr

Subject Code: SMCH63

Marks : 20 marks

Date : 26.02.2021

PART – A

(2×1=2 Marks)

I Choose the Correct Answer

1. The collision theory is satisfactory for ----- reaction

- (a) Unimolecular
- (b) Bimolecular
- (c) Termolecular
- (d) Any order

2. E_a of a reaction is zero. The rate constant, K is equal to -----.

- (a) Zero
- (b) Infinity
- (c) A
- (d) A^{-1}

PART – B

(2×5=10 Marks)

II Answer any two of the following

3. (a) Discuss the principle of Mass spectroscopy.

(OR)

(b) Write notes on:

- i) Molecular peak
- ii) Base peak
- iii) Isotopic peak

4. (a) The rate constant of a second order reaction is $5.7 \times 10^5 \text{ dm}^3 \text{ mol}^{-1} \text{ s}^{-1}$ at 25°C and $1.64 \times 10^4 \text{ dm}^3 \text{ mol}^{-1}$ at 40°C . Calculate the activation energy and the frequency factor A.

(OR)

(b) Explain the Lindemann's theory.

PART – C

(1×8=8 Marks)

III Answer any one of the following

5. (a) Discuss in detail the ARRT and its significance.

(OR)

(b) Discuss in detail the applications of mass spectroscopy.

Anuratha
23/2/21
QPS
(Dr.M. Anuratha)

Ad
HOD
23/2/2021

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VI SEMESTER, II INTERNAL TEST – February 2021

III B.Sc. CHEMISTRY
NANO CHEMISTRY

Duration: 1Hr

Subject Code: SECH6B

Marks : 20 marks

Date : 27.02.2021

PART – A (2×1=2 Marks)

I. Choose the Correct Answer

1. Sonolysis is a process in which molecules undergo chemical reaction under the influence of -----.

- (a) Heat
- (b) Light
- (c) Ultrasound
- (d) Pressure

2. Which of the following is a chemical method for the synthesis of nanoparticle?

- (a) Laser ablation method
- (b) SMAD
- (c) PVD
- (d) Salt reduction method

PART – B (2×5=10 Marks)

II Answer any two of the following

3. (a) Write thermolysis method for the synthesis of nanoparticles.

(OR)

(b) Write any two methods of synthesis of nanoparticles.

4. (a) Explain the Sol-Gel synthesis of ceramics.

(OR)

(b) How will you synthesis nanoparticles by solvated metal atom dispersion method?

PART – C (1×8=8 Marks)

III Answer any one of the following

5. (a) Explain the laser ablation method and physical vapour deposition method of synthesis of nanoparticles.

(OR)

(b) Write notes on:

- i) Sonochemical process
- ii) Salt reduction method
- iii) Phase transfer process

J. Samseya
QPS
23/02/21

(Dr.J. Samseya)

HOD
23/02/21

Lajja Datta
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DEPARTMENT OF COMPUTER SCIENCE



Annai Hajira Women's College
Melapalayam

II SEMESTER, I INTERNAL TEST – FEBRUARY 2021
I B.Sc COMPUTER SCIENCE
VALUE BASED EDUCATION

Date: 26/02/2021

Time : 1 hr

Subject Code: AVBE21

Marks: 20

PART - A

I. Choose the correct answer (2x1=2 Marks)

1. Untouchability has been abolished by _____

- A. article 14
- B. article 13
- C. article 17
- D. article 16

2. The primary goals of drug-abuse or addiction treatment include _____

- A. Abstinence
- B. Relapse Prevention
- C. Rehabilitation
- D. Economic Problem

PART - B (2x5 = 10 Marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Explain the major causes of social injustice.

(OR)

(b) Explain the factors responsible for Drug Abuse.

4. (a) Describe the communal harmony.

(OR)

(b) Write about poverty in India.

PART - C (1x8=8 Marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) Explain the role of E.V. R in the protection of social justice.

(OR)

(b) Treatment to drug addiction needs the support of family and peer group more than medicine-comment.

QPS

(Mrs.I. FarithaBeevi)

HOD

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II SEMESTER, II INTERNAL TEST- FEBRUARY-2021

IB.Sc – COMPUTER SCIENCE

OBJECT ORIENTED PROGRAMMING IN C++

Date: 27.02.2021

Time: 1 hr

Subject Code: AMCS21

Marks: 20

Part- A

I. Choose the correct answer

(2X 1=2Marks)

1. Which of the following is an output statement in C++?

- a. print
- b. write
- c. cout
- d. cin

2. The default access level assigned to members of a class is

_____.

- a. protected
- b. public
- c. private
- d. none of these

PART – B (2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. a) Explain how will you access private member functions with example.

(OR)

b) Define Inline functions. Explain it with an example.

4. a) Explain static data member with example.

(OR)

b) Explain with example how you will pass objects as arguments.

PART –C

(1 x 8= 8 marks)

III. Answer the questions choosing either (a) or (b)

5. a) Explain the basic concepts of OOPs.

(OR)

b) Define friend functions. Explain how a friend function can act as a bridge between 2 classes with example.

QPS

(Mrs.P. S. Anitha)

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II SEMESTER, INTERNAL TEST - FEBRUARY-2021

I B.Sc – COMPUTER SCIENCE

PROFESSIONAL ENGLISH FOR PHYSICAL SCIENCES - II

Date: 01. 03. 2021

Time: 1 hr

Subject Code: APPS21

Marks: 20

Part- A

I. Choose the correct answer (2X 1=2Marks)

1. The salt combines with water to form crystals of blue vitriol.

These are called as _____

- a. crystal hydrates b. hydrates
c. copper sulphate d. potassium permanganate

2. _____ is the distance light travels in one earth year.

- a. leap year b. light year
c. annual year d. none of these

PART – B (2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. a) Fill in the blanks with the appropriate words.

- Igor Tamm won the _____ prize in Physics.
- Igor Tamm was bargaining in exchange for _____
- The incident in the life of Igor Tamm happened in the country of _____
- Igor Tamm is a professor at the University of _____

(OR)

b) Answer the following questions

- What was the problem that the captors asked the professor to solve?
- What was the punishment that the captors threatened the Professor with?
- Why did the professor go to the neighboring village?
- Why were the Makhno bands roaming about in the village of Odessa?

4. a) Frame 'wh' questions.

(OR)

b) Write down the meanings.

- (1) Bemusement (2) Bafflement (3) Levitate (4) Esoteric
(5) Pedigree

PART – C

(1 x 8= 8 marks)

III. Answer the questions choosing either (a) or (b)

5.a) Define the following terms each in a sentence.

- (1) Clocking (2) Light year (3) Modern (4) Gravitational field
(5) Teleconference

(OR)

b) Fill in the blanks choosing the correct forms of the verbs given within brackets.

We put a slice of lemon into a cup of strong tea and the tea _____ (**become**) pale. We strike a match and a stick of wood _____ (**burst**) into flame and _____ (**turn**) into charcoal. These _____ (**be**) all chemical reactions. The primeval man who _____ (**learn**) to light a fire was the first chemist. He _____ (**accomplish**) the first chemical reaction, that of combustion. And this reaction is most necessary, the most important in the history of mankind. It _____ (**give**) our distant ancestors the heat to warm their dwellings on cold days. In our time it _____ (**open**) the way to outer space by propelling rockets weighing many tons into the sky. The legend of Prometheus who gave fire to the people _____ (**be**) at the same time the legend of the first chemical reaction.

[Signature]

QPS

(Mrs.P. S. Anitha)

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IV SEMESTER, INTERNAL TEST - FEBRUARY-2021
IIB.Sc - COMPUTER SCIENCE
VISUAL BASIC

Date: 24/02/2021

Time: 1 hr

Subject Code: SMCS41

Marks: 20

Part- A

I. Choose the correct answer (2X 1=2Marks)

1. The _____ is a spreadsheet like bound control.

- a. MS Flex grid
- b. DBGrid
- c. Datagrid
- d. All the above

2. The _____ object is a stored query definition.

- a. Recordset
- b. Database
- c. Querydef
- d. None of the above

PART - B (2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. a) Explain MDI forms.

(OR)

b) Explain flex grid control with example.

