

Time: 3 Hours

Max. Marks: 70

Section-A

I. Answer any Five from the following

(5x4=20 Marks)

1. Identify and write finite verbs in each sentence given below.
 - a) He gave me a pen to write with.
 - b) I want to buy some vegetables.
 - c) Barking dogs do not bite.
 - d) Nitya is doing her homework at the moment.
2. Fill in the blanks with the correct form of the adjectives in brackets.
 - a) What kind of food do you like the.....?(little)
 - b) Mother is asinger than I am.(good)
 - c) Rahul is a Boy(kind)
 - d) The man wasthan his father.(noble)
3. Complete the spelling of the words by using either '-ance' or '-ence'.
 - a)abs..... b)exist..... c)reluct..... d)evid..... e)viol.....
 - f)confid..... g)pres..... h)domin.....
4. Correct the errors in the use of the adverbs in each of the following sentences.
 - a) My sister always worked hardly.
 - b) Come quick before it finishes!
 - c) He is driving too fastly.
 - d) The new shop is to far
5. Write the original words for the portmanteau given below.
 - a)sitcom b)brunch c)pixel d)biopic
6. What is the difference between plosives and Fricatives?
7. Write a conversation for the following situation.

You request a friend for a lift to the market, but your friend's bike is at repair shop.
8. Expand the proverb Failures are the stepping stones to success.

Section-B

II. Attempt all questions (Internal choice)

(5×10=50 Marks)

9. (a) i) What is the central idea of Shelley's poem the cloud? (5M)
i) Why should tolerance be seen as a 'moral duty'? (5M)

(OR)

- (b) i) Read the following passage and answer the questions given below (5M)

The Pochampadu project, also known as Sriram Sagar project, is one of the most famous prestigious and major irrigation projects of Telangana. It is located at Pochampadu village in Balkondamandal, in the district of Nizamabad. It is an irrigation project constructed across the Godavari. The project irrigates around 4 lakh acres in Nizamabad, Karimnagar, Warangal and Adilabad districts. It also provides drinking water to the city of Warangal. The Gutpa and Alisagar Lift irrigation schemes in Nizamabad are fed by the backwaters of this project.

- 1) In which district is the Pochampadu Project located?
- 2) Which scheme do the backwaters from Pochampadu project irrigate?
- 3) What is the other name for Pochampadu project?
- 4) Which are the districts that benefit from this project?
- 5) Write synonym for Prestigious?

- ii) Annotate the following? (5M)

And then again, I dissolve in rain,
And laugh as I pass in thunder.

- 10.(a) i) Annotate the following (5M)

Empathetic people are sensitive to the thoughts, feelings and experiences of Others.

- ii) Complete the spelling of the following words either '-able or -ible'. (5M)

a) accept b) desire c) invis d) remark e) predict
g) enjoy h) adore i) horr j) miser

(OR)

- (b) i) Annotate the following (5M)

'Will you buy my hair?' asked Della. 'I'll buy hair', said Madam.

- ii) Read the following passage and answer the questions given below. (5M)

Ankapur is a small but self-sufficient and agriculturally rich village in Nizamabad district. It is a model for all villages in Telangana. Located in Armoor mandal on National Highway 63, it is around 20km away from the district headquarters. The village has many urban facilities and therefore it is called 'mini USA'. Farmers belonging to this region are known for having adopted modern farming methods in cultivating commercial crops like Turmeric, maize and vegetables on a large scale, unlike many other villages of the district growing traditional crops like paddy.

- a) Where is Ankapur located?

- b) Why is Ankapur called 'mini USA'?
- c) What are the commercial crops grown in the village.
- d) Write synonym for self-sufficient?
- e) Write antonym for Urban?

11.(a) i) What is the ironic twist in the story 'Gift of the Magi'? (5M)

ii) Read the following passage and answer the following questions below (5M)

Hyderabad is heaven for food lovers. Its cuisine is known as Deccani cuisine and is the legacy of the Qutb Shahi rule of the region. Modern Hyderabadi cuisine is popular all over the world. It evolved during the reign of the Nizams, and beautifully combines the tastes Mughlai, Turkish, Arabic, Telugu and Marathwada cuisines. The most famous of all Hyderabadi dishes is, of course, the delicious Hyderabadi ..

- 1) What is another name for Hyderabadi cuisine?
- 2) What are the influences on Hyderabadi cuisine?
- 3) What is the most famous Hyderabadi dish?
- 4) Write the meaning of the word "Cuisine".
- 5) Write antonym for Heaven?

(OR)

(b) i) The trial set up a conflict between the ideas of justice and mercy. Comment on this conflict from your reading of this scene? (5M)

ii) Fill in the blanks in the sentence below with suitable articles. (5M)

- a) Peacock in danger of extinction.
- b) The table is made of wood.
- c) Our library has three copies of Mahabharata.
- d) Have you had Breakfast?
- e) He came from humble beginnings,

12. a) i) What is note making and note taking explain in detail? (5M)

ii) Define Oxymoron and Hyperbole with examples' (5M)

(OR)

b) i) Write a letter to your parents about your experience of settling into your new hostel room. Mention your roommate as well as what you like or don't like about the place.

ii) Why is body language important for communication. (5M)

13.(a) i) Write a conversation for the following situation. (5M)
Your class has to organize a college play on the occasion of Independence day. Hold a meeting to choose a play.

ii) What are Interview skills?

