

St.Joseph's Degree & PG College

(Autonomous)

Affiliated to Osmania University

Re-Accredited by NAAC with "B++" Grade

King Koti Main Road, Hyderabad – 500029

End Semester Examinations July 2021 (April 2021 Cycle)

BSC (MPCS, MSCS, MECS) -III Year

Semester VI

Subject: Web Technologies

Subject ID : WTC6S10A21

Max.Marks:60

Date :04-08-2021

Time: 2hrs 30minutes

SECTION - A

Answer the following questions:

(4 X 12 = 48)

1. Explain the Operations & Expressions in detail.

(OR)

2. Define Array. Explain One-dimensional and two-dimensional arrays.

3. Explain in detail about Document Object Model.

(OR)

4. Describe the characteristics of DTDs with code and examples.

5. Explain a) Apache Web Server b) HTTP Request Types.

(OR)

6. What is a Webserver. Differentiate Client Side Scripting and Server Side Scripting.

7. Explain a) Web Forms in ASP.Net b) Connecting to a Database in ASP.Net

(OR)

8. Explain a) ASP.Net Framework b) Web services of ASP.Net

SECTION – B

Answer any TWO of the following:

(2 X 6 = 12)

9. Define Event Handling. Explain Body elements and Button elements with syntax.

10. Describe briefly about XSL.

11. Discuss briefly about Microsoft IIS.

12. Write a script to read information of 10 students from the user and store them into the table using ASP.Net

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End Semester Examinations July 2021 (April 2021 Cycle)

**BSC (MPCS, MSCS, MECS) -III Year
Semester VI**

Subject: Data Analytics with R

Subject ID : **DAR6S11A21**

Date :04-08-2021

Max.Marks:60

Time: 2hrs 30minutes

Section-A

I. Answer the following questions

4x12=48

1. Explain different R data structures in detail?

OR

2. Describe the attach and detach functions in R with Examples

3. Write the steps to import the data from the .txt and .csv file with suitable examples

OR

4. Explain the structure of accessing database, save and load the data in R with examples?

5. Write about the different functions in R with syntax and examples

OR

6. Discuss about Scale Function, Append and Grid function in R with suitable examples

7. Explain in detail about Measures of Central Tendency with formulas, syntax and suitable examples

OR

8. Discuss about Characteristics, Objectives and Methods of Measures of Dispersion in detail

II. Answer any TWO of the following

2x6=12

9. Write about data frames, Cbind and Rbind with examples

10. What is Data manipulation explains with examples in R?

11. Write about the user defined function in R programming with suitable examples

12. Explain about Mean and Mode with syntax and suitable examples

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End Semester Examinations July 2021 (April 2021 Cycle)

B.com (Gen,Comp), B.sc, BA, BBA – II Year

Semester IV

Subject: English - IV

Subject ID : ENG4UGA21

Date :15-07-2021

Max.Marks:60

Time: 2hrs 30minutes

Section I

I. Answer the following :

(6x2=12)

1. Why did the author need to call his colleague to attend to surgical case?
2. What was the conflict in the author's mind before he performed the surgery?
3. What is the central theme of the poem, 'Anger' by Charles Lamb?
4. Do you agree with the argument of Jiddu Krishnamurti that "the purpose of education is to prepare people for life". Why?
5. Elaborate on the following line by Stanley – 'Who has always looked for the best in others and given them the best he had'
6. Why did the two sisters fight with each other in the play the *Dear Departed*?

Section II

II. Answer any Two of the following:

(2x6=12)

1. What are the strategies you want to offer as a student to fight the crisis in education system during the Covid period.?
2. How do you cope with the psychological stress on failing in an exam?
3. Do you believe that "by embracing the nuances of human emotions in the workplace leads to pragmatic benefits"
4. Elaborate on the statement – ' Self-motivation drives people to keep going even in the face of set-backs'
5. When you start a new job, how do you build relationships through your interpersonal skills?

Section III

III. Answer the following :

(6x6=36)

1. How does a cover letter help the most questions asked in an interview?
2. What are some of the most important interview skills?

3. What are the disadvantages of discussion method?
4. How does note making help you in organising ideas?
5. Why are presentation skills important for students?
6. How information transfer is important in writing skills?