4. a) Explain DBGrid control

(OR)

b) Write Remote data objects hierarchy

PART -C

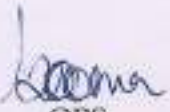
(1 x 8= 8 marks)

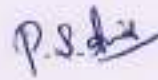
III. Answer the questions choosing either (a) or (b)

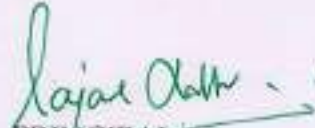
5. a) Explain Dialog boxes

(OR)

b) Explain ODBC with neat diagrams


QPS
(Mrs.P. Booma)


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IV SEMESTER, II INTERNAL TEST- FEBRUARY -2021

**II B.Sc – COMPUTER SCIENCE
INFORMATION SECURITY**

Date: 25.02.2021

Time: 1 hr

Subject Code: SMCS42

Marks: 20

Part- A

I. Choose the correct answer (2X 1=2Marks)

1. One-to-one marketing is a type of _____ marketing.

- a) Uniform
- b) relationship
- c) Different
- d) Variable

2. The First time a particular visitor loads a website page is called _____ visit.

- a) repeat
- b) view
- c) trial
- d) click

PART – B (2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3 a. Write about Prevention from virus attacks

(OR)

b. Describe Impact of a virus attack

4 a. Write about Antivirus software

(OR)

b. Write about Virus detection

Part – C

Explain any one in detail

(1x8=8)

5 a. Explain types of Antivirus software

(OR)

b. Explain Types of backups

QPS
(Mrs.G. Uma)

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**IV SEMESTER, II INTERNAL TEST – FEBRUARY 2021
II B.Sc COMPUTER SCIENCE**

RELATIONAL DATABASE MANAGEMENT SYSTEM

Date: 27/02/2021

Time : 1 hr

Subject Code: SMCS43

Marks: 20

PART - A

I. Choose the correct answer (2x1=2 Marks)

1. Which are the additional concepts that were added in the EER model?

- a) Specialization
- b) Generalization
- c) Categorization
- d) All the above

2. Who developed the normalization process?

- a) C. J. Date
- b) E. F. Codd
- c) Donald Chamberlain
- d) Collin White

PART - B (2x5 = 10 Marks)

II. Answer all the questions choosing either (a) or (b)

3) a. Explain mapping cardinalities in RDBMS.

(OR)

b. Write about keys and its types.

4) a. Discuss about Generalization.

(OR)

b. Describe Relational Algebra with an example.

PART - C (1x8=8 Marks)

III. Answer all the questions choosing either (a) or (b)

5) a. Explain about Normalization with Normal Forms.

(OR)

b. Discuss about ER Diagrams conventions and its Relationships.

QPS

(Mrs.M. Mumthaj Begam)

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IV SEMESTER, II INTERNAL TEST- FEBRUARY-2021

II B.Sc – COMPUTER SCIENCE
ANDROID PROGRAMMING

Date: 01.03.2021

Time: 1 hr

Subject Code: SSCS4A

Marks: 20

PART- A

I. Choose the correct answer (2X 1=2Marks)

1. To display text which control will use?

- a) EditText
- b) TextView
- c) Label
- d) None of the above

2. Which control works as a drop down list in android?

- a) ComboBox
- b) List
- c) Spinner
- d) None of the above

PART – B (2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a)How to utilize Action bar in android programming?

(OR)

(b) Explain the user interface programmatically.

4. (a)What is fragment? Explain its life cycle.

(OR)

(b) Explain Timepicker and Spinner view with example.

PART –C (1 x 8= 8 marks)

III. Answer the questions choosing either (a) or (b)

5. (a) Write about Layouts in android programming in detail.

(OR)

(b) Explain any four user interface basic views in android programming.

QPS
QPS

(Mrs.A.Somasundara Vithya)

P.S. S. S.
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IV SEMESTER, **INTERNAL TEST** - FEBRUARY 2021

II B.Sc Computer Science

E - Commerce

Date: 03.03.2021

Time: 1 hr

Subject Code: SACS41

Marks: 20

Part A

I Choose the Best answer: $2 \times 1 = 2$

- 1) On the basis of control, there are ----- types of transactions can be identified.
 - a) 7
 - b) 9
 - c) 6
 - d) 3

- 2) An organizer of ----- community is called an information intermediary who helps sellers to collect , manage and maximize the value of information about consumers.
 - a) Virtual
 - b) real
 - c) both
 - d) None

Part B

II Answer the following questions: $2 \times 5 = 10$

- 3) a) Explain in detail about B2C business model

(OR)

- b) Explain in detail about B2B business model

4. a) Write about aggregator model.

(OR)

- b) Explain in detail about info-mediary model.

Part C

III Answer the following questions: $1 \times 8 = 8$

- a) Discuss in detail about brokerage model.

(OR)

- b) Explain about Community model in detail.

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(Mrs.J. SeidunBurveen)

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VI SEMESTER, **INTERNAL TEST - FEBRUARY-2021**

III B.Sc - COMPUTER SCIENCE

OPERATING SYSTEMS

Date: 24.02.2021

Time: 1 hr

Subject Code: SMCS61

Marks: 20

PART - A

I. Choose the correct answer (2X 1=2Marks)

1. Which of the following do not belong to queues for process?

- a) Job Queue
- b) PCB Queue
- c) Device Queue
- d) Ready Queue

2. A set of processes is deadlock if _____.

- a) each process is blocked and will remain so forever.
- b) each process is terminated
- c) all processes are trying to kill each other
- d) none of the mentioned

PART - B (2 X 5 = 10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Write in detail about the process concept.

(OR)

(b) State and explain the criteria behind CPU scheduling.

4. (a) Explain critical section problem with its solution.

(OR)

(b) Discuss deadlock with example in detail.

PART - C

(1 x 8 = 8 marks)

III. Answer the questions choosing either (a) or (b)

5. (a) Explain in detail IPC with reference to message passing systems.

(OR)

(b) Explain in detail various scheduling algorithms with suitable examples.

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(A. Somasundara Vithya)

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VI SEMESTER, II INTERNAL TEST - FEBRUARY -2021

III B.Sc – COMPUTER SCIENCE

COMPUTER GRAPHICS AND VISUALIZATION

Date: 25.02.2021

Time: 1 hr

Subject Code: SMCS62

Marks: 20

Part- A

I. Choose the correct answer (2X 1=2Marks)

1. When S_x and S_y are assigned the same value produce ----- scaling

- a) Uniform
- b) Fixed
- c) Different
- d) Variable

2. A ----- is a transformation that produces a mirror image of an object.

- a) Reflection
- b) Shear
- c) Matix
- d) Rotation

PART – B (2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. a) Explain about curve attributes.

(OR)

b) Explain about other transformation.

4. a) Explain about Window-To-Viewport transformation.

(OR)

b) Explain Viewing Pipeline

PART –C

(1 x 8= 8 marks)

III. Answer the questions choosing either (a) or (b):

5. a) Explain Basic Transformation.

(OR)

b) Explain Clipping operation.

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VI SEMESTER, II INTERNAL TEST – FEBRUARY 2021

III B.Sc - COMPUTER SCIENCE

DATA WAREHOUSING AND DATA MINING

Date: 26/02/2021

Time : 1 hr

Subject Code: SMCS63

Marks: 20

PART - A

I. Choose the correct answer (2x1=2 Marks)

1. What is the use of data cleaning?

- A. to remove the noisy data
- B. correct the inconsistencies in data
- C. transformations to correct the wrong data
- D. All of the above

2. _____ analysis divides data into groups that are meaningful, useful, or both.

- A. Cluster
- B. Association
- C. Prediction
- D. Characterization

PART - B (2x5 = 10 Marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Write about the types of data used in data mining.

(OR)

(b) Explain the task primitives of data mining.

4. (a) Describe the Cluster Analysis.

(OR)

(b) Explain about data preprocessing.

PART-C

(1x8=8 Marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) Explain about the functionalities of data mining.

(OR)

(b) Describe in detail about the K-means.

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VI SEMESTER - II INTERNAL TEST FEBRUARY - 2021

**III BSC COMPUTER SCIENCE
INTERNET OF THINGS**

Subject Code: SECS6A

Mark: 20

Date : 27.02.2021

Time: 1 hr

Part A

I Choose the Best answer: 2 X 1 = 2

1. BPMN stands for -----

- a) Business Process Model and Notation
- b) Basic Process Model and Notation
- c) Business Program Model and Notation
- d) Business Process Model and Notes.

2. Which of the following is not the phase of CRISP –DM model

- a) Virtualizing
- b) Business understanding
- c) Data preparation
- d) Deployment

Part B

II Answer the following questions: 2 X 5 =10

1) a) Explain in detail about business processes in IOT.

(OR)

b) Explain in detail about distributed business process in IOT.

4. a) Write about everything as a service(XaaS) in IOT.

(OR)

b) What are the purpose and considerations of IOT analytics?
Explain.

Part C

III Answer the following questions: 1 X 8 = 8

5) a) Discuss in detail about CRISP-DM process model.

OR

b) Explain about ETSI high level architecture in IOT.

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II SEMESTER, II INTERNAL TEST – MARCH 2020

I B.COM *Baba I*

FINANCIAL ACCOUNTING – II

Duration: 1 Hr.

Subject Code: SMCO21

Marks: 20

Date: 06.03.2020

Part- A

(2 X 1 = 2 marks)

I. Choose the correct answer

1. Joint venture account is a ----- account.

- (a) Personal
- (b) Real
- (c) Nominal
- (d) None

2. Subscription received in advance is -----

- (a) an Asset
- (b) an Income
- (c) a Liability
- (d) None of the above

PART –B

(2 X 5 = 10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Amount is lent in various installments.

X owes Y the following sums of money on the dates stated below

Rs.400	due on 05.01.2018
Rs.200	due on 20.01.2018
Rs.800	due on 04.02.2018
Rs.100	due on 26.02.2018
Rs.50	due on 10.03.2018

Calculate the average due date.

