Siva –Sivani Degree College

B.sc – ICVR, II Semester, Probability distributions

S2 Important questions, Statistics

UNIT -1

1. Define Uniform distribution and derive its mean and variance.
2. Define Bernoulli distribution and derive its mean and variance.
3. Define Bernoulli variate with example; obtain its mgf and also its applications.
4. Define Binomial distribution with examples and derive its moments.
5. Derive the mode of BD and its applications.
6. Define BD, obtain its MGF and hence find its mean and variance.
7. Derive PGF and hence find its mean and variance.
8. Derive characteristic function and find its mean and variance.
9. State and prove Additive property of BD.
10. Derive the recurrence relation for the moments of BD and obtain its β_1 & β_2 .
11. Derive the limiting case of BD to ND.
12. Define PD with examples, Obtain its mgf and hence find its mean and variance.
13. Derive PGF and obtain its mean and variance.
14. Derive Cgf and CF and find its mean and variance.
15. State and prove Additive property of PD.
16. Derive the recurrence relation for the moment of PD and obtain its β_1 & β_2.
17. Derive the limiting case of PD to BD
18. Derive the limiting case of PD to ND

UNIT -2

1. Define NBD with example and its physical conditions.
2. Derive MGF ,Cf and hence find its mean and variance of NBD.
3. Obtain PGF & CGF and hence calculate its mean and variance of NBD.
4. State and Prove Additive property of NBD.
5. Derive the limiting case of PD to NBD.
6. Derive the recurrence relation for the moments of NBD.
7. Define Geometric distribution with example, derive its MGF and hence find its mean and
    a. variance.
8. Derive PGF & CF and obtain its mean and variance.
9. Derive CGF and obtain its mean and variance.
10. State and prove memory less property and also Additive property of GD.
11. Derive the recurrence relation for the moments of GD and obtain its β_1 & β_2.
12. Define Hyper geometric distribution its applications and obtain its mean & variance.
13. Derive the limiting case of BD to HGD.

UNIT -3

1. Define rectangular distribution with example .Find the MGF &Cf and hence calculate its mean and variance.
2. Define normal and standard normal distributions.
3. Find the Mgf & CF of ND and obtain its mean and variance.
4. Additive property of ND and Linear combination of independent normal variates.
5. Derive mean = median = mode of ND
6. Derive QD: MD:SD of ND
7. Derive an odd and even moments of ND.
8. Derive ND as a limiting case of BD & PD.

UNIT – 4

1. Define Exponential distribution with example.
    a) Derive the moments of ED with β_1 & β_2.
    b) Find the MGF of ED and find its mean and variance.
    c) Find the CGF of ED and obtain its β_1 & β_2.
    d) Additive property and memory less property of ED.
2. Define Gamma –II kind , drive the moments of Gamma –ii kind and obtain its β_1 & β_2.

3. Find the MGF & Cgf of Gamma II kind and obtain its mean and variance
4. State and prove memory less property of gamma –II kind .
5. Define Gamma –I kind, derive the moments and obtain its β_1 & β_2.
6. Find the Mgf & Cgf of I kind –obtain its mean and variance.
7. Define Beta distribution of I kind , obtain its mean and variance.
8. Define Beta distribution of II kind and obtain its mean and variance.
9. Derive the relationship between beta I and II kinds.
10. Define General & Standard Cauchy distribution. and its properties and additive property.
11. Define convergence in law ,in probability ,WLLN, SLLN ,and CLT.

SIVA SIVANI DEGREE COLLEGE

ENGLISH

IMPORTANT QUESTIONS

UNIT: 5

- **A visit of charity** -summary
- Reading comprehension : Hyderabad - Heart of Telangana
- Note making
- Soft skills : Time management
- Value orientation : 'Time and tide waits for no one'

Grammar :

a) Non finite verbs
b) Simile and metaphor
c) Spellings use of ie and ei
d) Punctuation : Semicolon
e) Phonetics : Plosives

UNIT: 6

- **Benares** -Summary
- Reading comprehension : Burrakatha
- Soft skills : Leadership
- Value orientation : 'The pen is mightier than the sword'
- Letter Writing –Informal Letters

Grammar:

a) Adjectives
b) Oxymoron and Hyperbole
c) Spellings words ending in –able or –ible
d) Punctuation : Colon and em-dash
e) Phonetics : Fricatives

UNIT : 7

- **Stanzas written in Dejection near Naples** - Summary
- Conversation : Conducting a meeting
- Reading : Flower Boat
- Letter Writing : Formal Letters
- Soft Skills : Stress Management
- Value orientation : 'Practice makes perfect'
- Annotations