(OR)

(b) i) Expand the proverb 'A Stitch in Time Saves Nine'. (5M)

ii) Fill in the blanks with the correct form of the words given in the brackets.

(5M)

- a) Swapnil gets a lot of.....(enjoy)from playing badminton.
- b) She danced(happiness)
- c) His(honestly)was rewarded.
- d) My brother is.....(obsessively)with robots,
- e) My sister has a(photograph)memory.

Faculty of Commerce, Sciences, Business Management
B.Com/B.Sc/BBA I-Year, CBCS-II Semester Backlog Examinations
Nov/Dec- 2024
Subject: SECOND LANGUAGE HINDI

Time: 3 hours

Max Marks: 70

खण्ड 'अ'

I. निम्न में से किन्हीं चार प्रश्नों के उत्तर दीजिए।

(4x5=20)

1. धरती का स्वर्ग पाठ में लेखक किन-किन प्रांतों का वर्णन किया है?
2. ताई मनोहर से कैसा व्यवहार करती है ?
3. प्रदूषण का प्रभाव भव्य इमारतों पर कैसा पड़ता है? उदाहरण सहित समझाइये।
4. हँसू या रोऊँ कहानी में लेखक किन परिस्थितियों पर प्रकाश डाला है ?
5. नरोत्तम सहाय किस विषय को लेकर चिंताग्रस्त थे और क्यों ?
6. सिलिया कैसी लड़की थी ?

खण्ड 'आ'

II. निम्न में से किन्हीं दो प्रश्नों की संदर्भ सहित व्याख्या कीजिए।

(6x2=12)

- 7(अ) ताई का हृदय परिवर्तन किस संदर्भ में होता है।
(आ) वह मार्ग उचित नहीं है। गाँधी जी ने सत्य पर ज़ोर दिया है।
(इ) हमारी शिक्षा एक सूचना मात्र नहीं होनी चाहिए।
(ई) प्रदूषण किन-किन कारणों से बढ़ती है।
8. निम्न में से किसी एक का सारांश लिखिए।

(8x1=8)

(अ) 'धरती का स्वर्ग' पाठ का सारांश लिखिए।

अथवा

(आ) 'राजनीति का बटवारा' कहानी का सारांश लिखिए।

9. निम्न में से किसी एक प्रश्न का उत्तर दीजिए।

(10x1=10)

(अ) स्वामी विवेकानंद जी का जीवन परिचय लिखिए ?

अथवा

(आ) 'वापसी' कहानी का समीक्षा कीजिए।

10. निम्न में से किन्हीं दो पात्रों का चरित्र चित्रण कीजिए।

(5x2=10)

(अ) गदल (आ) गजाधर बाबू (इ) लेखक (ई) ताई

11. निम्न में से किन्हीं दो शब्दों का विलोम शब्द लिखिए।

(2x1=2)

(अ) दिन (आ) नया (इ) पास (ई) द्वेष

12. निम्न में से किन्हीं दो शब्दों के संधि-विच्छेद शब्द लिखिए।

(2x1=2)

(अ) सदाचार (आ) भानूदय (इ) हिमालय (ई) गिरीश

13. निम्न में से किन्हीं एक प्रश्न का उत्तर दीजिए।

(6x1=6)

(अ)नौकरी के लिए आवेदन पत्र

अथवा

(आ)शिक्षा का महत्व पर निबंध लिखिए।

Code: 2105 /BL

Faculty of Commerce, Sciences and Business Management
B.Com/B.Sc/BBA I-Year, CBCS-II Semester Backlog Examinations,
Nov/Dec - 2024

Time: 3 Hours

PAPER: SECOND LANGUAGE TELUGU

Max Marks: 70

4x5=20 Marks

I. క్రింది వానిలో ఏవైనా నాలుగు ప్రశ్నలకు ఖగం--అ ఖగం--అ సమాధానాలు రాయండి

1. రిక్త హస్తంబులతో జనుల దూరల కుచితమైన కార్యంబుగాదు -సందర్భ సహిత వాక్యము రాయండి.
2. నగ్నంగా చివికి పోయిన కవిత్వానికి అగ్ని బిక్ష పెట్టినవాడు--సందర్భ సహిత వాక్యము రాయండి.
3. డాక్టర్. సి. నారాయణ రెడ్డి రచయిత గూర్చి రాయండి.
4. యాగములలో హవిస్సుల నాదరించు
పూత తేజస్వి, ఋషిగేయు, నీతిహోత్రు,
నిదను వినయాంజలి ఘటించి తుదకు తండ్రి!
ప్రార్థనలు సల్పితిని అంబ పజ్జ నిలుప
5. ఈ క్రింది ప్రశ్నకు సంక్షిప్త సమాధానము రాయండి
మా ఊరు పోయిందని కృష్ణకాస్తీ ఎందుకు బాధపడ్డాడు?
6. ఈ క్రింది పద్య పాదాన్ని గణ విభజన చేసి చందస్సును తెలపండి.
పగ యడగించు టంతయు శుభం బదిలెస్స యడంగున పగం