(OR)

(b) What is average due date? How it is calculated?

4.(a) Mr.Babu had the following transactions with Suba during the year 2017

			Rs.
July	1	Balance due from Suba	600
July	15	Send goods to Suba	1900
Aug	10	Received cash from Suba	1100
Aug	19	Purchased goods from Suba	700
Sep	3	Returned goods to Suba	300
Sep	16	Received cash from Suba	500

Prepare Account Current to be rendered by Babu to Suba as on 30th Sep 2017, calculating interest at 10% per annum.

(OR)

(b). From the following find how much is to be shown in Income and expenditure account for the year ending 31.12.2018 for subscriptions.

Rs.

Subscription received during the year as per receipts and payments account	28,680
Subscription outstanding on 01.01.2018	2,400
Subscription outstanding on 31.12.2018	3,000
subscription received in advance on 1.1.2018	1,800
Subscription received in advance on 31.12.2018	1,080

PART –C (1 x 8=8 marks)

III. Answer all the questions choosing either (a) or (b)

5.(a) From the following details prepare an Income and Expenditure Account and Balance sheet for the year ending 31st December 2018.

Receipts and payment Account

Receipts	Amount	Payment	Amount
To Balance	250	By Salaries	1200
To Subscription for		By General	
2017 250		expenses	300
2018 1000		By Electricity	200
2019 200	1450	By Books	100
		By Newspapers	400
To Sale of old		By Postage	50
furniture		By Furniture	250
(cost Rs.100)	60	By balance c/d	500
To Rent received	740		
To Entertainment	400		
gains			
To Sale of newspapers	100		
	3,000		3,000

Additional Information

- (i) The club has 50 members each paying an annual subscription of Rs.25. Subscriptions outstanding on 31st December 2017 were Rs.300.
- (ii) On December 31, 2018 salaries outstanding amounted to Rs.100. Salaried paid include Rs.100 for the year 2017.
- (iii) On 01.01.2018 the club owned land and building valued at Rs.10,000 furniture Rs.600 and books Rs.500.

(OR)

(b) Sathish and Saravanan under took jointly to construct a building for a contract price of Rs.3,00,000. A joint bank account was opened by them in their joint names in which Sathish paid Rs.1,00,000 and Saravanan Rs.50,000. Profit and Loss is to be distributed in the ratio of 2:1. The details of transactions are given below

	Rs.
Wages	80,000
Materials purchased	1,60,000
Materials supplied by Sathish	10,000
Architect fees paid by Sathish	4,000
Materials supplied by Saravanan	8,000

After the completion of contract, the price was duly received. There was unused materials valued Rs.10,000 and this was taken over by Sathish. Prepare Joint venture account, Joint bank account, Sathish and Saravanan account.

A. Syedul Fathima
QPS

Alt
H.O.D

Lajja Datta
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II SEMESTER, II INTERNAL TEST – MARCH 2020
I B.COM - *Batch I*
PRINCIPLES OF MANAGEMENT

Duration: 1 hr
Marks: 20

Subject Code: SMCO22
Date: 07.03.2020

PART – A (2×1=2marks)

I. Choose the correct answer

1. Policies are taken by ----- level management

- (a) Top
- (b) Lower
- (c) Middle
- (d) All the above

2. Repetitive decisions are also known as -----

- (a) Routine decision
- (b) Minor decision
- (c) Major decision
- (d) Committee decision

PART – B (2×5=10marks)

II. Answer the following

3. (a) What is MBO? What is its significance?

(OR)

(b) Explain the various decision making techniques.

4. (a) Explain the types of policies.

(OR)

(b) Describe the structure of decision tree.

PART – C (1×8=8marks)

III. Answer the following

5. (a) Explain the different steps involved in planning process.

(OR)

(b) What are the factors influencing decision making?

Principles?
QPS

asit
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II SEMESTER, II INTERNAL TEST –MARCH 2020

I B.COM – *Batch I*

MARKETING

Duration: 1 Hr.
Marks: 20

Subject Code: SACO21
Date: 9.03.2020

Part- A (2 X 1 =2 marks)

I. Choose the correct answer

1. -----is a function involving preservation of goods between the time of production and the time of consumption

- (a) Buying
- (b) Selling
- (c) Storage
- (d) Assembling

2. ----- pricing involves a high introductory price in the initial stage to skim the cream demand.

- (a) Geographical
- (b) Penetration
- (c) Skimming
- (d) Psychological

PART –B (2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3.(a) Explain the importance of Marketing Information System.

(OR)

(b) Explain the concept of Target marketing.

4.(a) What are criteria for Market Segmentation?

(OR)

(b) Explain Product positioning and brand positioning.

PART –C (1 x 8=8 marks)

III. Answer all the questions choosing either (a) or (b)

5.(a) Explain the various approaches of Market segmentation.

(OR)

(b) Enumerate the Product mix strategies.

V. Srinivasan
QPS

QPS
HOD

Lajana A. S.
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II SEMESTER, II INTERNAL TEST – MARCH 2020
I B.COM – Batch 2
VALUE BASED EDUCATION

Duration: 1 hr
Marks: 20

Subject Code: SVBE21
Date: 11.03.2020

PART – A (2×1=2marks)

I. Choose the correct answer

1. Women's issue was raised for the first time in ----- century.

- (a) 19th
- (b) 18th
- (c) 17th
- (d) 20th

2. Street children are subject to -----

- (a) Abuse
- (b) Neglect
- (c) Exploitation
- (d) all of the above

PART – B (2×5=10marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Write an overview in Women's rights.

(OR)

(b) Explain about rights of children.

4. (a) Describe the role of UNO in the protection of Women's right.

(OR)

(b) Explain the concept and types of child abuse.

(RT – C (1×8=8marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) What do you understand by the concept 'need and achievement of women empowerment'?

(OR)

(b) Explain the child labour and suggest steps to eliminate child labour in India.

.....

S.S. Jath
QPS

[Signature]
H.O.D

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IV SEMESTER, II INTERNAL TEST – MARCH 2020

II B.COM – Batch I

ADVANCED FINANCIAL ACCOUNTING II

Duration: 1 Hr.

Subject Code: SMCO41

Marks: 20

Date: 03.03.2020

PART -A

(2X1=2 marks)

I. Choose the correct answer

1. The premium goodwill paid by the new partner must be shared by the old partners in ----- ratio.

- a) Old ratio
- b) Sacrificing ratio
- c) New ratio
- d) Equal ratio

2. Joint Life Policy account is-----

- a) Nominal account
- b) Personal account
- c) Real account
- d) Capital account

PART -B

(2 X5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Explain the Joint Life Policy and several life Policy and treatment of that.

(OR)

(b) Jennie and Dennie are partners sharing profits in the ratio of 7:3. Dalphine was admitted as a partner. Jennie surrendered $\frac{1}{7}$ th of his share while Dennie $\frac{1}{3}$ of his share towards Daphine. Compute new ratio.

4. (a) Iniya and Kavya are partners sharing profits and losses as 7:5. Divya is admitted as a partner on the condition that Divya should bring Rs.20,000 as Capital and pay Rs.15,000 as premium for goodwill. The future profit sharing among the partners 9:6:5. Give journal entries.

(OR)

(b) A, B and C were partners sharing profits and losses in the ratio 2:2:1. On 1st July 2017 their goodwill was valued at Rs.30,000 there being no account for it in the books. On this date B retires. Pass Journal entries to record goodwill if

- a) Goodwill is raised in the books
- b) Goodwill is raised and not allowed to remain in books
- c) Only B's share is recorded and written off
- d) No account is raised for Goodwill.

PART -C

(1 x 8=8 marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) The following is the Balance sheet of A and B who share profits and losses 3:2 respectively.

Liabilities	Rs	Assets	Rs
Sundry Creditors	2,500	Land and Building	3,500
Capital Accounts:		Plant	4,500
A 8,000			
B 3,500	11,500		
		Sundry Debtors 2,200	
		Less Provisions 200	2,000
		Stock	3,500
		Cash at Bank	500
	14,000		14,000

They agreed to admit C into partnership giving him a fifth share on the following term:

- a) The value of land and building to be increased by Rs.1,500.
- b) The value of Plant to be increased by Rs.1,000
- c) Goodwill of the firm to be valued Rs.2,000.
- d) C to bring in capital to the extent of $\frac{1}{5}$ th of the total capital of the new firm after adjustment.

Prepare the balance sheet of the new firm.

(OR)

(b) The firm of three partners A, B and C sharing profits and losses in the ratio of 2:2:1 took out a Joint Life Policy on 1st January 2011 for Rs.30,000 in consideration of an annual premium of Rs.750. A died on 30th March 2014 and the policy amount was received the next day.

The surrender value of the policy was as follows:
2011 - Nil; 2012 - Rs.230; 2013- Rs.380. Draft the necessary journal entries and show the Joint Life Policy account and Joint Life Policy Reserve account, assuming that the firm closes its accounts on 31st December.