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End Semester Examinations July 2021 (April 2021 Cycle)

B.Sc – Year III

Semester VI

Subject: Mathematics VII (Numerical Analysis)

Subject ID : NMA6S01A21

Date : 16-07-2021

Max.Marks:60

Time: 2hrs 30minutes

SECTION-A

ANSWER THE FOLLOWING QUESTIONS

(4X12=48)

1. Find the real root of $x^3 - x - 1 = 0$, using Bisection method.

OR

2. Let $f(x) = -x^3 - \cos x$. With $P_0 = -1$ and $P_1 = 0$, find P_3 . Use the method of False Position.

3. Find a cubic polynomial which takes the values

x	0	1	2	3	4	5
y	1	2	4	8	15	26

OR

4. By using Lagrange's formula, express the following rational fraction as sum of partial fractions

$$\frac{x^2 + 3}{x^3 - 2}$$

5. Find $\frac{dy}{dx}(J_0)$ at $x = 0.1$ from the data given in the table

X	0.0	0.1	0.2	0.3	0.4
$J_0(x)$	1.0000	0.9975	0.9900	0.9776	0.9604

OR

6. Evaluate by using trapezoidal rule

a) $\int_0^1 t \sin t \, dt$ (with 6 strips) b) $\int_{-2}^2 \frac{t}{5t^2 + 1} \, dt$ (with 8 strips)

7. Use Runge - Kutta method to find y when $x = 1.2$ in steps of 0.1 given that

$$\frac{dy}{dx} = xy^2 \quad \text{and } y(1) = 1.5$$

OR

8. Using Taylor's series method to find the value of $y(0.1)$ and $y(0.2)$ if $y(x)$ satisfies

$$\frac{dy}{dx} = xy^2 \quad \text{With } y(0) = 1.$$

SECTION-B

ANSWER ANY TWO OF THE FOLLOWING

(2X6=12)

9. Let $f(x) = x^2 - 6$ and $p_0 = 1$. Use Newton's method to find p_2 .

10. Apply Lagrange's formula to find the root of $f(x) = 0$ when
 $f(30) = -30$, $f(34) = -13$, $f(38) = 3$, $f(42) = 18$.

7

x^2 by

11. Find the value of $\int_0^3 x^2 dx$ by taking four strips and using trapezoidal rule

12. Explain Picard's method of successive approximation.

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End Semester Examinations July 2021 (April 2021 Cycle)

**B.Com (Gen)/B.Sc-II Year
Semester IV**

Subject: Arabic IV

Subject ID : SLA4UGA21

Date :19-07-2021

Max.Marks:60

Time: 2hrs 30minutes

Section-A

I. Answer the following questions

3x12=36

Q.NO: 1 Write a note on "companions of Prophet Mohammed (saw) اشهر صحابييات محمد صلى الله عليه و سلم

OR

Q.No: 2 A. Translate the following.

ولد رسول الله صلى الله عليه وسلم يوم الاثنين اليوم الثانى عشر من شهر ربيع الاول فكان اسعد يوم طلعت فيه الشمس

1. فى اى يوم و فى اى شهر ولد رسول الله صلى الله عليه و سلم ؟ B.

2. من افضل نساء الجنة ؟

3. الى اى قبيلة تنسب حليلة السعدية ؟

4. من ابناء فاطمة رضى الله عنها ؟

Q.NO: 3 write a note on Monuments of Telangana اثار تلنگانه

OR

Q.No: 4 A. Translate the following

مدينة حيدرآباد انجبت كثيرا من الزعماء و الزعيمات الذين شاركوا فى حركة استقلال الهند منها خطيبة و كاتبة و شاعرة شهيرة , وشاركت بنفسها فى حركة استقلال الهند وهى "سروجنى نائديو" العظيمة .

B. completes the following sentences with suitable words.

(مهر منير , من يونيو سنة 2014 م , جامعة تلنگانه)

1. ان ولاية تلنگانه انفصلت فى الثانى _____

2. مديرة نظام آباد و تعرف هذه المديرة ب _____

3. كما كتبت اول مسرحيتها باسم _____

حياتى Q.NO: 5 Explain the summary of the poem

OR

Q.No: 6 A. Translate and reference to context:

1. حياتى بالقيم احلى - و غايتى بها عليا

2. سرنى منك الضياء - ببريق و صفاء

B.write the meanings of the following verses in your language.

1 ايها النجم الصغير - انت فى الدنيا منير

2. هند لنا هند لنا - تحى و تحى هندنا تحى لنا

3. بشرى لاهل الهند مهبط آدم - صارت لنا من ربنا ارض السنا

Section-B

II. Answer any TWO of the following

2x12=24

Q.NO: 7 Define “ كان و اخواتها “ with examples.

Q. No: 8 A. Write about ان و اخواتها with examples.

B. writes about vocatives حروف النداء

Q.NO: 9 translate the following passage.

ناصر ماذا حدث يا اخى ؟ جمال : اصيب اخى بحادثة صدم او تبص سيارة

ناصر : او اصيب بجروح ؟ جمال : نعم و يمكن ان تكون هناك كسور

Q.No: 10 A. Translate the following in Arabic

1. It is famous hospital.

2. Where is the prescription?

3. In a chemist shop

B. writes the meaning of the following words in your language.

صبدلية المستشفى , نقالة , طبيب , الادوية , الشراب

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B.Com (Gen)/B.Sc-II Year

Semester IV

Subject: French IV

Subject ID : SLF4UGA21

Date :19-07-2021

Max.Marks:60

Time: 2hrs 30minutes

Part – A Total marks 40 (5 questions of 8 Marks each)