II. ఈ క్రింది వానికి వ్యాస రూప సమాధానాలు రాయండి

5x10=50 Marks

7. ఈ క్రింది వానిలో ఒకదానికి ప్రతిపదార్థ తాత్పర్యములతో పాటు వ్యాఖ్యానించండి.
ఎ) తన పేదేయు పదంబు బేర్కొనన డనాథ స్త్రీ జనాలాపముల
వినెనే, మృచ్చులు మ్రుచ్చులించిరో ఖలుల వేద ప్రపంచంబులన్
దనుజానీకం దేవతానగరిపై దండెత్తినే, భక్తులం
గని చక్రాయుధం డేడి చూపున్ డని ధిక్కారించిరో దుర్జనుల్.

లేదా
బి) ఆరంభింపరు నీచమానవులు విఘ్నయాససంత్రస్తులై
యారంభించి పరిత్యజింతు రురువిఘ్నాయత్తులై మధ్యముల్,
ధీరుల్ విఘ్న నిహన్యమాను లగుచున్ ద్రుత్యున్నతోత్సాహులై
ప్రారబ్ధార్థము లుజ్జగింపరు సుమీ ప్రజ్ఞానిదుల్ గావునన్

8. ఎ) గజేంద్రుడు భగవంతుని ప్రార్థించిన విధానాన్ని తెలపండి?

లేదా
బి) స్పృహలత తన తండ్రి హరేంద్రునికి రాసిన లేఖ లోని ఆపేదనా పూరితమైన అంశాలను తెలపండి?

9. ఎ) 'యుగాంతం' ఆధారంగా స్వామి వృత్తాంతాన్ని తెలియజేయండి?

లేదా
బి) ఎంకన్న కథను రాయండి.

10. ఎ) మామిడి పండును ఏ ఏ బాషల్లో ఏమని పిలుస్తారో చెప్పి, కారణాలను విశ్లేషించండి.

లేదా

బి) దేవులపల్లి కృష్ణశాస్త్రి తన పుట్టిన ఊరు చంద్రపాలెం గురించి చెప్పిన విశిషటాలవి?

11. ఎ) క్రింది వానిలో రెండింటికి చందస్సులను లక్ష్య లక్షణ సమన్వయం చేయండి.

1 ఉత్సలమాల 2.ఆటవెలది 3.కందం

లేదా

బి) ఈ క్రింద ఇవ్వబడిన వానిలో రెండింటికి పద్య పాదాలలో గణవిభజన చేసి చందో విశిషటాలు తెలపండి

1. అంభోబాకర మధ్య నూతన నలిన్యాలింగన క్రిడనా.

2. కుటిల మతులవి నీతులు క్రూర కర్మ

ఆ దుర్యోధనుండంత మాత్రమును జేయంజాలడో కాని పం.

Faculty of Commerce, Sciences and Business Management
B.Com/B.Sc/BBA I-Year, CBCS-II Semester Backlog Examinations
Nov/Dec - 2024

Paper: SECOND LANGUAGE SANSKRIT

Time: 3 Hours

Max Marks: 70

Section-A

I- Answer any 4 Questions.

(4x5=20 Marks)

शुद्धेन त्व दानेन न्यायौपात्तेन धर्मितः ।

यथाशक्ति विमृष्टेन प्रीतेऽस्मि ह्रिजसत्तम ॥

2. ससन्दर्भं वाक्यं लिखत ।

अतिशब्दं प्रणम्यापि रक्षेत् प्राणान् धनानि च ।

3. श्लोकं पूरयत ।

दैवी संपत्तिकौक्षाय निबन्धायासुरी मता ।

मा शुचस्संपदं दैवीमभिजातीऽसि पाण्डव ॥

4. ससन्दर्भं वाक्यं लिखत ।

स्त्रियो रक्ष्याश्च पौष्याश्च न त्वेवं वक्तुमर्हसि ।

5. कविपरिचयं लिखत ।

आचार्यं पुल्लेखं श्रीशमचन्द्रकु सहीदयस्य कवेः
परिचयं लिखत ।

6. शमासनाम लिखत ।

अर्धर्चम

भूतबलिः

६ राजपुरुषः

अनश्वः

कृष्णाश्वेतः

Section-B

II. Answer All the Questions.

(5x10=50 Marks)