V. Nagayya
QPS

[Signature]
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II B.COM – Batch I

BUSINESS MATHEMATICS

Duration: 1 Hr.

Subject Code: SMCO42

Marks: 20

Date: 04.03.2020

Part- A

(2 X 1 = 2 marks)

I. Choose the correct answer

1. $\sqrt[5]{7^3}$ can be written as-----

- (a) $7^{-3/5}$
- (b) $7^{3/5}$
- (c) $7^{5/3}$
- (d) 7^0

2. A matrix with equal number of rows and columns is called-----

- (a) Square Matrix
- (b) Rectangular Matrix
- (c) Index
- (d) Row Matrix

PART – B

(2 X 5 = 10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Evaluate the following

(i) $3^{2/5} \cdot \sqrt[5]{96} \cdot 81^{-2/5}$

(ii) $\sqrt[5]{x^{15}y^{15/2}z^{-15/4}}$

(OR)

(b) Evaluate

$(\log_3 81) (\log_{243} 9) (\log_{27} 729)$

4. (a) If $A = \begin{bmatrix} 1 & 4 & 0 \\ 2 & 3 & -2 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 2 & 3 \\ 1 & 1 & 5 \end{bmatrix}$

Calculate (i) $2A - 3B$ (ii) $3A + B$

(OR)

(b) If $A = \begin{bmatrix} 1 & 3 & 1 \\ 4 & -5 & 7 \\ 3 & 5 & 2 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 2 & 2 \\ 4 & 3 & 6 \\ 2 & -3 & 1 \end{bmatrix}$

Show that $(A+B)^2 = A^2 + B^2$

PART – C

(1 x 8 = 8 marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) $\left[\frac{8^7 2^{-3} \sqrt{2^5}}{\sqrt{2} 2^{-3/2} \sqrt{2}} \right]^4 + \left[\frac{16^{2/5} 2^{-3/2} \sqrt[5]{2^5}}{4^{-1/5} 2^{-4/3} \sqrt[5]{2^3}} \right]^{-5}$

(OR)

(b) If $A = \begin{bmatrix} 2 & 6 \\ 3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 2 & 1 \\ 0 & -4 & -2 \end{bmatrix}$, $C = \begin{bmatrix} 3 & 1 \\ 2 & -4 \\ 1 & 0 \end{bmatrix}$

Verify that $A(BC) = (AB)C$

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IV SEMESTER, II INTERNAL TEST – MARCH 2020

II B.COM – Batch I
CAPITAL MARKET

Duration: 1 Hr.

Subject Code: SMCO43

Marks: 20

Date: 05.03.2020

Part- A

(2 X 1 =2 marks)

I. Choose the correct answer

1. Primary market is also known as -----

- (a) New issue market
- (b) Secondary market
- (c) Both
- (d) none

2. FPO stands for -----

- (a) Follow on Public offer
- (b) Follow Public offer
- (c) First public offer
- (d) none

PART –B

(2 X 5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3.(a) Define prospectus.

(OR)

(b) Who are the intermediaries in Primary market?

4.(a) What do you mean by underwriting.?

(OR)

(b) What do you understand by over subscription?

PAF -C

(1 x 8=8 marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) Explain the process of book building.

(OR)

(b) Discuss the procedures for the IPO.

R. Ajay
QPS

[Signature]
HOD

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IV SEMESTER, II INTERNAL TEST – MARCH 2020

II B.COM- Batch I

IMPORT AND EXPORT PROCEDURES

Duration: 1 hr

Subject Code: SMCO44

Marks: 20

Date: 06.03.2020

PART – A

(2×1=2marks)

I. Choose the correct answer

1. The balance of payments is always _____.

- (a) Unfavourable
- (b) Balanced
- (c) Deficit
- (d) Favourable

2. The Export (Quality control and Inspection) Act was passed in _____.

- (a) 1963
- (b) 1964
- (c) 1965
- (d) 1966

PART – B

(2×5=10marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) Distinguish between Balance of Trade and Balance of Payments.

(OR)

(b) Explain the features of Letter of credit.

4. (a) What are the components of Balance of payments ?

(OR)

(b) Explain different categories of export.

PART : (1×8=8marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) What is Exchange control? Explain its objectives.

(Or)

(b) Explain the procedure for export.

S.S. Jalte
QPS


H.O.D

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IV SEMESTER, II INTERNAL TEST – MARCH 2020
II B.COM – Batch I
COMPUTER APPLICATION IN BUSINESS

Duration: 1 hr
Marks: 20

Subject Code: SACO41
Date: 07.03.2020
PART – A (2×1=2marks)

I. Choose the correct answer

1. Paperless exchange of business information is _____

- (a) E - Advertising
- (b) E - Commerce
- (c) E - Marketing
- (d) E - Shopping

2. _____ is an inter – organizational exchange of business documents in structured and machine process able format

- (a) Internet
- (b) Intranet
- (c) Extranet
- (d) All of these

PART – B (2×5=10marks)

II. Answer the following

3. (a) What are the advantages of E – Commerce?

(OR)

(b) Write shot note on

- (i) E – Cash
- (ii) E - Cheque

4. (a) What are the difference between Traditional commerce and E-Commerce?

(OR)

(b) What are the various types of electronic payment system?

PART – C (1×8=8marks)

III. Answer the following

5. (a) Explain the Business Models of E – Commerce.

(OR)

(b) Describe the mercantile process model.


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IV SEMESTER, II INTERNAL TEST – MARCH 2020

II B.Com - Batch I

ENTREPRENEURSHIP DEVELOPMENT

Duration: 1 Hr.

Subject Code: SSCO4A

Marks: 20

Date: 09.03.2020

Part- A (2 X 1 =2 marks)

I. Choose the correct answer

1. A project appraisal is -----

- (a) Formulation of ideas
- (b) Evaluation of performance
- (c) Assessing deficiency
- (d) None of the above

2. The expansion of PERT is -----

- (a) Programme Evaluation and Review technique
- (b) Project Evaluation and Review technique
- (c) Project Evaluation and Review testing
- (d) Plan Evaluation and Review technique

PART -B (2 X 5 =10 marks)

II. Answer all the questions, choosing either (a) or (b)

3. (a) What are the problems faced by rural entrepreneur?

(OR)

(b) What are the causes of sickness?

4.(a) Define Financial Appraisal.

(OR)

(b) Distinguish between Fixed and working capital.

Part -C

(1 x 8=8 marks)

III. Answer all the questions choosing either (a) or (b)

5. (a) Enumerate the steps involved in starting a small industry.

(OR)

(b) Briefly discuss various sources of finance.

A. Syedul Fakhira
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VI SEMESTER, II INTERNAL TEST – MARCH 2020

IIIB.COM – Batch I

MANAGEMENT ACCOUNTING

Duration: 1 Hr

Subject Code: SMC062

Marks : 20

Date: 05.03.2020

PART –A

I Choose the best answer (2 X 1=2 marks)

- 1) Issue of debentures for cash results in _____.
(a) Decrease in cash
(b) Increase in cash
(c) No impact
(d) Either (a) or (b)
- 2) Under Pay Back Method a project would be accepted if the payback period is _____.
(a) High
(b) Low
(c) Medium
(d) zero

PART –B

II Answer the following: Choose either (a) or (b)

(2 X 5=10 marks)

3.(a) What is Cash flow statement? List out its objectives

(OR)

(b) Calculate cash from operation:

Raja Ltd earned a profit of Rs.1,00,000 after charging or crediting the following items to its Profit and Loss A/c during the year 2016. The

following data are also available:

	Rs.
Profit on sale of Building	600
Provision for taxation	1,000
Depreciation	2,000
Preliminary expenses Written off	400
Loss on sale of machinery	1,500

The following additional details are available

	2018	2019
	Rs.	Rs.
Bills payable	2,000	3,000
Creditors	4,000	3,000
Outstanding expenses	500	400
Bills receivable	6,000	5,000
Stock	2,000	1,500
Income received in advance	300	200
Prepaid	800	700
Debtors	3,000	3,500

Calculate cash from operation.

4. (a) What are the need and importance of Capital budgeting decisions?

(OR)

(b) Determine the Pay Back Period for a payment which requires the following:

Particulars	Amount in Rs.
Cash outlay	20,000
Cash inflows	
I year	6,000
II year	8,000
III year	6,000
IV year	10,000

PART -C

III Answer the following: Choose either (a) or (b) (1 X 8=8 marks)

5. (a) From the following information prepare a Cash flow statement

Balance sheet as on 31.03.2019

Liabilities	2018 Rs.	2019 Rs.	Assets	2018 Rs.	2019 Rs.
Share capital	10,000	10,000	Goodwill	1,200	1,200
General reserve	1,400	1,800	Land	4,000	3,600
Profit & Loss a/c	1,600	1,300	Buildings	3,700	3,600
Creditors	800	540	Investments	1,000	1,100
O/S expenses	120	80	Inventories	3,000	2,340
Provision for tax	1,600	1,800	Debtors	2,000	2,220
Provision for doubtful debts	40	60	Cash at bank	660	1,520
Total	15,560	15,580	Total	15,560	15,580

1. A piece of land has been sold for Rs.400
2. Depreciation of Rs.700 has been charged on buildings.
3. Provision of Rs.1,900 was made for taxes.

