Reg. No.: $\qquad$
Name : $\qquad$
First Semester B.Sc./B.C.A. Degree Examination, February 2018 Career Related FDP under CBCSS COMPUTER SCIENCE/BCA/PCA Foundation/Vocational Course CS 1121/CP 1121/PC 1171 : INTRODUCTION TO IT (2014 Admission Onwards)
Time : 3 Hours

## SECTION - A <br> (Very Short Answer Type)

One word to maximum of two sentences. Answer all questions.

1. What is software?
2. Define system software.
3. What is the expansion of POST?
4. What is meant by resolution and pixel ?
5. Explain hardware.
6. How to prevent virus damage ?
7. What is aspect ratio in monitor?
8. What is the difference between data and information?
9. Expansion of URL.
10. Define operating system.

Not to exceed one paragraph, answer any eight questions. Each carries two marks.
11. What is the difference between primary and secondary storage ?
12. What are the characteristics of computer system?
13. List two types of computers designed to be used by one person at a time.
14. Explain application software.

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15. What is an input device ? Briefly describe three important input devices.
16. What are the difference between ROM and RAM ?
17. Write short notes on Von Neuman model.
18. What is booting ? Explain types of booting.
19. Define plotters.
20. Explain types of RAM.
21. Name and differentiate the three main categories of storage devices.
22. Explain CRT and flat panel display.
(8×2=16 Marks)
SECTION - C
(Short Essay)
Not to exceed 120 words, answer any six questions carries four marks.
23. Explain primary storage.
24. Describe the benefit of personal computer to the society.
25. List the two types of multi-user computers.
26. What are the different types of operating systems?
27. Explain web browsers.
28. Explain output devices.
29. Distinguish between system and application software.
30. What is a computer network ? Describe characteristics of a computer network.
31. What is electronic mail ? Briefly explain how electronic mail works.
( $6 \times 4=24$ Marks)
SECTION - D
(Long Essay)
Answer any two questions. Each question carries $\mathbf{1 5}$ marks.
32. Describe different devices used for networking.
33. Write a note on Computer language and its classification.
34. Describe types of printers.
35. Briefly explain Evolution of Computers.

## SECTION - B

## (Short answer)

Not to exceed one paragraph, answer any eight questions. Each carries two marks.
11. Differentiate software and hardware.
12. Describe Auxiliary storage.
13. Give short note on free software.
14. Describe features of word processors.
15. Give short notes on :
a) Browser
b) Email.
16. Write the use of (a) Switch (b) Router.
17. Differentiate a web page and a web site.
18. Describe multitasking.
19. Differentiate between free software and open source software.
20. Explain Time sharing system.
21. Describe application software.
22. Give short notes on spread sheets.

SECTION - C
(Short essay)
Not to exceed 120 words, answer any slx questions carries four marks.
23. How computers are classified?
24. Briefly explain working principle of CRT.
25. What are the E-mail software features ?
26. Write short notes on:
a) RAM
b) ROM
c) Auxiliary storage
27. Describe different types of operating system.
28. Compare the features of
a) Optical storage devices
b) Magnetic storage devices.
29. Describe :
a) World Wide Web
b) Browser
c) WLL.
30. Give short notes on :
a) Keyboard, mouse
b) Scanner
c) Digital camera.
31. Describe :
a) Floppy disc
b) Hard disc
c) System software.

## SECTION - D

(Long essay)
Answer any two questions. Each question carries 15 marks.
32. Explain in detail the working principle of a laser printer, an inkjet printer and a plotter.
33. a) What do you mean by a multiuser operating system?
b) Briefly explain about computer viruses and protection?
34. What is electronic mail ? Briefly explain how electronic mail works.
35. Explain computer generation in detail.

Reg. No. : $\qquad$
Name: $\qquad$

## First Semester B.Sc./B.C.A. Degree Examination, November 2018 (Career Related FDP Under CBCSS)

## Group 2(b) : Computer Science/Computer Applications Group 2(a) : Physics with Computer Applications Foundation/Vocational Course CS 1121/CP 1121/PC 1171 : INTRODUCTION TO IT (2014 Admission - 2017 Admission)

Time: 3 Hours

## SECTION - A

(Very short answer type)
One word to maximum of two sentences. Answer all questions:

1. Define software.
2. Describe leased lines.
3. Mention different computer characteristics.
4. Give short note on CPU.
5. Describe working principle of dotmatrix printers.
6. Define operating system.
7. What is a binary number?
8. What are viruses ?
9. Expand ISP.
10. Describe the term dial up.

SECTION - B
(Short answer)
Not to exceed one paragraph, answer any eight questions. Each carries two marks.
11. Differentiate software and hardware.
12. Describe Auxiliary storage.
13. Give short note on free software.
14. Describe features of word processors.
15. Give short notes on:
a) Browser
b) Email.
16. Write the use of (a) Switch (b) Router.
17. Differentiate a web page and a web site.
18. Describe multitasking.
19. Differentiate between free software and open source software.
20. Explain Time sharing system.
21. Describe application software.
22. Give short notes on spread sheets.

SECTION - C
(Short essay)
Not to exceed 120 words, answer any six questions carries four marks.
23. How computers are classified?
24. Briefly explain working principle of CRT.
25. What are the E-mail software features?
26. Write short notes on:
a) RAM
b) ROM
c) Auxiliary storage
27. Describe different types of operating system.
28. Compare the features of
a) Optical storage devices
b) Magnetic storage devices.
29. Describe:
a) World Wide Web
b) Browser
c) WLL.
30. Give short notes on:
a) Keyboard, mouse
b) Scanner
c) Digital camera.
31. Describe:
a) Floppy disc
b) Hard disc
c) System software.

## SECTION - D

(Long essay)
Answer any two questions. Each question carries 15 marks.
32. Explain in detail the working principle of a laser printer, an inkjet printer and a plotter.
33. a) What do you mean by a multiuser operating system?
b) Briefly explain about computer viruses and protection?
34. What is electronic mail ? Briefly explain how electronic mail works.
35. Explain computer generation in detail.