- ७) कुशोः कृतवर्तनोः पालोदयोः नाम्नां च लिखत।
 अ) क) लघु मोः सू। गतेः सुपिण्डः पैगैः शितैर्यष्टिविषवतद्वस्वः।
 शूर्पकृतातः शिथिलानवाङ्वाः भिं विक्रिगैषा प्रकृतिर्यद्वृत्ता ॥
 (अथवा)
 आ) निः श्वस्य दीर्घं स्वशिरः प्रवाम्य तन्मिच्छ्य जीर्णं विनिवेश्य चक्षुः
 तां चैव दृष्ट्वा जनतां सदृशं वाक्यं स्य सविम्बु इदं जगद् ॥
- ८) अ) रावं जरा दन्ति च निर्विशेषं स्मृतिं च रूपं च पराक्रमं च।
 न चैव संवेगमुपैति लोकः प्रत्यक्षतोपीदृ शमीममाणः ॥
 (अथवा)
 आ) ततः प्रजेता वदति स्म तस्मै सर्वप्रजानामिदं मन्तकम्।
 दीनस्य मध्यस्य महात्मनो वा सर्वस्य लोके नियतो विनाशः ॥
- ९) राकस्य निबन्धं लिखत।
 संस्कृतवाङ्मये वराहमिहिरस्य वैशिष्ट्यं विवृणुत।
 (अथवा)
 वाङ्मय- प्रियदर्शनियोः सम्भाषणं विवृणुत।
- १०) त्रयाणी धातूनि निर्दिष्टलकारानुसारं धातुरूपाणि लिखत।
 ① गम् - (लङ्) ② अस् - (वि. लिङ्) ③ मुह् - (लोट्)
 ④ वृद्ध् - (लङ्) ⑤ धुर - (लट्) ⑥ लभ् - (लट्)
- ११) अधोनिर्दिष्टेषु पञ्चानां पदानां नामनिर्देशपूर्वकं विग्रहवाक्यानि लिखत।
 ① कृष्ण श्वतः ② अश्वमः ③ शीतोष्णम् ④ शमनद्रुमणौ
 ⑤ तमालवृक्षः ⑥ चोरग्रयम् ⑦ नरसिंहः ⑧ त्रिभुवनम्
 ⑨ वीरपुरुषः ⑩ चन्द्रमुखम्

NISHITHA DEGREE COLLEGE

B.A.,B.Sc,B.Com I-Year, II Semester Examinations,
Paper : SL URDU

Set - 2

Marks : 70

Time: 3:00 Hours

سیکشن - A

(4 x 5 = 20)

- I مندرجہ ذیل میں سے کوئی چار سوالات کے جوابات لکھیے۔ ہر سوال کے پانچ نشانات مقرر ہیں۔
- 1 آتش کی شاعری پر نوٹ لکھیے؟
- 2 شعر کے کہتے ہیں؟ مطلع اور مقطع کی تعریف کیجئے؟
- 3 ساحر لدھیانوی کے بارے میں آپ کیا جانتے ہیں لکھیے؟
- 4 مجتبیٰ حسین کی سوانح شخصیت پر مختصر نوٹ لکھیے؟
- 5 سوانح نگاری کے کہتے ہیں؟
- 6 پڑیے گریبار سے آپ کیا نتیجہ اخذ کرتے ہیں؟ اپنے الفاظ میں لکھیے؟

سیکشن - B

(5 x 10 = 50)

- II مندرجہ ذیل سوالات کے جوابات لکھیے۔ ہر سوال کے 10 نشانات مقرر ہیں۔
- 7 (a) الطاف حسین حالی کا تعارف بیان کیجئے یا
(b) سلیمان اریب کا خاکہ بیان کیجئے؟
- 8 (a) نظم ”اے شریف انسانو“ کا خلاصہ بیان کیجئے؟ یا
(b) مشتاق احمد یوسفی کے بارے میں نوٹ لکھیے؟
- 9 (a) پریت کا گیت کا خلاصہ بیان کیجئے؟ یا
(b) مرزا غالب کے لطیفے بیان کیجئے؟
- 10 (a) ”اب کے برس“ میں شاعر نے کن خیالات کا اظہار کیا ہے؟ یا
(b) الطاف حسین حالی نے یادگار غالب میں غالب کے جو اخلاق قلم بند کئے ہیں لکھیے؟
- 11 (a) دو اشعار کی تشریح متن کے حوالے سے کیجئے؟ یا
کوئی دن گزرے گا مٹی اور ہے اپنے جی میں ہم نے ٹھانی اور ہے
سن تو سبھی جہاں میں ہے تیرا فسانہ کیا کہتی ہے تجھ کو خلق خدا عابدانہ کیا
(b) شاہد محنت کی زندگی کے بارے میں آپ کیا جانتے ہیں؟

Faculty of Commerce, Sciences and Business Management
B.Com/B.Sc/BBA I-Year, CBCS–II Semester Backlog Examinations
Nov/Dec - 2024

PAPER: ENVIRONMENTAL STUDIES

Time: 2 Hours

Max Marks: 40

Section-A

I. Answer any two of the following questions. (2x5=10)

1. Abiotic components
2. Biodiversity
3. solid waste management
4. Global warming

Section-B

II. Answer all of the following questions. (2x15=30)

5. a) What is the ecosystem? Write about the biotic and abiotic components of Ecosystem.

(OR)

- b) Explain in detail the advantages of Rainwater harvesting and watershed management?

6. a) What is meant by Ozone layer depletion? Explain the methods to prevent it.