(OR)

(b) A company has to choose one of the two mutually exclusive projects. Investments required for each project is Rs.2,00,000. Both the projects have to be depreciated on straight line basis. The tax rate is 50%.

Year	Profit before depreciation	
	Project M	Project N
1	45,000	45,000
2	50,000	60,000
3	70,000	65,000
4	80,000	45,000
5	40,000	80,000

Calculate payback period for each project.

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VI SEMESTER, II INTERNAL TEST – MARCH 2020
III B.COM - Batch I
CORPORATE ACCOUNTING II

Duration: 1 Hr.
 Marks: 20

Subject Code: SMCO61
 Date: 03.03.2020
 (2 X 1 = 2 marks)

Part- A

I. Choose the correct answer

1. A Holding Company is a company which holds -----
 (a) 100% shares of the Subsidiary company
 (b) More than 50% of the shares of Subsidiary company
 (c) Exactly 50% of the shares of the Subsidiary company
 (d) Less than 50%

2. Under traditional, accounting the amount spent on human resource is treated as an-----
 (a) expenses
 (b) income
 (c) loss
 (d) profit

PART –B (2 X 5 =10 marks)

- II. Answer all the questions choosing either (a) or (b)**
 3. (a) Define human resource accounting. Explain the objectives of this system.
 (OR)
 (b) What are the merits and demerits of human resource accounting?

4.(a) From the following Balance sheets of Holding company and Subsidiary company, prepare a Consolidated Balance Sheet of holding company and its subsidiary company.

BALANCE SHEET AS ON 31ST MARCH 2019

Liabilities	HC	SC	Assets	HC	SC
Share capital in shares of Rs.10 each	20,00,000	10,00,000	Assets	25,00,000	12,00,000
Liabilities	15,00,000	2,00,000	Investments: 1,00,000 shares of Rs.10 each of subsidiary company	10,00,000	
	35,00,000	12,00,000		35,00,000	12,00,000

(OR)

(b) Consolidate the following Balance sheets.

	HC	SC		HC	SC
Capital Re.1 shares	1,400	1,000	900 shares in S at cost	1,200	-
Creditors	-	500	Sundry Assets	200	1800
Profit & Loss a/c	-	300			
	1,400	1,800		1,400	1,800

When H Ltd acquired the shares in S Ltd, the profit and loss account in the latter had a credit balance of Rs. 200.

PART –C (1 x 8=8 marks)

- III. Answer all the questions choosing either (a) or (b)**
 5.(a) Explain

- a) Cost of Capital
 b) Capital profit and Revenue profit
 c) Minority Interest

(OR)

b) The following are the summarized balance sheets of Imperial Co. Ltd and Colonial Co. Ltd on 31st December 2018:

Particulars	Im.Co.Ltd	Colonial Co.Ltd	Particulars	Im.co.ltd	Colonial co.Ltd
Paid up capital in shares of Rs.10 each	10,00,000	3,00,000	Freehold premises	4,50,000	1,20,000
General Reserve	4,00,000	1,25,000	Plant and Machinery	3,50,000	1,60,000
Profit and loss A/c	3,00,000	1,75,000	Furniture	80,000	30,000
Sundry creditors	1,00,000	70,000	Stock	3,20,000	1,60,000
			Investment in 20,000 shares in Colonial Co.Ltd at cost	2,60,000	-
			Cash Balance	40,000	30,000
	18,00,000	6,70,000		18,00,000	6,70,000

You are required to prepare a consolidated balance sheet as on 31-12-2018 showing in detail necessary adjustments and taking into consideration the following information:

- Imperial Co.Ltd acquired the shares of Colonial Co.Ltd on 1-1-2018 when the balances on their profit and loss account and general reserve were Rs.75,000 and Rs.80,000 respectively.
- Stock of Rs.1,60,000 held by Colonial Co.Ltd consists of 60,000 goods purchased from Imperial Co.Ltd who has charged profit at 25% on cost.

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VI SEMESTER, II INTERNAL TEST –MARCH 2020

IIIB.COM – Batch I

INDUSTRIAL LAW

Duration: 1 Hr.

Subject Code: SMCO63

Marks : 20

Date: 07.03.2020

PART –A (2 X 1=2 marks)

I Choose the best answer

1. In a factory wherein more than _____ workers are ordinarily employed a canteen shall be established for the use of workers

- (a) 50
- (b) 100
- (c) 20
- (d) 250

2. If a workman is in service for a continuous period of not less than _____ months and contracts any disease stated in schedule III, he is entitled for compensation.

- (a) 3
- (b) 6
- (c) 9
- (d) 12

PART –B (2 X 5=10 marks)

II Answer the following: Choose either (a) or (b)

3. (a) Define the following terms as per the factories act

- (i) Factory
 - (ii) Workers
 - (iii) Manufacturing process
 - (iv) Occupier
- (OR)

(b) Explain the provisions of factories act relating to safety of the workers.

4. (a) What is the method of calculating wages under the workmen's compensation act?

(OR)

(b) State the rules relating to the employment of young persons in factories act.

PART –C

(1 X 8=8 marks)

III Answer the following: Choose either (a) or (b)

5. (a) Explain the following

- (i) Weekly Holidays
- (ii) Annual Leave with wages
- (iii) Certifying surgeons and duties.


(OR)

(b) What is the method of calculating wages under Workmen's Compensation Act and how does partial disablement differ from total disablement?


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VI SEMESTER, II INTERNAL TEST – MARCH 2020

III B.COM - *Batch I*
AUDITING

Duration: 1 hr
Marks: 20

Subject Code: SMCO64
Date: 09.03.2020

PART – A (2×1=2marks)

I. Choose the correct answer

1. _____ reduces the work of an auditor to a greater extent.

- (a) Internal audit
- (b) Trial Balance
- (c) Internal check
- (d) Test check

2. A letter of conformation from a debtor is a _____

- (a) Collateral Voucher
- (b) Primary Voucher
- (c) Voucher
- (d) Documents

PART – B (2×5=10marks)

II. Answer the following

3. (a) State the advantages of Internal Control.

(OR)

(b) Define Vouching. State its Objectives.

4. (a) What are the differences between internal control and internal audit?

(OR)

(b) What factors to be kept in mind while examining vouchers?

PART – C (1×8=8marks)

III. Answer the following

5. (a) What are the principles of internal check?

(OR)

(b) How would you vouching the cash transaction?

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VI SEMESTER, II INTERNAL TEST – MARCH 2020

III B.COM ← Batch I

INCOME TAX LAW AND PRACTICE II

Duration: 1 Hr.

Subject Code: SECO6A

Marks: 20

Date: 11.03.2020

PART - A

(2 X 1 = 2 marks)

I. Choose the correct answer

1. An individual received family pension 60,000. How much standard deduction shall be allowed to him.

- (a) 20,000
- (b) 25,000
- (c) 40,000
- (d) 15,000

2. Income from subletting of House property is-----

- (a) Income from other sources
- (b) Property Income
- (c) Exempted
- (d) Capital gains

PART - B

(2 X 5 = 10 marks)

II. Answer all the questions choosing either (a) or (b)

3.(a) Write any two items taxable under the head "Income from other sources"

(OR)

(b) What is sub-letting?

4.(a) Asha a resident individual received in cash the following income as interest on securities during the previous year ending on 31st March, 2019:

8000, as interest on Government securities

7200, as interest on debentures issued by the local authority

7200, as interest on debentures of Meghdoot (not listed at any stock exchange)

7200, as interest on Tax free debentures of Gunjan Electricals limited (not listed on any stock exchange)

Determine the income under the head "Income from other sources" for the Assessment year 2019-2020 assuming that the interest is paid in each case on 30th June and 31st December.

(OR)

(b). Calculate income from other sources from the following assuming all commercial securities are listed securities

- a. 3,50,000 invested in 10% less-tax Government Securities
- b. 3,00,000 invested in 8% tax-free commercial securities
- c. 3,50,000 invested in 10% less-tax commercial securities
- d. 12,000 received as interest from less-tax commercial securities.

PART - C

(1 x 8 = 8 marks)

III. Answer all the questions choosing either (a) or (b)

5.(a) Explain about Bond washing Transactions.

(OR)

(b) Mr. Lalit an ordinarily resident in India earned the following incomes during the financial year 2018-19

Directors fees	2,000
Income from agricultural land in Pakistan	5,000
Ground rent for land in Pathankot	10,000
Interest on Postal savings bank account	100
Interest on deposits with IFCI	500
Dividend from foreign company	700
Rent from subletting a house	26,850
Rent payable by Mr. Lalit for the sub-let house	12,000
Other expenses incurred on this sub-let house	1,000
Winnings from Race-course	12,300
Interest on securities	4,000

You are required to calculate Income from other sources of

Mr. Lalit for the Assessment year 2019-2020

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Annai Hajira Women's College, Melapalayam
II Internal Test - March 2020- II Semester
I-B.Com - Batch 5
Principles of Management

Sub Code:SMCO22

Marks: 20

Date : 07.03.2020

Time : 1 Hr.