I. Mettez les verbes au temps indiqué (16 au choix - ½ x16) 8 **(Le passé composé, l'imparfait)**

1. Nous ----- de prendre la vaccine. (prendre – mettez au passé composé)
2. Vous ----- le match de cricket. (regarder- mettez à l'imparfait)
3. Le professeur ----- au tableau. (écrire – mettez au passé composé)
4. Nous ----- dans le jardin. (jouer – mettez à l'imparfait)
5. Ils ----- les classes. (finir – mettez au passé composé)
6. Mme. Martin ----- la porte. (ouvert – mettez au passé composé)
7. Tu ----- à 5h du matin. (se lever- mettez à l'imparfait)
8. Nous ----- à toutes les questions. (répondre – mettez au passé composé)
9. Ces étudiants ----- à la cantine. (manger – mettez à l'imparfait)
10. Ils ----- pour Mumbai. (partir – mettez au passé composé)
11. Nous ----- en retard à l'aéroport. (être – mettez à l'imparfait)
12. Elle ---- peur des examens. (avoir – mettez à l'imparfait)
13. Le bébé ----- à parler. (commencer – mettez au passé composé)
14. Mes parents ----- des films d'Amitabh. (voir – mettez à l'imparfait)
15. Notre directeur ----- d'arriver à l'heure. (dire – mettez au passé composé)
16. Ils ----- des romans français. (lire- mettez à l'imparfait)
17. Les Rao ----- juste à 20h. (dîner –mettez à l'imparfait)
18. Mme. Paul me ----- tous les soirs. (téléphoner – mettez au passé composé)
19. Ces touristes ----- de Londres. (venir – mettez à l'imparfait)
20. Il ----- devant le collège. (s'arrêter - mettez à l'imparfait)

II. Mettez les phrases au discours direct ou indirect (8 au choix - 1x 8) 8

1. Le professeur à l'étudiant : « Il faut faire attention aux cours. »
2. Le père lui dit de travailler vite.
3. Lucie dit qu'elle ne peut pas venir aujourd'hui.
4. Jean dit, « Je suis très content ! »

5. Tu dis que tu n'aimes pas nager.
6. Il me dit, « Je reviens demain. »
7. Ils disent : « nous achetons une voiture.
8. Mes enfants disent : nous n'avons pas d'examens. »

III. Remplacez les mots soulignés avec un pronom direct ou indirect (8 au choix -1x 8) 8

1. Nous achetons cet appartement.
2. Vous téléphonez aux parents des élèves.
3. Ils partent avec des amis pour la fête.
4. Nous donnons des cadeaux à nos petits- enfants.
5. Il apporte un bracelet pour sa femme.
6. Les parents sont contre l'ouverture des écoles de 1^{er} Juillet.
7. On envoie les jouets au bébé de Mme. Radha.
8. Regardez cette jolie fille !

IV. Complétez avec un pronom relatif dans les phrases (8 au choix - 1x 8) 8

1. Ce sont les médicaments ----- il a apportés.
2. Prenez ces fruits ----- semblent très frais.
3. Voici la jeune fille ----- la fiancée d'Abhay.
4. Voyez mon portable ----- mon père m'a achetée pour mon anniversaire.
5. Ne prenez pas cette chemise ----- paraît très vieille.
6. N'entre pas dans cette boutique ----- n'a pas de bonne collection.
7. Je ne peux pas ces exercices ----- sont très difficiles.
8. C'est Marie ----- je rencontre chez ma tante.

V. Rédigez un paragraphe ou un dialogue sur un de ces sujets (10 phrases) 8

1. Mon ami(e)
2. Les sports
3. Les vacances

Part B - Total Marks 20 (4 Questions of 5 marks each)

VI. Lisez le texte/ dialogue et répondez aux questions qui le suivent (3+2=5)

Prendre le train (à la gare)

Elle : Le train de Brest est à 9 heures 12.

Lui : Ah ! Oui.

Elle : Il est déjà 9 heures 5.

Lui : Je vais prendre les billets.
(au guichet)

Lui : Les secondes pour Brest, s'il vous plaît.

L'employé : Voilà, Monsieur.

Lui : Est-ce qu'il faut changer ?

L'employé : Non, le train est direct.

Lui : Allons bon ! Je ne trouve pas mon portefeuille. Ah ! Le voilà.

L'employé : Vous avez le temps, monsieur. Il y a un autre train à 9 heures 22.

a. Répondez aux questions : **3**

1. Où sont –ils ?
2. Qui va prendre les billets ?
3. Est-ce ce train est direct ?

b. Donnez le contraire ($\frac{1}{2} \times 4$) **2**

1. déjà 2. Prendre 3. Direct 4. Trouver

VII. Traduisez en anglais **5**

1. Vous habitez en ville.
2. Nous avons un chien.
3. Vous vous levez à 5 h du matin.
4. Cette odeur est insupportable.
5. Merci, de ne plus faire sécher vos vêtements à l'extérieur.
6. Alors, j'ai un départ à 8 h 12.
7. Je crois que je suis perdu.