Reg. No. : $\qquad$
Name: $\qquad$
First Semester B.Sc. Degree Examination, November 2018
Career Related First Degree Programme under CBCSS Group 2(a) Complementary Course I for Physics and Computer Applications

## MM 1131.6 MATHEMATICS - 1 : Complex Numbers, Differentiation and Theory of Equations 2013 Admission Onwards)

Time: 3 Hours
Max. Marks : 80

## SECTION - I

All the first ten questions are compulsory. They carry 1 mark each.

1. State De-Moivres theorem.
2. Write the modulus amplitude form of -i.
3. Find the slope of the line $8 x+5 y=20$.
4. Find the derivative of $\ln (\sin x)$.
5. Find the radius of convergence of $\sum_{k=0}^{\infty} x^{k}$.
6. Find $\frac{\partial z}{\partial x}$ if $z=\frac{y}{x}$.
7. What is the parametric equation of cycloid ?
8. Find the slope of the tangent line to $y=\sqrt{x}$ at $x=9$.
9. If $\alpha, \beta, \gamma$ are the roots of $f(x)=0$, find an equation whose roots are $\frac{1}{\alpha}, \frac{1}{\beta}, \frac{1}{\gamma}$.
10. If $\alpha, \beta, \gamma$ are the roots of $2 x^{3}+x^{2}-2 x-1=0$, find $\alpha \beta+\beta \gamma+\alpha \gamma$.

## SECTION - II

Answer any 8 questions from among the questions from 11 to 22 . These questions carry 2 marks each.
11. Simplify $\frac{(\cos \theta+i \sin \theta)^{4}(\cos 3 \theta+i \sin 3 \theta)^{2}}{(\cos 2 \theta-i \sin 2 \theta)^{3}(\cos 4 \theta+i \sin 4 \theta)^{4}}$.
12. Find all the cube roots of unity.
13. Find $\lim _{x \rightarrow-4} \frac{2 x+8}{x^{2}+x-12}$.
14. Find the velocity and acceleration of a particle which moves on a co-ordinate line given by $s(t)=2 t^{3}-21 t^{2}+60 t+3$.
15. Use implicit differentiation to find $\frac{d y}{d x}$ if $5 y^{2}+\sin y=x^{2}$.
16. Find $\frac{d w}{d t}$ as a function of $t$ if $w=x y+z$ and $x=\cos t, y=\sin t, z=t$.
17. Find the points of discontinuity, if any for $f(x)=\frac{x}{x^{2}-1}$.
18. Find the Jacobian $\frac{\partial(x, y)}{\partial(u, v)}$ if $x=2 u^{2}+4 v, y=u^{2}-v^{2}$.
19. Solve the equation $x^{3}-12 x^{2}+39 x-28=0$, the roots being in arithmetic progression.
20. Form an equation whose roots are three times the roots of the equation $2 x^{3}-5 x^{2}+7=0$.
21. Prove that the equation $12 x^{7}-x^{4}+10 x^{3}-28=0$ has atleast four imaginary roots.
22. Solve the equation $x^{3}+6 x+20=0$, one root is $1+3 i$.

## SECTION - III

Answer any 6 questions from among the questions from 23 to 31. These questions carry 4 marks each.
23. Prove that $\cos 4 \theta=\cos ^{4} \theta-6 \sin ^{2} \theta \cos ^{2} \theta+\sin ^{4} \theta$.
24. Separate $\tan (\alpha+i \beta)$ into real and imaginary parts.
25. Use implicit differentiation to find the slope of the tangent to the curve $x^{2}+x y+y^{2}=7$ at the point $(1,2)$.
26. Find $\lim _{x \rightarrow 0}(1+x)^{1 / x}$.
27. Find the Taylor series generated by $f(x)=\frac{1}{x}$ about $x=2$.
28. If $u=\tan ^{-1} \frac{y}{x}$, prove that $\frac{\partial^{2} u}{\partial x^{2}}+\frac{\partial^{2} u}{\partial y^{2}}=0$.
29. Find the absolute maximum and minimum values of the function
$f(x, y)=x y-x^{2}-y^{2}-2 x-2 y+4$.
30. Solve the equation $x^{4}-9 x^{2}+4 x+12=0$, given that it has a multiple root.

- 31. Solve the equation $x^{4}+16 x^{3}+83 x^{2}+152 x+84=0$ by removing its second term.


## SECTION - IV

Answer any 2 questions from among the questions from 32 to 35 . These questions carry 15 marks each.
32. a) Express $\sin ^{7} \theta$ in a series of sines of multiplies of $\theta$.
b) If $\sin (\theta+i \phi)=r(\cos \alpha+i \sin \alpha)$, prove that $r^{2}=\frac{1}{2}(\cosh 2 \phi-\cos 2 \theta)$ and $\tan \alpha=\tanh \phi \cot \theta$.
33. a) Find the points on the sphere $x^{2}+y^{2}+z^{2}=36$ that are closest to and farthest from the point $(1,2,2)$.
b) Evaluate $\lim _{x \rightarrow 0} \frac{x-\sin x \cos x}{x^{3}}$.
34. a) Solve by Cardan's method $x^{3}-9 x-12=0$.
b) Solve by Ferrari's method $x^{4}+2 x^{3}-7 x^{2}-8 x+12=0$.
35. a) If $u=\sin ^{-1}\left(\frac{x+y}{\sqrt{x}-\sqrt{y}}\right)$, prove that $x \frac{\partial u}{\partial x}+y \frac{\partial u}{\partial y}=\frac{1}{2} \tan u$.
b) Express $\frac{\partial w}{\partial r}$ and $\frac{\partial w}{\partial s}$ in terms of $r$ and $s$, if $w=x^{2}+y^{2}, x=r-s, y=r+s$.
c) Solve $x^{5}-5 x^{4}+9 x^{3}-9 x^{2}+5 x-1=0$.

Reg. No. : $\qquad$
Name $\qquad$

First Semester B.Sc. Degree Examination, November 2018 Career Related First Degree Programme Under CBCSS Physics and Computer Applications

Foundation Course - I
PC 1121 - MECHANICS, THERMODYNAMICS AND PROPERTIES OF MATTER
(2015 Admission Onwards)

- Time : 3 Hours

Max. Marks : 80

## SECTION - A

Answer all questions. Each question carries one mark.