PART A

I. Choose the correct answer (2 × 1 = 2)

1. Standing Plans are also known as ____ plan

- (a) Repeated Use
- (b) Single Use
- (c) Particular Situation
- (d) None

2. _____ is an example of for single use plans

- (a) Programme
- (b) Objectives
- (c) Rules
- (d) Procedure

PART B

II. Answer ALL the questions either (a) or (b) (2 × 5 = 10)

3. (a) Discuss the features of Planning.

(OR)

(b) Define forecasting and explain steps in forecasting.

4. (a) Enumerate MBO and state its principles.

(OR)

(b) Enumerate qualities of management.

PART C

II. Answer ALL the questions either (a) or (b) (1 × 8 = 8)

5. (a) Explain the types of plan (OR)

(b) Describe the elements of a good planning.

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Annai Hajira Women's College, Melapalayam
IV Semester , II Internal - March 2020
Business Mathematics
I B.Com - Batch 3

Sub Code : SMCO42

Marks: 20

Date : 04.03.2020

Time : 1 Hr.

PART A

I. Choose the correct answer

(2 × 1 = 2)

1. $A = \begin{pmatrix} 2 & 4 \\ 3 & 1 \end{pmatrix}$ and $B = \begin{pmatrix} 1 & 2 \\ 2 & 3 \end{pmatrix}$ then $A+B$ is

(a) $\begin{pmatrix} 3 & 5 \\ 3 & 6 \end{pmatrix}$

(b) $\begin{pmatrix} 2 & 3 \\ 1 & 1 \end{pmatrix}$

(c) $\begin{pmatrix} 3 & 2 \\ 1 & 1 \end{pmatrix}$

(d) $\begin{pmatrix} 3 & 6 \\ 5 & 4 \end{pmatrix}$

2. $\log_2 6 + \log_2 4 - \log_2 12$ is equal to-----

- (a) 1
- (b) $\log_2 12$
- (c) $\log_2 5$
- (d) -2

PART B

II. Answer ALL the questions either (a) or (b) (2 × 5 = 10)

3. (a) $\log_{10} 800 = 2 + 3 \log_{10} 2$

(OR)

(b) Solve $\log_y X \cdot \log_x Y \cdot \log_z Z = 1$

4. (a) $A = \begin{pmatrix} 1 & 3 & -2 & 5 \\ 3 & 1 & 2 & 6 \end{pmatrix}$

$B = \begin{pmatrix} 4 & 7 & 1 & 3 \\ 2 & 5 & 2 & -3 \end{pmatrix}$

Find $3A + 4B$ and $4A - 3B$.

(OR)

(b) Find x, y and z if

$$\begin{pmatrix} x+3 & 3x-2y \\ -3x-2 & x+y+z \end{pmatrix} = \begin{pmatrix} 2 & -7+2y \\ y+4 & 2x \end{pmatrix}$$

PART C

II. Answer ALL the questions either (a) or (b) (1 × 8 = 8)

5. (a) $\log_2 X + \log_4 X + \log_{16} X = \frac{21}{4}$, find X (OR)

(b) If $A = \begin{pmatrix} 1 & 5 & 2 \\ 3 & -2 & 4 \\ 6 & 2 & 1 \end{pmatrix}$ find the inverse of A

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II SEMESTER, II INTERNAL EXAMINATION – MARCH 2020

I-B.COM - Batch II

FINANCIAL ACCOUNTING II

Sub. Code: SMCO21

Marks : 20

Date : 06.03.2020

Duration : 1 Hr.

PART A

I. Choose the correct answer (2 × 1 = 2 marks)

1. Receipts and Payments a/c is prepared by _____
 a) Trading concern b) Manufacturing concerns
 c) Non trading concern d) None of the above

2. Income and expenditure a/c reveals _____

- a) Cash in hand
 b) Surplus or deficiency
 c) Net profit
 d) Gross profit

PART B

II. Answer ALL the questions either (a) or (b) (2 × 5 = 10)

3 (a) Distinguish between receipts and payments a/c and income and expenditure a/c

(OR)

(b) From the following information prepare sales ledger adjustment

1.1.2009	Balance of debtors	20,000
31.1.2009	sales	50,000
	Cash received from debtors	15,000
	Bills received from debtors	5,000
	Sales return	1,000
	Discount allowed	500
	Transfer to bought ledger 100	

4 (a) From the following details relating to subscriptions of Coimbatore Sports Club calculate the subscriptions income for the year ending 31.12.1990.

Subscription received during the year 31.12.1990	10,000
Subscription outstanding as on 31.12.1989	2,000
Subscription outstanding as on 31.12.1990	4,000
Subscription received in advance as on 31.12.1989	3,000
Subscription received in advance as on 31.12.1990	2,000

(OR)

(b) State the difference between self balancing and sectional balancing.

PART C

III. Answer the question either (a) or (b) (1 × 8 = 8)

5 (a) from the following details prepare an Income and Expenditure account and balance sheet for the year ending 31st December 1991.

Receipts		Amount	Amount	Payments		Amount	Amount
To balance			250	By salaries			1,200
To Subscription 1990	250			By general expenses			300
1991	1,000			By electricity			200
1992	200	1450		By books			100
To sale of old furniture (cost 100)		60		By news papers			400
To rent received		740		By postage			50
To entertainment gain received		400		By furniture			250
To sale of news papers		100		By balance c/d			500
		3,000					3,000

Additional information:

- (i) The club has 50 members each paying an annual subscription of Rs25. Subscriptions outstanding on 31st December 1990 were Rs300.
- (ii) On December 31, 1991 salaries outstanding amounted to Rs100. Salaried paid include Rs100 for the year 1998.
- (iii) On 1.1.1991 the club owned land and building valued at Rs 10,000; furniture Rs 600 and books Rs 500.

(OR)

(b) Write the three specimen ledgers of self balancing system.

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Annai Hajira Women's College, Melapalayam
IV Semester, II- Internal Test - March 2020
I B.Com + Batch II

MARKETING

Sub.Code : SACO21
Date : 09.03.2020

Marks : 20
Duration : 1 Hour

PART - A

I. Choose the correct Answer: (2 x 1 = 2)

1. _____ is the point at which there is no profit or loss

- a) Margin of safety
- b) Breakeven point
- c) Contribution
- d) Distribution

2. A collection of all products offered for sale by a company is _____

- a) Product Item
- b) Product mix
- c) Product Line
- d) Product positioning

PART - B

II. Answer ALL the questions either (a) or (b) (2 x 5 = 10)

3.(a) What are the different methods of collecting information?

(OR)

(b) Define the term product.

4.(a) What are the objectives of pricing?

(OR)

(b) What are the characteristics of packaging?

PART - C

III. Answer ALL the questions either (a) or (b): (1x 8 = 8)

5. (a) What are the factors affecting marketing mix?

(OR)

(b) Define the term product mix. Explain the factors which influence the product mix.

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Annai Hajira Women's College, Melapalayam
IV Semester, II Internal Test –MARCH 2020
ADVANCED FINANCIAL ACCOUNTING

II B.Com- Batch II

Sub Code :SMCO41

Marks : 20

Date : 03.03.2020

Duration : 1 Hour

PART - A

I. Choose the correct Answer: (2 x 1 = 2)

1. If the retiring partner is not paid off immediately amount due to him is transferred to _____
- Partner's Capital a/c
 - Suspense a/c
 - Partner's Loan a/c
 - None
2. The amount transferred to the executor's account carried interest _____
- 6% P.a
 - 8% P.a
 - 10% P.a
 - 11% P.a

PART - B

II. Answer ALL the questions either (a) or (b) (2 x 5 = 10)

- 3.a) E, F and G are partners sharing profits in the ratio of 5:3:2 on 1st Jan 2002 "F" wanted to retire. On account of the they decided to revalue assets and liabilities as below:
- Appreciate premises by Rs.18,000
 - Depreciate stock by Rs.1,000, Furniture by Rs.500 and machinery by Rs.2,300
 - Provide for an outstanding liability for Rs.200
- Give necessary entries and prepare revaluation account.

(OR)

b) P, Q and R are partners sharing profits in the ratio of 5:3:2. R retires and his share is taken by P and Q equally. Find out the New ratio.

4.a) Arun retires from the partnership in Jan1, 2003 other partners settle the amount due to Arun in three equal annual instalment with interest at 5% the amount due to Arun on 1.1.2003 was Rs.30,000. Prepare the loan account of Arun.

(OR)

b) A and B are equal partners in a firms, the firm had insured the partners lives separately for Rs.10,000 and Rs.12,000. On 1.8.2007 "A" died on which date the surrender value of A's Policy was Rs.3,800 and that of B's policy was Rs.4,200.

Find out the policy amount to be paid to A's Executors.