(OR)

- b) Explain different schemes supported by Government for the welfare of children

Faculty of Science

B.Sc. (Mathematics) I-Year CBCS II-Semester Backlog Examinations Nov/Dec-2024

Paper: DIFFERENTIAL EQUATIONS

Time: 3 Hours

Max. Marks: 70

SECTION – A

I. Answer any SIX questions. All questions carry equal Marks

(6 x 5 = 30 Marks)

1. Solve $x \frac{dy}{dx} = y + x e^{\frac{y}{x}}$.
2. Solve $(e^y + 1) \cos x \, dx + e^y \sin x \, dy = 0$.
3. Solve $p^2 - 7p + 10 = 0$.
4. Solve $(y - xp)(p - 1) = p$.
5. Solve $\frac{d^3y}{dx^3} - 3 \frac{dy}{dx} + 2y = 0$.
6. Solve $\frac{d^2y}{dx^2} - \frac{dy}{dx} - 2y = \sin 2x$.
7. Solve $3x^2 \frac{d^2y}{dx^2} + x \frac{dy}{dx} + y = 0$.
8. Solve $(3x + 2)^2 \frac{d^2y}{dx^2} + 3(3x + 2) \frac{dy}{dx} - 3y = 0$.
9. Solve $(D^2 - 4D + 4)y = x^3$.
10. Find Orthogonal Trajectory of family of curve $y = ax^n$ where 'a' is parameter.

SECTION B

II. Answer any ALL questions. All questions carry equal Marks

(4 x 10 = 40 Marks)

- 11.(a) Solve $x^2 y dx - (x^3 + y^3) dy = 0$.

OR

- (b) Define Bernoulli's differential equation and solve $\frac{dy}{dx} + \frac{y}{x} = x \sin x$, $x > 0$.

- 12.(a) Solve: $p^2 + 2py \cot x = y^2$

OR

- (b) Solve $+px = p^2 x^4$.

- 13.(a) Solve $(D^3 + 2D^2 + D)y = e^{2x} + x^2 + x$.

OR

- (b) Solve $(D^2 - 3D + 2)y = 2x^2 + 3e^{2x}$ by using Method of un-determined coefficients.

- 14.(a) Solve $(D^2 + a^2)y = \tan ax$ by the method of variation of parameter.

OR

- (b) Solve $[(1+x)^2 D^2 + (1+x)D + 1]y = 4 \cos(\log(1+x))$.

Faculty of Science
B.Sc. (Physics) I-Year CBCS II-Semester Backlog Examinations Nov/Dec-2024
Paper: THERMAL PHYSICS

Time: 3Hours

Max. Marks: 70

SECTION-A

I. Answer any SIX questions. All questions carry equal marks.

(6X5=30Marks)

1. State the postulates of kinetic theory of gases
2. Distinguish between isothermal and adiabatic processes.
3. Using Maxwell's equations Obtain the ratio of specific heats
4. Distinction between Joule's Expansion, Joule - Thomson Expansion and Adiabatic Expansion
5. What is black body? State and Explain the Stefan's law
6. Write a short note on Solar Constant.
7. Write the postulates of Statistical mechanics
8. What are Fermions and Bosons?
9. State and explain second law of thermodynamics
10. Calculate The Temperature of inversion of He gas. Given $a = 3.44 \times 10^{-3} \text{ N-m}^4 / \text{mol}^2$ and $b = 0.0237 \times 10^{-3} \text{ m}^3 / \text{mol}$ and $R = 8.31 \text{ J/(mol - K)}$

SECTION-B

II. Answer ALL questions. All questions carry equal marks.

(4X10=40Marks)

- 11.a) What is Transport phenomena in gases ? Derive an expression for the thermal conductivity of a gas on the basis of kinetic theory.

OR

- b) Explain reversible process and irreversible process with examples and write a note on how change in entropy occurs in irreversible and reversible processes

- 12.a) Explain thermodynamic potentials and derive the Maxwell's thermodynamic equations.

OR

- b) Explain in detail with the neat diagram, the production of low temperatures using adiabatic demagnetization.

- 13.a) Derive an expression for Wien's displacement law.

OR

- b) Explain the concept of pyrometer with the help of construction and working of "Total Radiation Pyrometer"

- 14.a) State the conditions for Fermi-Dirac statistics. Derive an expression for the Fermi-Dirac distribution law.

OR

- b) Explain the differences between classical statistics and quantum statistics. And Compare the Maxwell-Boltzmann, Bose-Einstein, Fermi-Dirac statistics

Faculty of Commerce

B.Sc I-Year, CBCS-II Semester Backlog Examinations Nov/Dec-2024

PAPER: Probability Distributions (Statistics-II)

Time: 3 Hours

Max.Marks:70

Section – A

Answer any SIX questions. All questions carry equal marks.

(6X 5 = 30 Marks)

1. A coin tossed two times. Find the probability of getting exactly two heads.
2. Find m.g.f of Binomial distribution.
3. Find first four moment's of Geometric distribution.
4. State the properties of Hyper Geometric distribution.
5. Define Normal distribution.
6. Define Skewness and kurtosis of Normal distribution.
7. Define Rectangular distribution
8. Define Central limit theorem.
9. State the applications of Normal distribution.
10. Find mean of Beta distribution of first kind.

Section – B

Answer all questions. All questions carry equal marks.

(4 X 10 = 40)

- 11 (a) Define various properties of Poisson distribution.
(OR)
(b) Prove that Poisson approximate to Binomial distribution
- 12 (a) Obtain c.f. of Negative Binomial distribution
(OR)
(b) State the applications of Geometric distribution.
- 13 (a) Explain Normal distribution. Find m.g.f.
(OR)
(b) Prove that Normal distribution as a limiting case of Binomial distribution.
- 14 (a) Define Exponential distribution and Find its Skewness
(OR)
(b) Define Gamma distribution and find its mean.