1. State the zeroth law of thermodynamics.
2. Explain Hooke's law in elasticity.
3. Write down the expressions for the moment of inertia of uniform rod along an axis perpendicular to its length passing through
i) the centre of rod and
ii) an end of the rod
4. Give the differential form of the first law of thermodynamics.
5. What is Wiedmann-Franz law?
6. Detine surface energy.
7. Explain Poisson's ratio.
8. What is an adiabatic process ?
9. Give the relation between torque and angular momentum.
10. How does surface tension vary with temperature?

## SECTION - B

Answer any 8 questions. Each carries two marks.
11. Explain parallel axis theorem and perpendicular axis theorem
12. State and explain Carnot's theorem
13. Derive Mayer's relation.
14. Explain critical velocity and its relation with Reynold's number.
15. Describe the TS diagram for Carnot cycle.
16. What is the principle behind the shape of I-Section girders?
17. State and explain Stefan's law.
18. Show that surface energy is numerically equal to surface tension.
19. Discuss the kinetic energy of rotating and rolling bodies.
20. Give the expressions for efficiency of an Otto engine and a diesel engine.
21. Explain modulus of elasticity and the three moduli of elasticity.
22. Discuss the connection between entropy and disorder.
SECTION - C

Answer any 6 questions. Each carries four marks.
23. Find the work done by 2 moles of Hydrogen gas when it expands to thrice its initial volume at constant temperature of 300 K .
24. A circular metal loop of mass 1 kg and radius 0.2 m makes 10 rotations per second about an axis through its centre and perpendicular to its plane. Find the moment of inertia and the angutar momentum about the axis.
25. Find the angular momentum of a boyd whose rotational kinetic energy is 18 Joules, if the angular momentum coincides with the rotational axis and the moment of inertia about this axis is $0.01 \mathrm{kgm}^{2}$.
26. Find the work done to spray a water drop of radius one millimeter into a million droplets of same size. Surface tension of water is $0.072 \mathrm{~N} / \mathrm{m}$.
27. A motor car tyre has a pressure of 2 atmos. at room temperature of $27^{\circ} \mathrm{C}$. It it suddenly bursts, find its resulting temperature. Take $\gamma=1.4$.
28. A Carnot engine of source temperature 400 K absorbs 200 joules of heat and rejects 150 calories into the sink. Find the temperature of the sink and the efficiency.
29. An Iron wire of radius 1 mm and 100 cm length is twisted through an angle $18^{\circ}$. Find the maximum angle of shear and the torsional couple. Take rigidity modulus of Iron as $8 \times 10^{10} \mathrm{~N} / \mathrm{m}^{2}$.
30. Find the change in entropy when one mole of a gas expands isothermally to four times its initial volume.
31. A solid sphere of radius 2.5 cm and mass 100 g rolls without sliding with a uniform velocity of 10 cm per second. Find its total energy.

## SECTION - D

Answer any 2 questions. Each carry fifteen marks.
(15×2=30 Marks)
32. Describe the working of a Carnot engine. Derive the expression for its efficiency.
33. Explain with necessary theory, the determination of the moment of inertia of a flywheel.
34. State and explain Bernoulli's theorem and obtain its mathematical expression.
35. Derive the Clausius - Clayperon equation and explain the effect of pressure on boiling point and melting point.

Reg. No. : $\qquad$
Name : $\qquad$

# First Semester B.Sc./B.C.A. Degree Examination, November 2018 Career Related FDP Under CBCSS 

 Group 2(b) : Computer Science/Computer Applications Group 2(a) : Physics with Computer Applications
## Foundation/Vocational Course

 CS 1121/CP 1121/PC 1171 COMPUTER FUNDAMENTALS AND ORGANIZATION (2018 Admission)
## SECTION - A

Very short answer type. One word to maximum one sentence, answer all questions.

1. BIOS is the short name of $\qquad$
2. Define input device.
3. Define SRAM.
$\rightarrow$ What is an optical disk?
4. Define Miss in Cache.
5. What is pipelining ?
6. Expand LEA instruction.
7. Define virtual memory.
8. What is a strobe?
9. Define parallel data transfer.

## SECTION - B

Short answer. Not to exceed one paragraph, answer any eight questions.
Each question carries two marks.
( $8 \times 2=16$ Marks)
11. Write a note on Ribbon Cable.
12. What is the role of an SMPS ?
13. Write about CMOS.
14. Explain about Magnetic Tape.
15. Write about USB.
16. Write a note on Accumulator Register.
17. Write a note on instruction set.
18. Explain about SHL instruction.
19. Write a note on Micro Instruction.
20. Explain about serial communication.
21. Write about daisy chain.
22. Write a note on bus request in DMA.

## SECTION - C

Short essay. Not to exceed 120 words, answer any six questions. Each question carries four marks.
23. Write a note on expansion cards.
24. Draw Von Neumann architecture.
25. Differentiate SRAM and DRAM.
26. Write a note on type of optical disks.
27. Explain PC and DR registers.
28. Write a note on advantages of RISC architecture.
29. Differentiate CD-R and CD-W.
30. Write about IOP.

- 31. Write about synchronous data transfer.
SECTION - D

Long essay. Answer any two questions. Each question carries 15 marks.
32. Explain about components inside a computer in detail.
33. Write a detailed note on Memory Hierarchy.
34. Differentiate Interrupt and Instruction Cycle.
35. Write about Modes of Data Transfer in detail.
(Pages:4)
Reg. No. $\qquad$
Name : $\qquad$

# First Semester B.Sc./B.Com./B.B.A./B.C.A./B.S.W./B.M.S. Degree Examination, November 2018 <br> Career Related First Degree Programme Under CBCSS <br> Group 2(b) <br> Language Course - I <br> EN 1111.4 - LISTENING, SPEAKING AND READING (2016 Admission Onwards) 

Time : 3 Hours
I. Answer all questions, each in a word or sentence.