PART - C

III. Answer the question either (a) or (b): (1x 8 = 8)

5. a) X and Y are partners in a business sharing profit and loss as X 3/5 and Y 2/5, Their Balance sheet as on 1st April 2000 as follows:

Liabilities	Rs	Assets	Rs
Capital:		Plant & Machinery	39,500
X - 40,000		Furniture & Fittings	10,000
Y - 35,000	75,000	Stock	26,000
Reserve	15,000	Debtors	15,000
Creditors	7,500	Closing Balance at bank	6,000
		Cash in hand	1,000
	97,500		97,500

Y Contemplates to retire from the business owing to illness and X takes it over. The following revaluation is made:

- The goodwill of the firm is valued at Rs.15,000.
- Depreciate: Plant and machinery by 7 1/2% and stock by 10%
- A Bad debts provision is raised against debtors at 5% and a discount reserve against creditors at 2 1/2% close the partner's accounts give also the balance sheet of X.

(OR)

b) Sun, Light and Rain are partners in a partnership firm sharing profits and losses equally. Rain died on 31.3.2006 and the partnership deed provided that

a) Share of deceased partner's capital account shall be taken as the balance on the capital account on the last day of the preceding financial year less drawing if any up to the date of death

b) That his share of profit to the date of death shall be calculated on the basis of the average profit of the preceding 5 years.

c) That the goodwill of the firm shall be taken at once year's purchase based on the average profit of the preceding 5 years.

d) That the firm's freehold property shall be taken at an independent valuation free hold property was valued at Rs.36,000

The firm's Balance sheet as on 31.12.2005 is given below:

Liabilities	Rs	Assets	Rs
Creditors	5,000	Cash at bank	6,000
Capital :		Debtors	15,000
Sun	20,000	Stock	14,000
Light	20,000	Freehold property	30,000
Rain	20,000		
	65,000		65,000

The Profit for the 5 years ended 31.12.2005 were 2001 – Rs.4,000 , 2002 – Rs5,000, 2003 – Rs9,000, 2004 – Rs12,000, 2005 – Rs15,000.

Show Rain's capital and the balance sheet of the partners.


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(BSELVI)


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IV SEMESTER, II INTERNAL EXAMINATION – MARCH 2020

II-B.COM - Batch II
CAPITAL MARKET

Sub. Code: SMCO43
Date : 05.03.2020

Marks : 20
Duration : 1 Hr.

PART A

I. Choose the correct answer (2 × 1 = 2)

1. which organization regulates Capital Market

- (a) RBI
- (b) NSE
- (c) BSE
- (d) SEBI

2. A type of exchange members who only buy and sell for their personal account are classified as

- (a) Non-investment Traders
- (b) Professional Traders
- (c) Investment Traders
- (d) Commercial Traders

PART B

II. Answer ALL the questions either (a) or (b) (2 × 5 = 10)

3. a) Explain (i) Primary Market (ii) Prospectus

(OR)

b) Who are the intermediaries in Primary Market?

4. a) Write short note on Dematerialization

(OR)

b) What do you understand by Mutual Fund?

PART C


III. Answer the question either (a) or (b) (1 × 8 = 8)

5 a) Write down the steps involved in a public issues (OR)

b) Describe the functions of stock exchange.

T. Adlin
QPS

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Annai Hajira Women's College, Melapalayam
IV Semester , II- Internal Test –March 2020
II B.Com+ *Batch J*
IMPORT AND EXPORT PROCEDURES

Sub.Code :SMCO44
Date : 06.03.2020

Marks : 20
Duration : 1 Hour

PART - A

I. Choose the correct Answer: (2 x 1 = 2)

1.The demand for and supply of foreign currency during a period of time depends upon _____

- a)Exchange Control
- b)Exchange restriction
- c) Balance of Payments
- d)import restriction

2.A certificate which specifies the country of the production of goods is known as _____

- a) Certificate of origin
- b) Mate receipt
- c)Shipping bill
- d) Bill of Loading

PART - B

II. Answer ALL the questions either (a) or (b) (2 x 5 = 10)

3.a) Define exchange control.

(OR)

b)What are the objectives of Quality control?

4.a) What are the features of Exim policy?

(OR)

b) What are the procedures for the grant of import license under negative list?

PART - C

III. Answer the question either (a) or (b): (1x 8 = 8)

5. a) What is letter of credit? What are the parties involved in letter of credit.

(or)

b) What are the procedures for customs clearance?

B. Selvi
QPS
(B. VANDHAKALAI
@SELVI)

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IV SEMESTER, I INTERNAL TEST – MARCH 2020
II BCOM+ *Baka Ji*
COMPUTER APPLICATION IN BUSINESS

Duration: 1 Hr.
Marks: 20

Subject Code: SAC041
Date:07.03.2020

Part- A (2 X 1 =2 marks)

I. Choose the correct answer

1. Mercantile process model is used for _____ commerce.
(a) online
(b) electronic
(c) mobile
(d) none of these
2. EDI uses _____ protocol.
(a) FTP
(b) SMTP
(c) HTTP
(d) Gopher

PART –B (2 X 5 =10 marks)

II. Answer all the questions, choosing either (a) or (b)

- 3.(a) Write about the credit card, payment system.

(OR)

- (b) Differentiate the E-cash and Smart cards payment system.

4. (a) Write about partial EDI system.

(OR)

- (b) Explain about fully integrated EDI system.

PART –C (1 x 8=8 marks)

III. Answer the following question, choosing either (a) or (b)

5. (a) Explain about the Mercantile process models.

(OR)

- (b) Explain Pre-requisite for EDI.

C.Jh
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IV SEMESTER, INTERNAL TEST – MARCH 2020

II BCOM *Batch II*

ENTREPRENEURSHIP DEVELOPMENT

Duration: 1 Hr.

Subject Code: SSCO4A

Marks: 20

Date: 09.03.2020

Part- A

(2 X 1 =2 marks)

I. Choose the correct answer

1. Time value of money is considered under-----

- (a) Payback period method
- (b) Net present value method
- (c) Cost benefit analysis
- (d) None of these

2. ESII is having its headquarters at-----

- (a) Ahamadabad
- (b) Hyderabad
- (c) Kanpur
- (d) New Delhi

PART –B

(2 X 5 =10 marks)

II. Answer all the questions, choosing either (a) or (b)

3. (a) State the need for project appraisal.

(OR)

(b) Explain the concept of financial feasibility.

4. (a) State symptoms of sickness in an industry.

(OR)

(b) What are the remedies for industrial sickness?

PART –C

(1 x 8=8 marks)

III. Answer the following question, choosing either (a) or (b)

5. (a) Describe the national of institutional support for Entrepreneurs.

(OR)

(b) Explain the causes of sickness in small scale Industry

G. J. John
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IV SEMESTER, II INTERNAL TEST – MARCH 2020
II B.COM. – Batch I & II

APPLIED CHEMISTRY

Duration: 1Hr

Subject Code: SNCH4B

Marks : 20 marks

Date : 10.03.2020

PART – A

(2×1=2 Marks)

I. Choose the Correct Answer

1. Teflon is obtained by the polymerization of -----.

- (a) vinyl chloride
- (b) tetrachloroethylene
- (c) tetrafluoroethylene
- (d) chloroprene

2. Glyptol is a -----.

- (a) natural resin
- (b) fiber
- (c) lacquer
- (d) thermoset

PART – B

(2×5=10 Marks)

II Answer the following

3. (a) Explain natural and synthetic resins.

(OR)

(b) Differentiate thermoplastics and thermosetting plastics.

4. (a) What are the uses of quickfix and araldite?

(OR)

(b) Discuss the uses of Teflon and thermocole.

PART – C


(1×8=8 Marks)


III Answer any one of the following


5. (a) What are fibers? How are they classified? Write the uses of terylene, nylon and orlon?

(OR)

(b) How are plastics classified? What are the advantages of plastics? Mention the uses of PVC.


(Dr.R. Anuradha)
QPS


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The company went into liquidation. Prepare Liquidator's final statement of a/c after taking into a/c the following :

- (i) Liquidation expenses Rs.3,000 his remuneration Rs.10,000
- (ii) Bank loan was secured by pledge of stock
- (iii) Debentures and interest on debentures secured by a floating charge on all assets
- (iv) Fixed assets realised at book value and current assets at 80% of book values.

(OR)

(b) From the following as at 31.03.2016, prepare the Revenue a/c, Net revenue a/c; Capital a/c and General balance sheet of KPTC Ltd.