Time: 3 Hours

Max. Marks: 70

SECTION – A

I. Answer any SIX questions. All questions carry equal Marks

(6 x 5 = 30 Marks)

1. Data Types in C++.
2. Local Variables Vs Global Variables.
3. Explain about copy constructor with example
4. Difference between break and continue with example.
5. Virtual member Functions
6. Inheritances Concept.
7. Explain about Handling Multiple Exceptions
8. Explain about Function Templates
9. Passing Arrays to Functions
10. Aggregation in C++

SECTION B

II. Answer any ALL questions. All questions carry equal Marks

(4 x 10 = 40 Marks)

11. (a) Explain about Operators and types in C++ with examples.

OR

- (b) Explain about searching and sorting an array elements with examples.

12. (a) What is Constructor and Explain about Overloading Constructors with example.

OR

- (b) Explain about Operator Overloading with sample program.

13. (a) What is Polymorphism. Explain about Function Overloading and Function Overriding.

OR

- (b) Explain about Formatted and Unformatted I/O operations C++.

14. (a) What is Exception and Explain about Exception Handling with program.

OR

- (b) What is Template? Explain different types of Templates with examples.

SECTION – A**I. Answer any Six Questions. All Questions carry equal marks****(6*5=30 Marks)**

1. Explain about Programming Languages and types
2. Explain about Boolean Expression with example
3. Explain about negative indices in python with example
4. Discuss about scope and Life time of variables with respect to functions
5. Define Key-value Pairs
6. What is aliasing in List? Give an Example?
7. What are the various types of Constructors in Python ?
8. What is the usage of iterators in Python?
9. How does Lambda function differ from a normal function in python
10. Explain about Class Attributes vs Data Attributes.

SECTION – B**II. Answer all Questions. All Questions carry equal marks****(4*10=40 Marks)**

11. a). Define an Algorithm. Write the characteristics of it. Explain the Building Blocks of an Algorithm. (or)
b). Explain about Decision Control Statements of python with Python Code
12. a). Define String . Explain about String Operations in Python with Examples.
(or)
b). Explain about Functions and Types in Python.
13. a). What are Exceptions in Python? Explain about Handling Exceptions with example.
(or)
b). What is List. Explain about various operations performed on Lists with example.
14. a). Explain about Objects, Classes in Python. Explain about Inheritance and Types with example
(or)
b). What is Polymorphism. Difference between overloading and overriding?

SECTION – A

I. Answer any SIX of the following questions.

(6 x 5 = 30 Marks)

1. Prove that in a group G , inverse of every element is unique.
2. Define a subgroup of a group G . Give any three examples.
3. If G is a group and H is a subgroup of index 2 in G . Then prove that H is a normal subgroup of G .
4. If ϕ is homomorphism of G into $\bar{G}$ with kernel k , then prove that k is normal subgroup of G .
5. Define Ring and Integral domain.
6. Find all zero divisors in a ring $(\mathbb{Z}_{12}, +_{12}, \times_{12})$.
7. If U is an ideal of R and $1 \in U$, then prove that $U=R$.
8. If F is a field, prove that only ideals of a field F are 0 & F itself.
9. Show that in a group G for $a, b \in G$, $(ab)^2 = a^2b^2$, if and only if G is an abelian group.
10. If M, N are two normal subgroups of G , then MN is also a normal subgroup of G .

SECTION B

II. Answer ALL the following questions.

(4 x 10 = 40 Marks)

- 11.(a) Prove that in a group G . For $a, b, x, y \in G$, The equation $ax=b$ and $ya=b$ have unique solutions.

OR

- (b) A non empty subset H of a group G is a subgroup of G if and only if

(i). $a, b \in H \Rightarrow ab \in H$

(ii). $a \in H \Rightarrow a^{-1} \in H$

- 12.(a) State and prove Fundamental theorem of Homomorphism of groups .

OR

- (b) Let H is a normal subgroup of G . The set G/H of all cosets of H in G w.r.t coset multiplication is a group.

- 13.(a) Prove that every finite integral domain is a field.

OR

- (b) Define zero divisors in a ring R . Prove that a ring R has no zero divisors if and only if cancellation laws hold in it.

- 14.(a) State and prove Unique Factorization theorem.

OR

- (b) If R is a commutative ring with unit element and M is an ideal of R , Then M is maximal ideal of R if and only if R/M is a field.

SECTION – A

I. Answer any SIX questions. All questions carry equal Marks (6 x 5 = 30)

1. Write the statement of 't' distribution.
2. Prove that sample mean is unbiased estimator of population mean.
3. Define Statistical Testing of Hypothesis. Write suitable examples.
4. Explain test statistics of Difference of means in Large sample test.
5. State the assumptions of Chi-square test of Goodness of fit.
6. State the applications of student 't' statistic'.
7. Define Run test for single sample.
8. Write mean and variance of median test.
9. Define sampling error of sampling distribution.
10. Define Maximum likelihood Estimation.