1) Write the syllable structure of the word 'tea'.
2) Write a word where $/ t /$ is silent.
3) Write the pronunciation of 'ed' in 'kicked'.
4) Write the phonetic symbol of the letters 'or' in the word 'word'.
5) What is vocalisation?
6) How many diphthongs are there in the English language ?
7) Identify the letter which is silent in the word 'clerk'.
8) How many syllables are there in the word 'humility'?
9) Which is the diphthong used in the word 'hair'?
10) What is the larynx ?
II. Answer any eight, each in a short paragraph not exceeding 50 words.
11) What is syllable structure ? Give an example.
12) What is previewing ?
13) Differentiate between skimming and scanning.
14) Transcribe the following words : 1) table 2) teacher.
15) Define received pronunciation.
16) Write polite requests for the following situations:
17) Pass the salt
18) Cross the road
19) Construct a dialogue between two treshet students who are introducing themselves to each other
20) You have bought a birthday gift for your sister and you want the shopkeeper to gift wrap it. Construct a dialogue between the shopkeeper and yourself.
21) What are voiced sounds ? Give examples.
22) Why is English referred to as the 'lingua franca' of the modern era?
23) What is a nasal sound ?
24) What is sub-vocalisation ?
III. Answer any six each in a paragraph not exceeding 100 words.
25) Explain the concept of strong forms and weak forms.
26) What is skimming ? Give two examples of skimming.
27) Transcribe the following words : allow, name, pride, change, grammar, woman, television, liquid.
28) Complete the conversation given below:

Receptionist : Good morning. FM Dental Clinic.
Amy :
Receptionist : 4 o' clock appointment with Dr. Rachael ? Let me check.
Oh Yes, there you are $\qquad$
Amy : $\qquad$
Receptionist : Would you like me to reschedule your appointment?
Amy : $\qquad$
Receptionist : $\qquad$
Amy : Can I come in at 4 o' clock ?
Receptionist : $\qquad$
Amy : All right. I'll be there at 5 tomorrow $\qquad$
Receptionist : $\qquad$
27) Imagine that you are Ravi who is interested in a tour of Jaipur. Construct a dialogue between the travel agent and Ravi about the details of the tour package.
28) How do graphics and visual aids promote reading?
29) Imagine the roles viz those of a customer and a shopkeeper and do as directed

## Shopkeeper

Greets customer and offers assistance

Enquires about the problem

Offers a seat and checks the jeans and finds the zip jammed
Apologies and informs that it cannot be exchanged because the customer had bought it from the discount sale pack
Agrees to arrange the meeting and asks him to wait

## Customer

Greets and informs that the jeans he bought yesterday appear damaged
States that the zipper of the fly is not working
Wants to exchange the pair of jeans
Protests and demands to see the Manager

Informs that he would wait for the Manager
30) Scan the following poem and find answer to the following question:

In my craft or sullen art
Exercised in the still night
When only the moon rages
And the lovers lie abed
With all their griefs in their arms
I labour by singing light
Not for ambition or bread
Or the strut and trade of charms
On the ivory stages
But for the common wages
Of their most secret heart.
Not for the proud man apart
From the raging moon I write
On these spindrift pages
Nor for the towering to dead
With their nightingales and Psalms
But for the lovers, their arms

Round the griets of the ages,
Who pay no praise or wages
Nor heed my craft or art.

1) Comment on the theme of the poem.
2) What prompts the poet to write his poems ?
3) Consider the poem as the poetic manifesto of the poet.
4) What does 'towering to dead with their nightingales and Psalms' refer to in the poem?
5) Read the passage intensively and answer any four questions: Many believe that chocolate decays your teeth. True, because it contains a lot of sugar. However it can also prevent tooth decay. The husks of the cocoa beans from which chocolate is made contain an antibacterial agent that fights plaque. Chocolate can also fight heart diseases. Some studies have shown that if you eat chocolate three times a month, you will live almost a year longer. If you eat too many, you will gain weight and will become obese. If you have excess weight, you run the risk of heart diseases. Dark chocolates are considered to be better than milk chocolates. They help to increase the levels of HDL, a type of cholesterol that helps prevent fat clogging arteries.
6) Why is chocolate bad for your teeth?
7) What are the advantages of dark chocolates ?
8) How is chocolate good for health?
9) What are the ill-effects of eating too much chocolate?
(6×4=24 Marks
IV. Answer any two each in about three hundred words.
10) Transcribe the following words: union, sentence, twinkle, autumn, pressure, action, machine, shame, vision, height, heart, music, school, glass, room.
11) Comment on the sub-skills of reading.
12) Write an essay on the impact created by Martin Luther King Jr's speech I Have A Dream on the readers.
13) You are organising an inter-collegiate literary fest in your college. You are visiting a neighbouring institution to request the participation of students in the literary fest. At first you meet a student in the campus who directs you towards the Principal. The Principal tells you to meet the Arts Club Coordinator of the college who is a faculty member of the Department of English and hand over the brochure and details of the literary fest. Construct the three dialogues.
(15×2=30 Marks

Reg. No. : 19517825033
Name : ....Lakshmi T.S

# First Semester B.Sc./B.Com./B.B.A./B.C.A./B.S.W. Degree Examination, February 2018 <br> Career Related First Degree Programme under CBCSS <br> Group 2 (b) <br> Language Course - I <br> <br> EN 1111.4 - LISTENING, SPEAKING \& READING <br> <br> EN 1111.4 - LISTENING, SPEAKING \& READING <br> (2016 Admission Onwards) 

Time : 3 Hours
Max. Marks : 80

## I. Answer all questions, each in a word or sentence.

1) Find the number of syllables in the word 'notice'.
2) Which is the common consonant sound among the following words ?

Cab, tribe, borrow, book
3) Write the syllabic structure of the word 'pond'.
4) Identify and write down the word the speaker means:

Did you get a /lete/from your uncle?
5) Identify the word with three syllables?
across, temporary, dip, algebra
6) Write the last sound in the word 'teacher'.
7) Write the pronunciation of 'ed' in the word 'bagged'.
8) Write a word where $/ p /$ is silent.
9) What are the main parts of the tongue?
10) What are IPA symbols?
II. Answer any eight, each in a short paragraph not exceeding 50 words.
11) Transcribe the following words:

1) mill
2) branch.
3) What are the strategies of listening ?
4) What factors can pose a hindrance to reading?
5) What are the four communicative skills?
6) Write the usages used to ask for information.
7) What is skimming ? Write two examples of skimming.
8) You are seeking information about vehicle loan. Write the conversation between you and the bank employee.
9) What is the difference between voiced and voiceless sounds ?
10) Prepare a conversation to Check-in at the airport.
11) What is phonics ?
12) What is sub-vocalization?
13) You are meeting your favourite film director. Construct a dialogue between the two of you to introduce your talents.
III. Answer any six each in a paragraph not exceeding 100 words. ( $6 \times 4=24$ Marks)
14) Frame a conversation based on the situation given below :