VIII. Traduisez en français **5**

1. She has a small family.
2. Her name is Julie Correncon.
3. We cannot find the keys.
4. You enjoy yourself.
5. Is he in the office?
6. He is a good swimmer.
7. She is a journalist in 'Actuel'.

IX. Faites / rédigez un micro-dialogue avec (5 au choix -5x1) **5**

1. ? Non, je ne vois pas les films.
2. Prends – tu du poulet ? - Oui,
3. Voyez-vous mes nouveaux habits ? - Oui,
4. ? – Non, elle est directrice de l'école.
5. ? - Ça fait 100/- Rs.
6. Est - il pianiste ? – Non,
7. ? – Oui, il est médecin. *****

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B.Com (Gen)/B.Sc-II Year

Semester IV

Subject: Hindi IV

Subject ID : **SLH4UGA21**

Date :19-07-2021

Max.Marks:60

Time: 2hrs 30minutes

Section-A

3x12=36

1Q)रहीम के पदों का सार लिखिए?

12x 1=12

या

2Q) A)कैसेछोटे नरनुतैं सरत बड़नु के काम।

6x2=12

मढ्यौ दमामौ जातु क्यों कहि चूहे कै चाम॥

B)मीराकेप्रभु सदा सहाई,राखे विघन घटाय।

भजन भाव में मस्त डोलती, गिरधर पे बलि जाय॥

3Q)"वे सुस्कराते फूल नहीं " कविता का सारांश लिखिए?

12x 1 =12

या

4A)दो में से क्या तुम्हे चाहिए, कलम या तलवार ?

6x 2 =12

मन में ऊंचे भाव कि तन में शक्ति अजय अपार।

B) जीवित हैतू आज मरा सा,

पर मेरी यह अभिलाषा

चिता निकटभीपहुंच सकूं अपने पैरों पैरों चलकर '

तू क्यों बैठ गया पथ पर ?

5Q)रीतिकाल को श्रृंगार काल भी क्यों कहा गया है?

12x 1=12

रीतिकाल की परिस्थितियों के बारे में लिखिए?

या

6Q)टिप्पणी लिखिए।

6x 2=12

A .मीराभाई

B . रहीम

Section-B

II. सूचना अनुसार उत्तर लिखिए।

2x12=24

Q7)'आधुनिक काल'की परिस्थितियों के बारे में लिखिए?

12x 1=12

य

Q8)A. महादेवी वर्मा

B. रामधरी सिंह दिनकर

Q9)'भारत में बेरोजगारी की समस्या ' विषय पर निबंध लिखिए?

12x 1=12

या

Q10)'आधुनिक शिक्षा और नारी' विषय पर निबंध लिखिए?

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B.Com (Gen)/B.Sc-II Year

Semester IV

Subject: Sanskrit IV

Subject ID : SLS4UGA21

Date :19-07-2021

Max.Marks:60

Time: 2hrs 30minutes

Section –A

Answer the following:

3*12 = 36 Marks

1. चित्रपटदर्शनम्इतिपाठ्यांशस्यवैशिष्ट्यंविषदयत |(12M)

Or

2. A) ससंदर्भव्याख्यात। (6M)

- ऋषीणांपुनराद्यानांवाचमर्थोऽनुधावति

- तीर्थोदकंचवह्निश्चनान्यतःशुद्धिमर्हतः ॥

B) आङ्ग्लभाषायांअनुवदत। (6M)

- लौकिकानांहिसाधूनामर्थवागनुवर्तते।

ऋषीणांपुनराद्यानांवाचमर्थोऽनुधावति॥

-स्नेहंदयांचसौख्यंचयदिवाजानकीमपि |

आराधनायलोकस्यमुञ्चतोनास्तिमेव्याथा ॥

- किन्त्वनुष्ठाननित्यत्वंस्वातन्त्र्यमपकर्षति |

संकटाह्यहिताग्नीनांप्रत्यवायैर्गृहस्थथा ॥

3. विवेकानन्दविजयनाटकेअष्टमाङ्केवर्णितान्सन्निवेशान्विशदयत। (12M)

or

4. A) श्रीधरभास्करवर्णेकरमहोदयस्यपरिचयंकुरुत।(6M)

B) ससंदर्भव्याख्यात। (6M)

- सर्वथाअपूर्ववेशोअपिसत्पुरुषोऽयंदृश्यते।

- इहसर्वजनीनेउद्यानेसम्यक्अनुशासनंपालनीयम्, स्वच्छतारक्षणीया।

5. कठोपनिषदिउक्तप्रकारंयमनचिकेतसोःसम्भाषणंलिखत।(12M)

or

6. A) षट्वेदाङ्गानिलघुप्रकारेणविवृणुत। (6M)

B) उपवेदाङ्गाःउद्दिश्यलघुटिप्पणींलिखत। (6M)