SECTION B

II. Answer any ALL questions. All questions carry equal Marks (4 x 10 = 40)

- 11.(a) State the Chi-square distribution. Write its applications

OR

- (b) Define interval estimation.

- 12.(a) If $x \geq 1$ is the critical region for testing $H_0: \alpha = 2$, against alternative $\alpha = 1$, on the basis of single observation from the population $f(x) = \alpha \exp(-\alpha x)$, $0 \leq x < \infty$. obtain the values of type I & II errors.

OR

- (b) State Neyman – Pearson lemma prove that W is an MP region for testing $\mu = \mu_0$ against $\mu = \mu_1$. Then it is necessarily unbiased. Also prove that the same holds good if W is an UMP region.

- 13.(a) X and Y Two independent random variables follows chi-square variates. prove that $X - Y$ also follows Chi square variate.

OR

- (b) If X has a chi-square distribution with n degrees of freedom. Find the mean.

- 14.(a) Explain advantages and disadvantages of Non parametric test.

OR

- (b) Distinguish between 'sign test' and 'Wilcoxon signed rank test.'

B.Sc. (Honors) I-Year CBCS II-Semester Backlog Examinations Nov/Dec-2024**Paper: PROBLEM SOLVING AND PYTHON PROGRAMMING**

Time: 3 Hours

Max. Marks: 70

SECTION – A**I. Answer any SIX questions. All questions carry equal Marks****(6 x 5 = 30 Marks)**

1. Explain about Programming Languages and types
2. Explain about Operator Precedence with example
3. Explain about List indices in python with example
4. Discuss about scope and Life time of variables with respect to functions
5. Define Tuple and Dictionary.
6. What is Slicing in List? Give an Example?
7. What are the various types of Constructors used in Python ?
8. What is the usage of generators in Python?
9. How are classes created in python
10. Explain about Class Attributes vs Data Attributes.

SECTION B**II. Answer any ALL questions. All questions carry equal Marks****(4 x 10 = 40 Marks)**

- 11.(a) Define an Algorithm and Flow Chart. Write the characteristics of it. Explain the Building Blocks of an Algorithm.

OR

- (b) Explain about Decision Control Statements of python with Python Code.

- 12.(a) Define String. Explain about String Operations in Python with Examples.

OR

- (b) Explain about Functions and Types in Python.

- 13.(a) What is Error Vs Exception in Python? Explain about Handling Exceptions with example.

OR

- (b) What is List. Write Python Program for Selection Sort.

- 14.(a) Explain about Objects, Classes in Python. Explain about Inheritance and Types with example.

OR

- (b) What is Polymorphism. Explain about Overriding methods with python program?

Section-A

I. Answer any Six Questions. All Questions carry equal marks

(6*5=30 Marks)

1. What is Digital Computer?
2. What is Flip Flop?
3. What is Accumulator logic?
4. What is Cache Memory?
5. What is Priority interrupt?
6. What is Address sequencing?
7. What is Stack organization?
8. What is Program Control??
9. What are Floating Point Arithmetic Operations?.
10. What is Register Transfer Language?

SECTION – B

II. Answer all Questions. All Questions carry equal marks

(4*10=40 Marks)

11. a). What is Boolean algebra? Explain about Map Simplification and Combinational Circuits.

(or)

- b). What are Data Types? Explain about Fixed and Floating point Representation.

12. a). Explain about Instruction Codes and Instruction Cycle.

(or)

- b). Explain about Memory Organization with Examples.

13. a). Differentiate between Assembly and Machine Languages. Explain about the pseudo Instructions in Assembly Language.

(or)

- b). What is Input and Output Organization? Explain about Asynchronous Data Transfer.

14. a). What is Central Processing unit? Explain about different Addressing modes.

(or)

- b). Explain in detailed about Multiplication Algorithms and Division Algorithms.

Faculty of Science

BCA I-Year, CBCS-II Semester Backlog Examinations NOV-DEC-2024

PAPER: FUNDAMENTALS OF PROBABILITY & STATISTICS

Time: 3 Hours

Max Marks: 70

Section-A

I. Answer any FIVE of the following questions (5x4=20Marks)

1. Define statistics and write its real life applications.
2. What are the measures of Dispersion, explain any two of them.
3. Define the definition of Classical probability.
4. Explain Probability mass and write its properties.
5. Define Regression and write any two properties.
6. Define Graphical representation of data.
7. Define Kurtosis.
8. Define Scattered diagram and find Karl Pearson's coefficient of Correlation.

Section-B

II. Answer the following questions (5x10=50Marks)

9. (a) Explain Primary and Secondary data. Methods of collecting primary data.

OR

(b) Construct the univariate and bivariate frequency distribution, What is the method of constructing a histogram?

- 10.(a) Define r th order central movements.

OR

(b) Explain about Bowley's coefficient of skewness and write its formula.

- 11.(a) Explain the following terms

- i) Independent events
- ii) Mutually exclusive events
- iii) Exhaustive events

OR

(b) State and prove Bayes theorem.

- 12.(a) Explain Probability density function and its properties.

OR

(b) Define Poisson distribution.

- 13.(a) Explain Line of regression X on Y .