15) You are a customer service assistant. A customer wants to buy a new television. He wants to pay the money in equal monthly installments. Payments by card or cheque are acceptable. Construct a conversation based on this situation.
16) Complete the conversation given below :

Saroja, a fresher, meets Anila another fresher.
Saroja : Hello. I'd like to $\qquad$ . My name
is Saroja and I am in the first year B.Sc. Computer Science.
Anila : $\qquad$ and I too am in the first year B.Sc. Computer
Science. $\qquad$ Saroja.
Saroja : $\qquad$ you $\qquad$
Anila : Tell me more about yourself
Saroja : $\qquad$ and what about you.
Anila : $\qquad$
26) Transcribe the following words: food, gate, church, aware, comb, swim, business, night.
27) What are the stages that are involved in the reading process?
28) What are the micro-skills that would speed up reading?
29) What are the barriers to listening ?
30) Scan the following poem and answer the following questions.

The Dawn's awake!
A flash of smoldering flame and fire
Ignites the East. Then, higher, higher,
O'er all the sky so gray, forlorn,
The torch of gold is borne.
The Dawn's awake!
The dawn of a thousand dreams and thrills.
And music singing in the hills
A paean of eternal spring
Voices the new awakening.
The Dawn's awake!
Whispers of pent-up harmonies,
With the mingled fragrance of the trees;
Faint snatches of half-forgotten song -
Fathers! torn and numb,--
The boon of light we craved, awaited long,
Has come, has come!

1) Give an appropriate title to the poem.
2) What does the poet mean by the image 'The torch of gold is borne' ?
3) What is the theme of the poem ?
4) Which are the images used to describe sun rise?
5) Read the following passage intensively and answer the questions.

There is a famous expression in English: "Stop the world, I want to get off!" This expression refers to a feeling of panic or stress, that makes a person want to stop whatever they are doing, try to relax and become calm again. 'Stress' means pressure or tension. It is one of the most common causes of health problems in modern life. Too much stress results in physical, emotional, and mental health problems.
There are numerous physical effects of stress. Stress can affect the heart. It can increase the pulse rate, make the heart miss beats, and can cause high blood pressure. Stress can affect the respiratory system. It can lead to asthma. It can cause a person to breathe too fast, resulting in a loss of important carbon dioxide. Stress can affect the stomach. It can cause stomach aches and problems digesting food. These are only a few examples of the wide range of illnesses and symptoms resulting from stress.

Emotions are also easily affected by stress. People suffering from stress often feel anxious. They may have panic attacks. They may feel tired all the time. When people are under stress, they often overreact to little problems. For example, a normally gentle parent under a lot of stress at work may yell at a child for dropping a glass of juice. Stress can make people angry, moody or nervous.
Long-term stress can lead to a variety of serious mental illnesses. Depression, an extreme feeling of sadness and hopelessness, can be the result of continued and increasing stress. Alcoholism and other addictions often develop as a result of overuse of alcohol or drugs to try to relieve stress. Eating disorders, such as anorexia, are sometimes caused by stress and are often made worse by stress. If stress is allowed to continue, then one's mental health is put at risk.
It is obvious that stress is a serious problem. It attacks the body. It affects the emotions. Untreated, it may eventually result in mental illness. Stress has a great influence on the health and well-being of our bodies, our feelings, and our minds. So, reduce stress : stop the world and rest for a while.

1) What is the passage about?
2) Write an appropriate title for the passage.
3) Which are the physical effects of stress ?
4) What is the reason behind mental illness ?
IV. Answer any two, each in about three hundred words :
5) Transcribe the following words : potato, beautiful, colleague, nephew, restaurant, moustache, banquet, ointment, nurture, echo, hazard, early, launch, heart, phoenix.
6) You are a parent and you are now in a renowned college seeking admission to your daughter who has got good results in Higher Secondary Examination. At first you are meeting the security of the campus. Ask the way to the office. In the Office, seek information about the courses offered and fee structure and then buy the application form. On the way back you meet a teacher in the college who was your childhood friend. Ask him/ her about the history, achievement and extra, co-curricular activities of the college. Construct three dialogues relating to all the three situations described above.
7) Comment on different skills of reading.
8) Write an essay on the speech mechanism and the classification of sounds into vowels and consonants.

> Physis

(Pages: 3)
D - 5085
Reg. No.: $\qquad$
Name: $\qquad$

First Semester B.A./B.Sc./B.Com. Degree Examination, February 2018 Career Related First Degree Programme Under CBCSS LANGUAGE COURSE - II
ML 1111.3 (Additional Language - I) : ~ßßmonolmjo (2014 Admission Onwards)

Time: 3 Hours
Max. Marks : 80









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The film Van Gogh directed by French filmmaker and artist Maurice is a revisit to the remarkably productive final two months in the aritist's life, ending on the day of his death, July 29, 1890. The film argues very forcefully that the painter couldnot have turned out works at consistent pace and vigour if he had been a mad man.


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Reg. No. :
Name: $\qquad$

First Semester B.Sc. Degree Examination, February 2018 Career Related First Degree Programme Under CBCSS
Group 2(a) : Complementary Course - I for Physics and Computer Applications
MM 1131.6 : MATHEMATICS - 1 : COMPLEX NUMBERS, DIFFERENTIATION AND THEORY OF EQUATIONS (2013 Admission Onwards)
Time: 3 Hours
Max. Marks : 80

## SECTION-I

All the first ten questions are compulsory. They carry 1 mark each.

1. Define a complex number.
2. Write the modulus amplitude form of -1 .
3. Find the natural domain of $f(x)=x^{3}$.
4. Find $\frac{d}{d x}\left(\ln \left(x^{2}+1\right)\right)$.
5. State Rolle's theorem.
6. Find $\frac{\partial z}{\partial x}$ if $z=x^{y}$.
7. Find the graph of the parametric equations $x=\cos t_{1} y=\sin t, 0 \leq t \leq 2 \pi$.
8. From an equation whose roots are the negative of the roots of $x^{3}-6 x^{2}+8 x-9=0$.
9. Find $\frac{d y}{d x}$ if $y=x \sinh x-\cosh x$.
10. If $\alpha, \beta, \gamma$ are the roots of $x^{3}-p x^{2}+q x-r=0$, find the value of $\alpha \beta+\beta \gamma+\alpha \gamma$.
P.t.o.