Section –B

Answer any Two from the following

2*12=24 Marks

7. उपमा, अर्थान्तरन्यासः, दृष्टान्तः- अलङ्काराःक्लक्षणम्सोदाहरणंलिखत। (12M)

8. A) अधोनिर्दिष्टश्लोकानांगणविभजनंकृत्वावृत्तनामानिलिखत। (6M)

1) विद्येवपुंसोमहिमेवराज्ञः

प्रज्ञेववैद्यस्यदयेवसाधोः।

लज्जेवशूरस्यमुजेवयूनो,

सम्भूषणंतस्यनृपस्यसैव॥

2) त्वमेवमाताचपितात्वमेवः

त्वमेवबन्धुश्चसखात्वमेवः।

त्वमेवविद्याद्रविणंत्वमेवः

त्वमेवसर्वममदेव-देवः॥

3) विजेतव्यालंकाचरणतरणीयोजलनिधिः।

विपक्षःपौलस्त्यःरणभुविसहायाश्चकपयः।

B) अनुष्टुप्, वसंततिलका, भुजङ्गप्रयातम्- वृत्तानालक्षणंउदाहरणंचलिखत। (6M)

9. अस्मद्, इदम् (पुंलिङ्ग), किम् (न. पुं. लिङ्ग), तद् (स्त्रीलिङ्ग), एतद् (पुंलिङ्ग) लिखत। (12M)

10. A) अधोनिर्दिष्टप्रश्नाम्आङ्गलानुवादःकुरुत। (6M)

- 1) गायकःवीणांवादयति।
- 2) स बालकःह्यःपाठं न अपठत् ।
- 3) अहंतक्षत्राणिगणयामि।
- 4) अत्रएकःबालकःएकाबालिकाचतिष्ठतः।
- 5) एकस्मिन्हस्तेपञ्चअङ्गुल्यःसन्ति ।
- 6) श्वःपरश्वोवागमिष्यामि ।

B) अधोनिर्दिष्टप्रश्नामभावम्लिखत।

(6M)

- 1) वसन्तः 2) मधुरः 3) कदा 4) सप्तविंशतिः
- 5) ह्यः 6) तर्जनी 7) विपणिः 8) दक्षिणहस्तः
- 9) दर्शय 10) विविधाः 11) मूल्यं 12) लिखामि

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End Semester Examinations July 2021 (April 2021 Cycle)

B.Com (Gen)/B.Sc-II Year
Semester IV

Subject: Telugu IV

Subject ID : SLT4UGA21

Date :19-07-2021

Max.Marks:60

Time: 2hrs 30minutes

Section-A

I. Answer the following questions

3x12=36

1. సుభద్ర తన అనన్ బలరామునితో ఏమని మాటలాడిందో తెలపండి. (12మార్కులు)
(లేదా)
2. A) "నారసింహ శతకం" భక్తి వైరాగ్యాలను పరదర్శిస్తోందని సమర్థించండి. (6 మార్కులు)
B) హాగ్దాన భంగం చేసిన బలరాముడు శ్రీకృష్ణుడుతో ఏమి మాటలాడాడు? (6 మార్కులు)
3. కాళిదాస మనోహర జీవ వర్ణనం గురించి వాల్మీకిని జీవన సత్యాలను వివరించండి. (12మార్కులు)
(లేదా)
4. A) ఆర్తగీతం లో కవి చూసిన దృశ్యాలను వివరించండి. (6 మార్కులు)
B) ఆర్తగీతం లో బాల గంగాధర తలక వ్రాలబడిన ఆర్తగీతం తెలపండి. (6 మార్కులు)
5. నామరూప తాత్పర్యం కథ ద్వారా రచయిత రి అందించిన సందేశం తెలపండి. (12 మార్కులు)
(లేదా)
6. A) వ్యక్తిత్వం అంటే ఏమిటి? (6 మార్కులు)
B) తాత్పర్యం వ్యక్తిత్వంతో వివరించండి. (6 మార్కులు)

Section-B

II. Answer any TWO of the following

2x12=24

7. వాల్మీకిని వ్యక్తిత్వంతో వివరించండి. (12 మార్కులు)
8. A) తాత్పర్యం వ్యక్తిత్వంతో వివరించండి. (6 మార్కులు)

B) సురక్షే గుణశీలములను గూర్చి రాయండి. (6 మార్కులు)
9. చలించిపోయే అణువుల అందరినీ సందేశాన్ని పంపించే కార్యక్రమం.
(12 మార్కులు)

10. A) జాననానికి గుణగణాలను తెలియజేయండి. (6 మార్కులు)
B) గోపానందయ్య గురించి రాయండి. (6 మార్కులు)

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BSC -III Year

Semester VI

Subject: Mathematics VIII (Solid Geometry)