Grammar :

a) Articles
b) Portmanteau words
c) Loan words
d) Spellings words ending in –al,-ance,-ence,-ic,-ity and –ive
e) Punctuations : Hyphens
f) Phonetics : Affricates and Nasals

UNIT : 8

- **Julius Caesar** -Summary
- Conversation : Interview Skills
- Reading passage : 'Handicrafts of Telangana'
- Letter Writing –Formal Letters
- Soft skills : Etiquette and Grooming
- Value orientation : 'Necessity is the mother of invention'

Grammar:

a) Adverbs
b) Palindromes
c) Spellings : Derived forms of words
d) Punctuation : Inverted comma
e) Phonetics : Approximant

FUNDAMENTALS OF COMPUTERS

B.Sc. – I -CVR / II Sem.

Unit wise Important Questions

Unit – I

Part – A Faculty Name : P.Shyamala

1. Define computer.
2. Discuss the characteristics of computer.
3. Explain the various applications of computer.
4. How does the keyboard work?
5. How is OCR technology better than an ordinary image scanner?
6. Difference between Human data entry device and source data entry devices.
7. How does the OMR input device work?
8. Differentiate between impact and non- impact printer.
9. Differentiate between Hard copy devices and soft copy devices.
10. What do you understand by computer memory?
11. Differentiate between primary memory and secondary memory.
12. What is BIOS? Which kind of memory is preferred in it and why?
13. Differentiate between static RAM and dynamic RAM
14. What is the various processor register? Discuss
15. Discuss about cache memory.

Part – B

1. Explain the evaluation of computer. Further state that how computer in one generation are better than their predecessors / Explain the various generation of computer in detail.
2. Broadly classify computer based on their speed and the amount of data they can store.
3. Explain the basic computer organization with a neat diagram.
4. How the input devices classified and explain them each in detail.
5. Explain the various Hard copy devices.
6. Explain the various soft copy devices.
7. Give the characteristics of the memory Hierarchy chart.
8. Explain the primary memory in detail.
9. Discuss the working of Magnetic tapes.
10. Explain about floppy disc in detail.
11. Explain the working of Magnetic disc/ Hard disc.
12. How is data stored an optical storage device? Explain.
13. Write a note on USB flash devices.
14. Discuss about Memory cards.
15. Explain about Mass storage devices in detail
16. Draw & Explain the basic architecture of a processor.

Unit – II

Part – A

1. What is a binary language?
2. Explain the process of converting a binary number into decimal with an example.
3. Differentiate between packed and unpacked BCD representation.
4. Give the grey code for the decimal 27
5. What is Boolean Algebra.
6. Explain about Venn diagram.
7. Draw truth table for Z = A$\cap$ (B$\cap$C)
8. Differentiate between computer hardware & Software.
9. What is booting?
10. Difference between compiler and interpreter.
11. How is application software different from system software.
12. Discuss about Firmware & Middleware.
13. Write short notes on logic gates with trust table.
14. Write about universal gates.
15. Draw logic diagram for any given expression example (A.B +C'D) + (A'+D)

Part – B

1. Describe the general procedure to convert a number from any base system into decimal equivalent. Explain with an example for each.
2. Describe the general procedure to convert decimal number into a number of any base system. Explain with an example.
3. How are signal number represented in the binary form.
4. Problems converting binary to any number system
   Example : $(1011.001)_2$ = $()_{10}$, $()_8$, $()_{16}$
5. Problems converting decimal to any number system
   Example : $(634.562)_{10}$ = $()_2$, $()_8$, $()_{16}$
6. Explain about BCD codes in detail.
7. Discuss on other codes like ASCII code, EBCID code, weighted code and gray code.
8. Explain the various Boolean laws in Boolean algebra.
9. Draw a K map and simply the given the any expression
   Example (i) f (x,y,z) = (0,2,3,4,6,7)
   (ii) Y = ABC + ABC + ABC + ABC
10. Explain the classification of computer software in detail
11. Explain the various ways of acquiring computer software.

I CVR : ELECTRONICS

UNIT – I

1. What is a P N junction? Write about junction resistances and capacitances.
2. **Write the V I equation of a junction diode and explain.**
3. **What is a P N junction diode? Explain about the construction , working and V I chaaracteristics of a P N junction diode.**
4. **What is a Zener diode? Explain about the construction , working and V I characteristics of a Zener diode.**
5. **What is a voltage regulator? Write a note on Zener voltage regulator.**
6. Discuss about the construction , working and V I characteristics of a Tunnel didode.
7. Write a note on Varactor diode.
8. **All solved problems from running notes.**