## SECTION - II

Answer any 8 questions from among the questions from 11 to 22. These questions carry 2 marks each.
11. Using De-Moivres theorem, prove that $(1+i)^{4}=-4$.
12. Find all the cube roots of unity.
13. Find $\lim _{x \rightarrow 3} \frac{x^{2}-6 x+9}{x-3}$.
14. Find the equation of the tangent line to the graph of $y=x^{2}+1$ at the point $(2,5)$.
15. Find the velocity and acceleration of $s=t^{3}-6 t^{2}+1$.
16. Find the derivative of $w=x y$ with respect to $t$ along the path $x=\cos t, y=\sin t$.
17. Find the points of discontinuity of $y=\frac{x^{2}-9}{x^{2}-5 x+6}$.
18. Find $\frac{d y}{d x}$ for $x^{3}+y^{3}=4 x y$.
19. Find the Jacobian $\frac{\partial(x, y)}{\partial(u, v)}$ if $x=u^{2}-v^{2}, y=2 u^{2}-3 v$.
20. Form an equation whose roots are two times the roots of the equation $2 x^{3}-3 x^{2}+4 x-5=0$.
21. If $\alpha, \beta, y$ are the roots of $x^{3}-x+1=0$, form an equation whose roots are $\frac{1+\alpha}{1-\alpha}, \frac{1+\beta}{1-\beta}, \frac{1+\gamma}{1-\gamma}$.
22. Show that the equation $12 x^{7}-x^{4}+10 x^{3}-28=0$ has atleast four imaginary roots.

## SECTION - III

Answer any 6 questions from among the questions from 23 to 31 . These questions carry 4 marks each.
23. Prove that $\sin 5 \theta=5 \sin \theta-20 \sin ^{3} \theta+16 \sin ^{5} \theta$.
24. Separate $\tan (\alpha+i \beta)$ into real and imaginary parts.
25. Find $\lim _{x \rightarrow 0}(1+\sin x)^{1 / x}$.
26. Find the interval of convergence and radius of convergence of the power series $\sum_{k=0}^{\infty} \frac{(-1)^{k} x^{k}}{3^{k(k+1)}}$.
27. Verify $\frac{\partial^{2} u}{\partial x \partial y}-\frac{\partial^{2} u}{\partial y \partial x}=0$ for $u=\log \left(\frac{x^{2}+y^{2}}{x y}\right)$.
28. Solve by Cardan's method $x^{3}-9 x+28=0$.
29. Prove that the Maclaurin series for $\cos x$ converges to $\cos x$ for all $x$. $\cos x=\sum_{k=0}^{\infty} \frac{(-1)^{k} x^{2 k}}{(2 k)!} ;-\infty<x<\infty$
30. Solve the equation $x^{4}+20 x^{3}+143 x^{2}+430 x+462=0$ by removing its second term.
31. Solve the equation $23 x^{3}+42 x^{2}-28 x-8=0$ whose roots are in geometric progression.

## SECTION - IV

Answer any 2 questions from among the questions from 32 to 35 . These questions carry 15 marks each.
32. a) Express $\cos ^{7} \theta$ in a series of cosines of multiplies of $\theta$.
b) If $\sin (A+i B)=x+i y$, show that $\frac{x^{2}}{\cosh ^{2} B}+\frac{y^{2}}{\sinh ^{2} B}=1$ and $\frac{x^{2}}{\sin ^{2} A}-\frac{y^{2}}{\cos ^{2} A}=1$.
33. a) Find the maximum and minimum of $f(x, y)=x^{3}+y^{3}-3 x-12 y+20$.
b) Use implicit differentiation to find $\frac{d^{2} y}{d x^{2}}$ if $4 x^{2}-2 y^{2}=9$.
c) Find $f_{x}$ and $f_{y}$ if $f(x, y)=\frac{2 y}{y+\cos x}$.
34. a) Solve using Ferrari's method $x^{4}-4 x^{3}-4 x^{2}-24 x+15=0$.
b) Solve $6 x^{5}+11 x^{4}-33 x^{3}-33 x^{2}+11 x+6=0$.
35. a) If $u=\sin ^{-1}(x-y)$, prove that $x \frac{\partial u}{\partial x}+y \frac{\partial u}{\partial y}=\tan u$.
b) Suppose that $w=\sqrt{x^{2}+y^{2}+z^{2}} ; x=\cos \theta, y=\sin \theta, z=\tan \theta$. Find $\frac{d w}{d \theta}$ when $\theta=\frac{\pi}{4}$.
c) Verify Euler's theorem for the function $u=\frac{x\left(x^{3}-y^{3}\right)}{x^{3}+y^{3}}$.

Reg. No.: $\qquad$
Name: $\qquad$
First Semester B.Sc. Degree Examination, February 2018
Career Related First Degree Programme Under CBCSS
PHYSICS AND COMPUTER APPLICATIONS Foundation Course - I
PC 1121 - Mechanics, Thermodynamics and Properties of Matter (2015 Admission Onwards)

Time: 3 Hours
Max. Marks : 80

SECTION - A
Answer all questions. Each question carries one mark.

1. Define the terms stress and strain.
2. What is Poisson's ratio ?
3. Explain the first law of thermodynamics.
4. Define coefficient of thermal conductivity.
5. State the third law of thermodynamics.
6. Describe Neumann's triangle.
7. What is meant by efficiency of a heat engine ?
8. State Torricelli's theorem.
9. Write down the expressions for the moment of inertia of :
i) a solid sphere about an axis through its centre and
ii) a ring about an axis through its centre and perpendicular to its plane.
10. What is meant by solar constant ?