Subject ID : SGM6S02A21

Date :20-07-2021

Max.Marks:60

Time: 2hrs 30minutes

SECTION-A

4x12=48 M

Answer the following questions

1. Find the equation of the sphere passing through the given four points $(4, -1, 2)$; $(0, -2, 3)$; $(1, 5, -1)$ and $(2, 0, 1)$

OR

2. Find the equation of the tangent plane to the sphere $3(x^2 + y^2 + z^2) - 2x - 3y - 4z = 0$ at the Point $(1, 2, 3)$, and also find the equation of the normal at the point $(1, 2, 3)$

3. Find the angle between the lines of intersection of the plane $x - 3y + z = 0$ and the cone $x^2 - 5y^2 + z^2 = 0$

OR

4. Find the vertex of the cone $2x^2 + 2y^2 + 7z^2 - 10yz - 10zx + 2x + 2y + 26z - 17 = 0$.

5. Find the equation of the enveloping cylinder of the sphere $x^2 + y^2 + z^2 - 2x + 4y - 1 = 0$

having its generators parallel to the line $\frac{x}{1} = \frac{y}{1} = \frac{z}{1}$

OR

6. Find the equation of the right circular cylinder of radius 2, and whose axis passes through $(1, 2, 3)$ and direction cosines proportional to $(2, -3, 6)$

7. If the section of the enveloping cone of the ellipsoid $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$, whose vertex is P by the plane $z=0$ is a rectangular hyperbola. Show that the locus of P is $\frac{x^2+y^2}{a^2+b^2} + \frac{z^2}{c^2} = 1$.

OR

8. Show that the enveloping cylinders of the ellipsoid $ax^2+by^2+cz^2=1$ with generators perpendicular to Z-axis meet the plane $z=0$ in parabolas.

SECTION-B

2x6=12 M

Answer any TWO of the following.

9. Find the coordinates of the points where the line $\frac{x+3}{4} = \frac{y+4}{3} = \frac{z-8}{-5}$ intersects the sphere

$$x^2+y^2+z^2+2x-10y-23=0.$$

10. Find the equation of the cone that passes through the coordinate axes and the line

$$\frac{x}{1} = \frac{y}{-2} = \frac{z}{3} \text{ and } \frac{x}{3} = \frac{y}{-1} = \frac{z}{1}$$

11. Find the equation of the cylinder whose generators are parallel to $\frac{x}{1} = \frac{y}{2} = \frac{z}{3}$ and

whose guiding curve is $x^2+y^2=16, z=0$.

12. Find the points of intersection of the line $\frac{x+5}{-3} = \frac{y-4}{1} = \frac{z-11}{7}$ with the conicoid $12x^2-17y^2+7z^2=7$.

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End Semester Examinations July 2021 (April 2021 Cycle)

BSC (MECs) -III Year Semester VI

Subject: Electronics VII (Digital Communication)

Subject ID : DGC6S05A21

Date :24-07-2021

Max.Marks:60

Time: 2hrs 30minutes

I. Answer ALL the Questions. Each Question carries 12 marks.

4x12M=48M

1. A) Write the combined statement of sampling theorem and prove that a bandlimited signal can be completely represented by its samples.
B) Explain briefly different types of errors in sampling.
OR
2. Explain in detail with the help of waveforms and diagrams the generation and detection of PPM. Mention the advantages of PPM.
3. A) Explain the transmitter and receiver of PCM with the help of block diagrams.
B) Write the applications, advantages and disadvantages of PCM.
OR
4. A) Explain the disadvantages of delta modulation in detail.
B) With the help of operating principle, explain transmitter and receiver of Adaptive delta modulation.
5. What is ASK? Explain in detail with the help of waveforms and diagrams along with transmitter and detectors.
OR
6. What is PSK? Explain any one BPSK transmitter along with receiver with the help of diagrams.
7. What is line coding? Explain in detail various types of line encoding with waveforms.
OR
8. What are cyclic codes? Explain non-systematic form of cyclic code with example.

II. Answer any TWO Questions. Each question carries 6 marks.

2x6M = 12M

9. Define discrete time signal and explain how impulse or ideal PAM is generated.
10. Explain the need for digital transmission.
11. Draw the block diagram of digital transmission and reception and explain its channel and channel encoder&decoder.
12. Write short note on linear block codes.

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End Semester Examinations July 2021 (April 2021 Cycle)

**BSC (MPCs) -III Year
Semester VI**

Subject: Physics VII (Electro Magnetism)

Subject ID : ELM6S04A21

Date :24-07-2021

Max.Marks:60

Time: 2hrs 30minutes

I. Answer the following. Each question carries 12 marks. 4 x 12 M=48M

1. A) Derive the expression for the potential due to charged spherical conductor.

OR

B) Define electric Displacement (D), Electric intensity (E) and Dielectric polarization and deduce relation among them.

2. A) State and deduce the Biot-Savart's law.

OR

B) Derive an expression for magnetic field inside a long solenoid carrying a current 'I' and show that the field at the ends of such a solenoid is half that in the middle.

3.A) State Faraday's law of electromagnetic induction. Derive the differential and integral forms of Faraday's law.