OR

(b) Explain Test procedure of equality of two population variances.

Faculty of Science
BCA I-Year, CBCS-II Semester Backlog Examinations Nov/Dec-2024
PAPER: DATA STRUCTURES

Time: 3 Hours

Max Marks: 70

Section-A

I. Answer any FIVE of the following questions

(5x4=20 Marks)

1. write about Abstract Data Types?
2. Define Queue and operations of Queue?
3. Write about Hash Tables?
4. Write about Binary Tree Traversal?
5. Define Sorting and explain about Merge sort?
6. Define Graph and write about terminology?
7. Write about Linear search ?
8. Write about B-tree?

Section-B

II. Answer the following questions

(5x10=50 Marks)

9. (a) Define Array and explain Types of Arrays with example programs?
OR
(b) Explain about matrices and explain about special matrices and sparse matrices?
- 10.(a) Explain about Stack and operations with example program?
OR
(b) Explain about Queues and types of Queues?
- 11.(a) Define Linked List and types of Linked Lists?
OR
(b) Define Hashing and explain about Hash functions?
- 12.(a) Define Tree and explain about Binary Tree Traversal?
OR
(b) Write about BFS with example?
- 13.(a) Explain about Insertion sort with example program?
OR
(b) Write about Linear search with example program?

Faculty of Science

BCA I-Year, CBCS-II Semester Backlog Examinations Nov/Dec-2024

PAPER: Advance Computer Networks

Time: 3 Hours

Max Marks: 70

Section-A

I. Answer any FIVE of the following questions

(5x4=20 Marks)

1. Explain about Multiplexing?
2. Write about switching?
3. Explain about IPv4 Datagram Fragmentation?
4. Explain about SpanningTreealgorithm?
5. What is DomainNameSystem?
6. Write the difference between RARP and ARP?
7. Explain about advantages and disadvantages of IPv6?
8. Why SONET is called a Synchronous Network?

Section-B

II. Answer the following questions

(5x10=50 Marks)

9. (a) Define error detection? Explain about the techniques for error detection?

OR

- (b) Explain about Client-Server networking models?

- 10.(a) What is circuit switching? Explain about the phases in circuit switching?

OR

- (b) Explain about Asynchronous Transfer Mode in detail?

- 11.(a) Explain about Network Address Translation and its types.?

OR

- (b) Explain about Congestion control algorithms?

- 12.(a) Explain about Intradomain and Interdomain routing?

OR

- (b) Explain about Protocol Independent Multicast in detail.?

13. (a) Explain about Routing protocols for network traffic engineering?

OR

- (b) Explain about Pretty Good Privacy (PGP) protocols and Firewalls.?

Faculty of Science
BCA I-Year, CBCS-II Semester Backlog Examinations Nov/Dec-2024
PAPER: COMPUTER ARCHITECTURE

Time: 3 Hours

Max Marks: 70

Section-A

I. Answer any FIVE of the following questions

(5x4=20 Marks)

1. Write about Basic operational concepts?
2. Explain subtraction of signed numbers
3. Write about Instruction hazards?
4. Write about RAM and types?
5. Write about Buses?
6. Explain about cache memories?
7. Write about interrupts ?
8. Write about Assembly language?

Section-B

II. Answer the following questions

(5x10=50 Marks)

9. (a) Explain about Memory locations and addresses?

OR

- (b) Write about Instructions and instruction sequencing?

- 10.(a) Explain about Addition and Subtraction of signed numbers with example?

OR

- (b) Explain about Floating point numbers and operations?

- 11.(a) Write about Pipelining basic concepts?

OR

- (b) Write about Data hazards and Instruction hazards?

- 12.(a) Explain about Memory management requirements?

OR

- (b) Write about Virtual memory ?

- 13.(a) Explain about Direct Memory Access?

OR

- (b) Write about Standard I/O interfaces ?

Faculty of Science

BCA I-Year, CBCS-II Semester Backlog Examinations Nov/Dec-2024

PAPER: OBJECT ORIENTED PROGRAMMING WITH C++

Time: 3 Hours

Max Marks: 70

Section-A

I. Answer any FIVE of the following questions

(5x4=20 Marks)

1. What is Procedure Oriented Programming?.
2. What is member Function?
3. What is Destructor?
4. What is this pointer?
5. What Error Vs Exception?
6. What are Tokens in C++?
7. Call by Value.
8. What is Pointers with Array?.

Section-B

II. Answer the following questions

(5x10=50 Marks)

9. (a) Explain about benefits and applications of OOP. Write Basic structure of C++ program.

OR

- (b) Explain about different operators in C++ with Example.

- 10.(a) Explain about Loop Control Statements in C++ with Example.

OR

- (b) Explain about if else and else if ladder statements in C++ with Examples.

- 11.(a) What is Function Overloading? Explain it with an Example program.

OR

- (b) What is Constructor? Write C++ Program on Copy Constructor with example program.

- 12.(a) What is Operator Overloading? Write any C++ program on Operator Overloading.

OR

- (b) What is Pointer? Write C++ Program on array of Pointers.

13. (a) What is Polymorphism? Write C++ Program on Compile Time Polymorphism.

OR

- (b) Explain about C++ Templates and Types with examples?