## SECTION - B

Answer any 8 questions. Each carry two marks.
(2×8=16 Marks)
11. Distinguish between reversible and irreversible processes.
12. Explain Wein's displacement law.
13. Explain why there is excess pressure within a liquid drop.
14. Show that $C_{p}-C_{v}=n R$.
15. Derive the relation between torque and angular momentum.
16. Derive the relation between surface energy and surface tension.
17. Explain the Clausius - Clayperon equation.
18. Explain the term bending moment and write its expression.
19. Discuss Carnot's theorem.
20. What is the effect of pressure on the boiling point of a liquid?
21. Describe Bernoulli's theorem.
22. Briefly explain Wiedmann-Franz law.
SECTION - C

Answer any 6 questions. Each carries four marks.
23. Find the energy liberated when 1000 droplets of diameter $10^{-6} \mathrm{~cm}$ each coalesce to form a water drop. Take the surface tension of water is $0.075 \mathrm{~N} / \mathrm{m}$.
24. A bar one metre long, 0.04 m broad and 0.005 m thick is supported on two knife edges 0.8 m apart. The depression produced by a 2 kg load at the centre is 0.005 m . Find the Young's modulus of the bar.
25. Find the change in entropy when two moles of a gas expands isothermally to twice its initial volume.
26. A gas within a cylinder with a pressure of 3 atmos at room temperature of $27^{\circ} \mathrm{C}$ suddenly bursts. Find its resulting temperature. Take $\gamma=1.4$.
27. A 100 g stone is rotated at the end of a string of length 50 cm at the rate of 2 revolutions per second. Find the angular momentum. If after 25 s , the revolutions become 1 per second, find the torque applied.
28. It is claimed that a particular engine absorbs 110 Joules of heat at 415 K , does 50 Joules of work and rejects 75 Joules of heat into a sink at 212 K . It is possible?
29. A circular disc of radius 0.1 m and mass 1 kg is rotating at the rate of 10 revolutions per $s$ about an axis through its centre and perpendicular to it. Find the work done to increase the rate to 20 per s.
30. Find the total pressure inside a bubble just below the water surface and having a radius of 0.1 mm . Take surface tension of water to be $0.072 \mathrm{~N} / \mathrm{m}$ and atmospheric pressure as $1.013 \times 10^{5} \mathrm{~N} / \mathrm{m}^{2}$.
31. Find the work done in expanding 2 moles of a gas to twice its initial volume at a constant temperature of $25^{\circ} \mathrm{C}$.
SECTION - D

Answer any 2 questions. Each carry fifteen marks.
(15×2=30 Marks)
32. Describe in detail the use of static torsion to find rigidity modulus of a rod.
33. Obtain the expression for excess pressure on a curved liquid surface.
34. Give the Kelvin and Planck statements of the second law of thermodynamics. Also explain the working of a Carnot engine.
35. Explain the working of an Otto engine and derive the expression for its efficiency.

Reg. No. : $\qquad$
Name :
First Semester B.A./B.Sc. Degree Examination, November 2018 (Career Related First Degree Programme under CBCSS) Group 2(a)
Language Course : ADDITIONAL LANGUAGE - HINDI
HN 1111.3 : Poetry and Mass Media (2017 Admission Onwards)

Time: 3 Hours
Max. Marks : 80

1. एक या दो वाक्यों में उत्तर लिखिए :
( $10 \times 1=10$ Marks)
1) कबीर की रचना का नाम क्या है ? उसके कितने भाग हैं ?
2) किसके आधार पर तुलसी संपूर्ण सृष्टि को राममय मानते हैं ?
3) कवि बच्चन किस रचना के कारण लोकप्रिय हो गएं ?
4) 'गंगातट' किस की रचना है ?
5) पंतजी ने कविता में कैसी भाषा का प्रयोग किया है ?
6) किस कवि ने 'समन्वय' पत्र का संपादन कार्य किया ?
7) सूचना किस अंग्रेज़ी शब्द का हिन्दी रूपांतर है ?
8) व्यापक अर्थ में किसे प्रौद्योगिकी कहा करते हैं ?
9) किसे संचार माध्यम कहते हैं ?
10) आधुनिक इलक्ट्रॉनिक माध्यमों में सब से पहले किसका स्थान आता है ?
11. किन्हीं आठ प्रश्नों के लघु उत्तर करीब 50 शब्दों में दीजिए :
( $8 \times 2=16$ Marks)
11) कबीर के विचार में सुख में सुमिरन करने से क्या होता है ?
12) मुखिया किस तरह होना चाहिए?
13) कवि क्यों चिर-सुख नहीं चाहता है ?
14) कठोर वचन का त्याग क्यों करना चाहिए ?
15) कवि ज्ञानेन्द्रपति नदी को कैसे रखना चांहते हैं ?
16) कवि तुलसी के विचार में किन लोगों के बीच नहीं जाना चाहिए ?
17) कवि बच्चन की रचनाओं का परिचय दीजिए।
18) गुरु महिमा के बारे में कबीर क्या कहते हैं ?
19) किन-किन क्षेत्रों में सूचना प्रौद्योगिकी का बोलबाला है ?
20) 'सर्च इंजन’ पर विचार करें ।
21) आधुनिक सूचना माध्यम पर टिप्पणी लिखिए।
22) ई-कॉमर्स पर चर्चा करें।
III. किन्हीं छ: प्रश्नों के उत्तर करीब 120 शब्दों में लिखिए :
23) तेरा साईं लझ में, ज्यों पहुपन में वास।

कस्तूरी का मिरगज्यों, फिरि फिरि ढूँदै घास।।
भाव समझ़ाइए ।
24) सूरदास पर टिप्पणी लिखिए।
25) 'नए इलाके में' कविता में चित्रित शहरीकरण की समस्या पर प्रकाश डालिए।
26) किस ने तुम्हारा नीर हरा

कलकल में कलुष भरा
बाधों के जुठारने से तो
कभी दूषित नहीं हुआ तुम्हारा जल।
यहाँ कवि क्या बताना
चाहते हैं ?
27) 'भारत देश' कविता का सारांश लिखिए।
28) पोस्टर तथा अन्य मुद्रित माध्यमों पर चर्चा करें।
29) सूचना माध्यम के रूप में पत्रिकाओं की भूमिका स्पष्ट करें।
30) टेलिविज़न के आविष्कार के साथ जनसंचार माध्यमों के इतिहास में एक नया अध्याय जुड गया। स्पष्ट करें।
31) आज इंटरनेट का युग है। स्पष्ट करें।
IV. किन्ही दो प्रश्नों के उत्तर करीब 250 शब्दों में लिखिए :
(2×15=30 Marks)
32) 'मधुशाला' कविता का सारांश लिखकर उसकी विशेषताओं पर प्रकाश डालिए।
33) सूरदास के पठित पदों पर चर्चा करें।
34) 'सुख-दुख' कविता का सारांश लिखकर उसके उद्देश्य पर प्रकाश डालिए।
35) आधुनिक सूचना माध्यम के विविध प्रकारों पर विस्तार से प्रकाश डालिए।