OR

B) Derive expressions for the growth and decay of current in an inductance-resistance circuit.

4 A) Derive the Maxwell's equations in vacuum

OR

B) Derive the expression for the velocity of EM wave in dielectric medium.

II. Answer any TWO of the following.

2 x 6 = 12 M

5. Two capacitors $5\mu\text{F}$, $10\mu\text{F}$ are connected in parallel to a voltage source of 15 V then calculate total amount of energy stored by two capacitors.

6. Write a short note on B-H Curve.
7. Explain Lenz's law.
8. Write a short note on Quality factor (Q-factor).

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End Semester Examinations July 2021 (April 2021 Cycle)

BSC (MSCs) -III Year Semester VI

Subject: Statistics VII (Design of Experiments, Index Numbers and Official Statistics)

Subject ID : DEI6S03A21

Date :24-07-2021

Max.Marks:60

Time: 2hrs 30minutes

I. Answer the following Questions.

(4 X 12 M = 48 M)

1. Write down the basic principles of an experimental design.

(OR)

2. Carry out the analysis of variance and write down the conclusions to the following data.

A	10	12	13	11	10	14	15	13
B	9	11	10	12	13			
C	11	10	15	14	12	12		

3. Compare and contrast between CRD, RBD and LSD.

(OR)

4. The following data involves four treatments P, Q, R and S are applied to 20 animals and the observations of gain in the weight of the animals are observed. Analyse the data using CRD

Treatments	Gain in Weight					
P	50	65	42	38	30	
Q	120	40	68	84		
R	35	65	124	92	61	104
S	142	34	46	84	76	

5. Write down the criteria of a good index numbers

(OR)

6. Construct various simple aggregate price and quantity index numbers and simple averages of price relatives to the following data:

Commodities	2010		2020	
	Price	Quantity	Price	Quantity
A	4	50	10	40
B	3	10	9	12
C	2	5	4	3
D	5	10	6	12

7. Explain about National Income and its computation.
(OR)
8. Write down the difficulties in estimating the National Income.

II. Answer any TWO of the following

(2 X 6 M = 12 M)

9. Importance and applications of design of experiments
10. Define : CRD. Write the Advantages and Disadvantages of the same.
11. Limitations of Index Numbers
12. NSSO

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BSC (MECS) -III Year Semester VI

Subject: Electronics VIII (Digital Design using VHDL)

Subject ID : DDV6S05A21

Date :27-07-2021

Max.Marks:60

T

ime: 2hrs 30minutes

I. Answer ALL the Questions. Each question carries 12 marks. 4x12M=48M

1. Explain in detail scalar, composite and access data types in VHDL with examples wherever applicable.

(OR)

2. Explain in detail data objects and their declarations in VHDL with examples.

3. A) Explain interface ports of an entity.

B) Explain process statement and also discuss variable assignment statement and signal assignment statement.

(OR)

4. A) Explain wait, if, case and loop statements in detail with examples.

5. A) Explain concurrent and sequential styles of modelling.

B) Discuss the delta delay in the context of concurrent modelling.

(OR)

6. A) Explain conditional and selected signal assignment statements in VHDL.

B) Write VHDL program to 4-1 multiplexer using conditional signal assignment and draw input and output waveforms.

7. A) Explain component declaration and component instantiation with an example.

B) Write a VHDL program to a 9-bit parity generator using structural modelling.

(OR)

8. A) Explain subprogram overloading with an example in VHDL.

B) Explain operator overloading with an example

Section – B

Answer any two questions of the following. Each question carries 6 marks. 2x6M = 12M

9. Explain sll, sra and ror with example.
10. Explain how to create signal wave forms with an example.
11. Write a dataflow model of RS latch and explain sequence of events of delta delay.
12. Draw 1-bit full adder circuit and declare the components of the circuit.

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End Semester Examinations July 2021 (April 2021 Cycle)

BSC (MPCS) -III Year

Semester VI

Subject: Physics VIII (Basic Electronics)

Subject ID : SQC6S06A21

Max.Marks:60

Date :27-07-2021

Time: 2hrs 30minutes

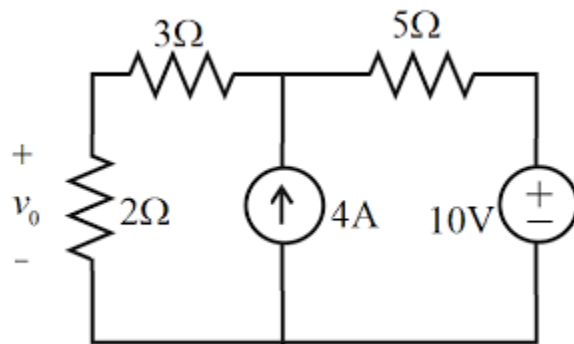
SECTION-A

(4 x 12 M =48)

I. Answer ALL questions. Each question carries EQUAL marks

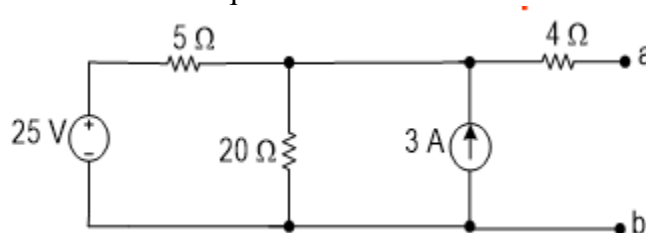
1. Explain T and π Transformations. State and prove Superposition theorem and Reciprocity theorem.