Balance as on 1.4.2015

Land	Rs. 1,80,000
Machinery	Rs. 7,20,000
Mains	Rs. 2,40,000

Expenditure during the year :

Land	Rs. 6,000
Machinery	Rs. 6,000
Mains	Rs. 61,200
Share capital – ordinary shares	Rs. 6,58,800
Debentures	Rs. 2,40,000
Sundry creditors	Rs. 1,200
Cost of generation	Rs. 42,000
Rent rates and taxes	Rs. 6,000
Expenses of management	Rs. 14,400
Sale of power	Rs. 1,56,000
Meter rent	Rs. 6,000
Interest on debentures	Rs. 12,000
Interim dividend	Rs. 24,000
Net revenue a/c as on 1.4.2015	Rs. 34,200
Depreciation fund	Rs. 3,00,000
Sundry debtor for energy supplied	Rs. 48,000
Sundry debtors for others	Rs. 600
Cash balance	Rs. 6,000

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VI SEMESTER, II INTERNAL TEST – MARCH 2020

III B.COM Batch II

MANAGEMENT ACCOUNTING

Duration: 1 Hr.
Marks: 20

Subject Code:SMCO62
Date: 05.03.2020

Part- A (2 X 1 =2 marks)

I. Choose the correct answer

1. Depreciation on machinery is -----
(a) Application of fund
(b) Sources of fund
(c) No flow of fund
(d) None of these

2. Taxes paid must usually be shown under -----

- (a) Operating activities
(b) Financing activities
(c) Investing activities
(d) Non-Operating activities

PART – B (2 X 5 =10 marks)

II. Answer all the questions choosing either (a) or (b)

3. (a) What are the objectives of Cash flow statement?
(OR)

(b) Kings Ltd. made a profit of Rs.2,00,000 after charging depreciation of Rs.40,000 on assets and a transfer to general reserve of Rs.60,000. The goodwill amortised was Rs.14,000 and gain on sale of machinery was Rs.6000

Additional information

Particulars	Opening	Closing
Trade receivables	10,000	16,000
Trade payables	5,000	17,000
Prepaid expenses	1,000	1,400
Outstanding expenses	7,000	3,000

Ascertain cash flow from operating activities under indirect method.

4.(a) Distinguish between Fund Flow statement and Balance Sheet.
(OR)

(b) The following are the summarized balance sheets as at 31st December 2006 and 2007.

BALANCE SHEET

Liabilities	2006 Rs.	2007 Rs.	Assets	2006 Rs.	2007 Rs.
Capital			Fixed	95,000	1,20,000
Equity	1,00,000	1,00,000	Assets	-	10,000
Shares			Investme		
Preference			nts		
Shares	---	50,000	Current	40,000	60,000
General			Assets:	20,000	40,000
Reserve	30,000	40,000	Stock	5,000	2,000
P & L			Debtors	5,000	18,000
A/cs:			B/R	20,000	10,000
Current			Prepaid	10,000	40,000
Liabilities:	25,000	70,000	Exp		
Creditors	20,000	10,000	Cash		
Bills	--	2,000	Advances		
payable	3,000	--			
Overdraft					
Taxation					
Provision	7,000	12,000			
Proposed					
Dividend	10,000	16,000			
	1,95,000	3,00,000		1,95,000	3,00,000

You are required to prepare a statement showing the changes in working capital.

PART –C (1 x 8=8 marks)

III. Answer all the questions choosing either (a) or (b)

5.(a) Balance sheet of Balu Company are given below :

Liabilities	2004 Rs.	2005 Rs.	Assets	2004 Rs.	2005 Rs.
Share Capital			Land and Buildings		
General Reserve	1,00,000	1,50,000	Machinery	1,00,000	90,000
P&L A/cs :			Stock	1,00,000	1,19,000
Bank Loan	50,000	60,000	Debtors	50,000	24,000
Sundry Creditors	30,500	30,000	Cash	75,000	63,200
Provision for Tax	70,000	--	Goodwill	2,500	16,000
				5,000	--
	50,000	37,200			
	32,000	35,000			
	3,32,500	3,12,200		3,32,500	3,12,200

During the year ended 31st December 2005

- Dividend paid Rs.23,000
- Depreciation written off Machinery – Rs. 14,000
Building – Rs.10,000
- Income tax paid Rs.28,000

Prepare the following statements

- Statement of changes in working capital
- Fund flow statement.

(OR)

(b) From the following balances you are required to calculate the Cash flow from operating activities.

	2015 Rs.	2016 Rs.		2015 Rs.	2016 Rs.
Debtors	50,000	47,000	Accrued Income		750
Bills receivable	10,000	12,500	Income received	600	250
Creditors	20,000	25,000	in advance	300	
Bills payable	8,000	6,000	Profit made during the year		1,30,000
Outstanding expenses	1,000	1,200			
Prepaid expenses	800	700			


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VI Semester, II Internal Test – March 2020

III-B.Com-Batch I

INDUSTRIAL LAW

Marks: 20

Subject Code: SMC063

Duration: 1 Hr.

Date: 07.03.2020

PART-A

I. Choose the correct answer: (2x1=2)

1. Ventilation and temperature regarding health of workers-----

- (a) Sec 13
- (b) Sec 15
- (c) Sec 2e
- (d) Sec 12

2. Amputation of thumb is-----

- (a) permanent partial disablement
- (b) total disablement
- (c) occupation disease
- (d) none of the above

PART B

(2x5=10)

II. Answer the following, choosing either a or b

3. a) Explain the provision of Factories Act relating to employment of women.

(OR)

b) Enumerate the provisions of Factories Act regarding Welfare.

4. a) Explain the defenses available to employees under the Workmen's Compensation Act, 1923.

(OR)

b) Who are certifying surgeons? What are their duties?

PART C

(1x8=8)

III. Answer the following, choosing either a or b

5. a) Explain the mandatory safety precautions of the Factories Act.

(OR)

b) Explain the rules regarding distribution of compensation under Workmen's Compensation Act.

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QPS

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VI Semester, II Internal Test – March 2020

III-B.Com-Bachelor, II

AUDITING

Marks: 20

Subject Code: SMCO64

Duration: 1 Hr.

Date: 09.03.2020

PART-A

I. Choose the correct answer: (2x1=2)

1. Audit Note Book is maintained by the -----

- (a) Accountant
- (b) Client
- (c) Audit Clerk
- (d) Auditor

2. ___ includes internal check and internal audit

- (a) Interim Audit
- (b) Internal Audit
- (c) Internal Control
- (d) internal check

PART B

(2x5=10)

II. Answer the following either a or b

3. a) What are audit working papers?

(OR)

b) Explain audit Note Book

4. a) Define internal control. What are the characteristics of good internal control?

(OR)

b) Distinguish between internal control and internal check.

PART C

(1x8=8)

III. Answer the following either (a) or (b)

5. a) Discuss the procedure of auditing.

(OR)

b) Bring out the advantages and disadvantages of Internal Check.

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VI SEMESTER, II INTERNAL TEST – MARCH 2020

III-B.COM- Batch II

INCOME TAX LAW & PRACTICE II

Duration: 1 Hr.

Sub. Code : SECD6A

Marks : 20

Date : 11.03.2020

PART - A

I. Choose the correct answer (2 × 1 = 2)

1. Under which head the pension is taxable:

- (a) Salaries
- (b) Income from other sources
- (c) Capital gains
- (d) None of these

2. Long-term capital loss can be set-off:

- (a) 4 years
- (b) 6 years
- (c) 8 years
- (d) 10 years

PART B

II. Answer ALL the questions either (a) or (b) (2 × 5 = 10)

3. a) What are the provisions governing the set-off of capital losses?
(OR)

b) From the following particulars of a trader, compute the gross total income for the assessment year 2019-20:

i) Income from house property (Computed)	Rs. 2,50,000
ii) Business loss	Rs. 60,000
iii) Current year depreciation	Rs. 10,000
iv) Business loss for preceding years	Rs. 50,000
v) Unabsorbed depreciation of preceding years	Rs. 30,000
vi) Short term capital loss	Rs. 40,000
vii) Long-term capital gain	Rs. 50,000

4. a) Explain (a) Tax free Non government securities
(b) Tax Securities

(OR)

b) Compute income from other sources of Mr. Arun from particulars given below for the assessment year 2019-2020.

(i) Interest (gross) on deposits with a company	Rs. 10,000
(ii) University remuneration for working as examiner	Rs. 8,000
(iii) Royalty for writing books	Rs. 80,000
He claims to have spent on writing these books	Rs. 20,000
(iv) Family pension received	Rs. 48,000

PART C

(1 × 8 = 8)

III. Answer the following question either (a) or (b)

5 a) Mr. X, a residential individual, submits the following particulars of his income for the year ended 31st March, 2019:

- (i) Royalty from a coal mine Rs 20,000
- (ii) Agricultural income in Pakistan Rs 15,000
- (iii) Salary for a part time job with a firm Rs 21,000
- (iv) Salary as a member of parliament Rs 36,000
- (v) Daily allowance as M.P Rs 15,000
- (vi) His residential house has been taken on rent of Rs 1,000 pm, half of which he has sub let at Rs 1,200 pm.
- (vii) Dividend received from a co-operative society Rs 5,000.
- (viii) He has incurred the following expenses:
 - (a) Paid collection charges Rs 100 for collecting dividends.
 - (b) Rs. 3,000 spent for earning and collecting royalty income.
 - (c)

Compute Mr. X income from other sources for the A.Y 2019-20

(OR)

(b) Explain the provisions regarding carry-forward and set-off of losses.

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