Reg. No. : $\qquad$
Name : $\qquad$

## First Semester B.Sc./B.C.A. Degree Examination, November 2018 Career Related FDP Under CBCSS

 Group 2(b) : Computer Science/Computer Applications Group 2(a) : Physics with Computer Applications Foundation/Vocational Course CS 1121/CP 1121/PC 1171 COMPUTER FUNDAMENTALS AND ORGANIZATION (2018 Admission). me : 3 Hours

## SECTION - A

Very short answer type. One word to maximum one sentence, answer all questions.

1. BIOS is the short name of $\qquad$
2. Define input device.
3. Define SRAM.
4. What is an optical disk?
5. Define Miss in Cache.
6. What is pipelining ?
7. Expand LEA instruction.
8. Define virtual memory.
9. What is a strobe ?
10. Define parallel data transfer.

## SECTION - B

Short answer. Not to exceed one paragraph, answer any eight questions.
Each question carries two marks.
11. Write a note on Ribbon Cable.
12. What is the role of an SMPS ?
13. Write about CMOS.
14. Explain about Magnetic Tape.
15. Write about USB.
16. Write a note on Accumulator Register.
17. Write a note on instruction set.
18. Explain about SHL instruction.
19. Write a note on Micro Instruction.
20. Explain about serial communication.
21. Write about daisy chain.
22. Write a note on bus request in DMA.
SECTION - C

Short essay. Not to exceed 120 words, answer any six questions. Each question carries four marks.
23. Write a note on expansion cards.
24. Draw Von Neumann architecture.
25. Differentiate SRAM and DRAM.
26. Write a note on type of optical disks.
27. Explain $P C$ and $D R$ registers.
28. Write a note on advantages of RISC architecture.
29. Differentiate $C D-R$ and $C D-W$.
30. Write about IOP.
31. Write about synchronous data transfer.
SECTION - D

Long essay. Answer any two questions. Each question carries 15 marks.
32. Explain about components inside a computer in detail.
33. Write a detailed note on Memory Hierarchy.
34. Differentiate Interrupt and Instruction Cycle.
35. Write about Modes of Data Transfer in detail.

Reg. No. : $\qquad$
Name : $\qquad$
First Semester B.A./B.Sc. Degree Examination, February 2018 (Career Related First Degree Programme under CBCSS) Group 2(a)

## LANGUAGE COURSE : ADDITIONAL LANGUAGE - HINDI HN 1111.3 : Poetry and Mass Media (2017 Admission)

## Time : 3 Hours

I. एक या दो वाक्यों में उत्तर लिखिए :

1) कबीर के जन्म के विषय में प्रचलित लोक कथा क्या है ?
2) तुलसी के लिए राम और सीता क्या-क्या हैं ?
3) अष्टछाप के प्रमुख भक्तों में अग्रणी कौन थे ?
4) हिन्दी कविता में कौन मुक्तछंद के प्रवर्तक माने जाते हैं ?
5) किस का कुल ‘सुंघ्यनी साहू' के नाम से प्रसिद्ध था ?
6) पंतजी को किस रचना के लिए ज़ानपीठ पुरस्कार मिला ?
7) 'नए इलाके में’ किसकी रचना है ?
8) किसे बोलचाल में इन्फोटेक या ऐ.टी. कहते हैं ?
9) सूचना का कच्चा माल क्या है ?
10) जनसंचार को अंग्रेज़ी में क्या कहा जाता है ?
11. किन्हों आठ प्रश्नों के लघु उत्तर करीब 50 शब्दों में दीजिए ।
11) मधुशाला में आनेवाले लोग कैसा व्यवहार करते हैं ?
12) क्या-क्या करने से नदी मलीमस हो जाती है ?
13) तरुशिखा कहाँ नाच रही है ?
14) घर जानने के लिए कवि क्या उपाय बताते हैं ?
15) कृष्ण की कृपा से क्या-क्या हो सकता है ?
16) निन्दक को पास रखने से क्या लाभ होगा ?
17) संतों का स्वभाव कैसा होता है ?
18) गोपियों का कपोल काला क्यों हो गया ?
19) संचार प्रक्रिया के मुख्य तत्त्व कौन-कौन से हैं ?
20) सामूहिक संचार क्या है ? स्पष्ट करें ।
21) 'समाचार पत्र' पर लघु टिप्पणी लिखिए।
22) ई-रीडिंग पर विचार करें।
117. किन्हीं छह प्रश्नों के उत्तर करीब 120 शब्दों में दीजिए।
23) परंपरागत सूचना माध्यम से क्या तात्पर्य है ?
24) वृत्तचित्र पर विचार करें।
25) ई-मेल पर टिप्पणी लिखिए।
26) सर्वश्रेष्ठ धन क्या है ? स्पष्ट करें।
27) 'स्नेह निर्झर बह गया है' कविता का सारांश लिखिए।
28) पठित पदों के आधार पर कृष्ण की बाललीला का वर्णन कीजिए।
29) कबीर पर टिप्पणी लिखिए।
30) सुख-दु:ख कविता के सन्देश पर विचार करें।
31) 'नए इलाके में' कविता में चित्रित प्राकृतिक निशानों पर प्रकाश डालिए।
IV. किन्हीं दो प्रश्नों के उत्तर करीब 250 शब्दों में लिखिए।
32) 'भारत देश' कविता का सारांश लिखकर विशेषताओं पर चर्चा करें।
33) वर्तमान पारिस्थितिक संकट के संदर्भ में ‘नदी और साबुन' कविता पर चर्चा करें।
34) नव इलेक्ट्रॉनिक माध्यमों पर एक निबंध लिखिए।
35) तुलसीदास के पठित दोहों पर चर्चा कीजिए।