Solve Using the superposition theorem, find v_0 in the circuit of Fig.



OR

2. Define and compare Thevenin's and Norton's theorem. Find the Norton's equivalent circuit.



3. Distinguish intrinsic and extrinsic semiconductors. Analyze the band theory mechanism for N-type and P-type impure semiconductors based on Fermi level.

OR

4. Discuss the current components of a P-N diode. Draw and explain its v-I characteristics.
5. Write briefly about the output characteristics of CB, CE and CC configurations of a transistor.

In a CB configuration, the voltage drop across a $2.2\text{k}\Omega$ resistor, which is connected in the collector, is 2.2 V. Calculate the value of Base current.

OR

6. What is meant by feedback? Explain its general theory and obtain condition for Barkhausen's criteria for oscillations.
7. Explain conversion from binary to decimal and binary to hexadecimal number system with an example in each conversion. Convert binary number 1101010 into hexadecimal number and Decimal number.

OR

8. State and prove the De Morgan's laws.

II. Answer any TWO of the following

2x6=12

9. Write a short note on Z-Parameters and Y-parameters.
10. Explain the break down process of Zener diode in reverse bias.
11. Describe about RC coupled amplifier.
12. Explain truth tables with neat diagrams of OR, NAND, EX-OR, AND & NOT gates.

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End Semester Examinations July 2021 (April 2021 Cycle)

BSC (MSCS) -III Year Semester VI

Subject: Statistics VIII (SQC, Vital Statistics and Reliability)

Subject ID : **SQC6S06A21**

Date :27-07-2021

Max.Marks:60

Time: 2hrs 30minutes

I. Answer the following Questions.

(4 X 12 M = 48 M)

1. The following data refer the number of defectives found during the inspection of 10 samples of size 100 each. Construct control chart for number of defectives and state whether the process is under statistical quality control.

Lot No.	1	2	3	4	5	6	7	8	9	10
No. Of Defectives	4	8	11	3	11	7	7	16	12	6

(OR)

2. The following data show the values of sample means and ranges of 10 samples of size 5 each. Construct Mean and Range Charts and check whether the process is under control or not.

Sample No.	1	2	3	4	5	6	7	8	9	10
Mean	11.2	11.8	10.8	11.6	11.0	9.6	10.4	9.6	10.6	10.0
Range	7	4	8	5	7	4	8	4	7	9

3. Briefly Explain about Double sampling plan.

(OR)

4. Explain about Producers Risk and Consumers Risk.

5. Compute GFR, SFR, TFR to the following data.

Age Group	Female Population	No. of births
15-19	15	600

20-24	14	1,610
25-29	13	1,716
30-34	10	1,000
35-39	8	520
40-44	7	210
45-49	5	30

(OR)

6. Complete the life for the following data.

Age(x)	0	40	60	70	80	90	100
l_x	1,000	920	782	528	252	14	0

7. Explain about series configuring of system reliability.

(OR)

8. Explain linear hazard model in reliability analysis.

II. Answer any TWO of the following

(2 X 6 M = 12 M)

9. Write down the uses of SQC
10. Concept of AQL and LPTD
11. Measurement of population Growth
12. Hazard Function

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End Semester Examinations July 2021 (April 2021 Cycle)

**BSC(MPCS,MECS,MSCS) -III Year
Semester VI**

Subject: Computer Science VII (Programming in JAVA)

Subject ID : PGJ6S09A21

Date :31-07-2021

Max.Marks:60

Time: 2hrs 30minutes

Section - A

Answer the following questions.

4x12 = 48

1. What is JVM? Explain its working process and uses.
(OR)
2. Explain string handling functions of Java with examples.
3. What is user defined package in Java? Demonstrate package creation and import process with java program.
(OR)
4. Write commonly used methods of thread class. Write a program to demonstrate java thread by runnable interface.
5. What is JSP? Explain life cycle of JSP page.
(OR)
6. Explain JSP action tags with example.
7. Describe the procedure for JDBC connectivity with MYSQL.
(OR)
8. Explain the procedure to store file in database using java program.

Section – B

Answer any two questions.

(6 x 2 = 12 marks)

9. Discuss various ways to initialize an object in java.
10. Write the methods used for java.util.Date.
11. Write the advantages of JSP over Servlet.
12. Discuss different types of JDBC drivers.