UNIT – II

1. What is a transistor? Explain about the working of NPN transistor.
2. **What are the constants(current amplification factors) of a transistor? Deduce the relation among them.**
3. **Discuss about the construction , working and V I characteristics of CB configuration.**
4. **Discuss about the construction, working and V I characteristics of CE configuration.**
5. Discuss about the construction, working and V I characteristics of CC configuration.
6. **What is biasing of a transistor? Write a note on fixed bias and self bias methods**.
7. What is a two port network? Draw the hybrid equivalent circuit of CE configuration and explain.
8. **All solved problems from running notes.**

UNIT – III

1. What is FET? Explain abot the working of JFET.
2. **What are FET parameters? Deduce the relation among them**.
3. **Explain about the construction , working and V I characteristics of JF**ET.
4. Explain about the construction, working and V I characteristics of DE MOS FET.
5. Explain about the construction, working and V I characteristics of E only MOS FET.
6. **What are the differences between FET and BJT.**
7. Write a note on FET as VVR.
8. **Write a note on MOSFET switch.**
9. **All solved problems from running notes.**
10. **Discuss about the construction, working and V I characteristics of UJT.**
11. **Write a note on UJT relaxation oscillator.**
12. **Define the following:**
    - i. **Interbase resistance R_{BB}**
    - ii. **Intrinsic standoff ratio η**
    - iii. **Stand off voltage**
    - iv. **Peak point voltage Vp**
13. **All solved problems from running notes.**

UNIT – IV

1. **What is SCR? Discuss about construction , working and V I characteristics of SCR.**
2. **Wrie a note on power control application of SCR.**
3. **Explain about two transistor representation of SCR.**
4. **What is LED? Explain about construction and working of LED.**
5. **What is a photo diode? Explain about the construction , working and V I characteristics of a photo diode.**
6. **Write a note on LDR.**
7. What is a photo transistor? Explain about its woring.
8. What is photo voltaic effect? Write a note on photo voltaic cell.

Siva Sivani Degree College, Kompally

Year - I, Sem - II (Sanskrit)

Important Questions

Unit - I ⇒ ① 'सक्तुप्रस्थस्य महत्वम्' - (वेदव्यासः)

* अनुवदत (1-10 Poems)
  Translations of the poems.
* सन्दर्भाणि (1-8 Annotations)
  Annotations.

② 'बुद्धस्य वैराग्योदयः' - (अश्वघोषः)

* प्रतिपदार्थाणि (1-16 Poems)
  Word to word meanings.

Unit - II ⇒ ③ 'वैज्ञानिक संहिता' - (श्रीरामचन्द्रुडु)

* श्रीरामचन्द्रुडु परिचयः.
* निबन्धप्रश्नः (Long ans.).

④ 'न गङ्गदत्तः पुनरेति कूपम्' - (विष्णुशर्मा)

* सन्दर्भाणि (1-8 Annotations)
  Annotations.
* निबन्धप्रश्नः (Long ans.).

Unit - III ⇒ ⑤ 'दैवासुरसम्पद्विभागयोगः' - (वेदव्यासः)

* श्लोकपूरणम् (1-8 Poems)
  Poem writing.

⑥ 'धातवः' (Dhatus) - 1-10.

Unit - IV ⇒ ⑦ 'समासाः' (Samasas) * 'अव्ययीभाव, द्विगु, तत्पुरुष, द्वन्द्व, कर्मधारय, बहुव्रीहिः' ॥

Siva Sivani Degree College, Kompally

New Pattern (Sem-II)

संस्कृतम्, Year-I

Part - A

4 X 5 = 20 M.

१) अनुवदत । Poem translations. (सत्कुप्रस्थस्य महत्वम्)

२) ससन्दर्भं व्याख्यात । Annotations. (न गङ्गदत्तः पुनरेति कूपम्)

३) श्लोकं पूरयत । Poem writing. (दैवासुरसम्पद्विभागयोगः)

४) ससन्दर्भं व्याख्यात । Annotations. (सत्कुप्रस्थस्य महत्वम्)

५) कविपरिचयौ । Introductions. (आचार्य पुल्लेल श्रीरामचन्द्रुडु)

१
भगवद्गीता

६) समासनाम लिखत । (Samasa name writing)

Part - B

4 X 15 = 60 M.

७) प्रतिपदार्थतात्पर्याणि लिखत । (बुद्धस्य वैराग्योदयः)
Word to word meanings.

८) निबन्धप्रश्नाः । (Long answers). ['वैज्ञानिक संहिता' / 'न गङ्गदत्तः पुनरेति कूपम्']

९) सम्पूर्णतया धातुरूपाणि लिखत । (Dhatus)

१०) समासनामनिर्देशपूर्वकं विग्रहवाक्यानि लिखत । (Samasas)

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