

Shree Bhahu Secondary School

Shivasatakshi-7, Laljhoda, Jhapa

INTERNAL EXAMINATION 2082

Grade : 12

F.M. : 50

Subject : English (0041)

Time : 2 hrs.

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Q.No. 1: Read the following text and complete the tasks that follow. [10]

It's not cool to be fat, but that hasn't stopped an obesity epidemic from occurring among young Americans. Childhood obesity increased from 5% in 1964 to about 13% in 1994. Today it's about 20%, and rising. Children, on average, spend five to six hours a day involved in sedentary activities like watching TV, using the computer, and playing video games, which is partly to blame for this rising rate. Maybe it wouldn't matter if they were active enough at other times, but most of them aren't.

To make matters worse, children are bombarded with television advertisements for fast food chains and other providers of high-fat, high-sugar meals and snacks. These highly effective advertising campaigns, combined with a physically inactive lifestyle, have produced a generation of children who are at high risk for medical conditions associated with obesity.

The main health threat is the early development of type 2 diabetes (adult onset), particularly in children with a family history of the disease. Doctors report an increase in the number of young adolescents developing type 2 diabetes, which can lead to heart disease, high blood pressure, kidney disease, stroke, limb amputations, and blindness. People who develop diabetes in adolescence face a decreased quality of life and a shorter life expectancy, particularly if the disease progresses without treatment. It's a scary prospect for our children, but in many cases, obesity and diabetes are preventable.

When kids spend most of their free time sitting in front of TVs and computers, they aren't outside running, jumping, or participating in team sports that would keep their weight down. Parents should set limits on the time their children spend in passive activities. Pediatricians recommend restricting children to one or two hours a day in front of the TV and computer combined, although older children may need additional time for learning activities.

Parent involvement remains the most important key to healthy diets for our children. Programs to educate parents about nutrition are essential. Fast foods should be eaten only in moderation. Caregivers, who are often busy and in a hurry, must avoid the temptation to take their children to fast food restaurants or buy fast food for dinner at home. Changing eating habits and lifestyles is not easy, but the benefit to our children's health is a wonderful reward for parents willing to take on the task.

A. Complete the following sentences using the words highlighted in the text. [5x1=5]

(a) The horror film was really scary.....

(b) You may ask your doctor to a suitable therapist.

- (c) Their health problems are caused by their life styles.
- (d) The car has features.
- (e) The new rules will become in the next few days.

B. Read the text again and answer the following questions in one sentence each: [5x1=5]

- (a) Give an example of inactive lifestyle.
- (b) What is another name for type 2 diabetes?
- (c) What can type 2 diabetes lead to?
- (d) How do you think parents can help kids reduce their weight?
- (e) Would you advice people to take fast food? Why, why not? Give a reason.

Q.No. 2: Write short answers to the following questions in about 75 words each. [4x2=8]

- (a) Describe the feeling of the young couple when they first arrived at a new place. (Neighbours)
- (b) How did the community celebrate Rakesh's success? (A Devoted Son)
- (c) What does the line "The news like squirrels ran" mean? (A Day)
- (d) In what way is marriage an institution? Explain. (Marriage as a Social Institution)

Q.No. 3: Write long answer to the following question. [5]

- (a) Is "The Bull" a satire against the feudal system of the Rana period? How? Justify your answer. (The Bull)

Or,

According to Russel, "The pursuit of knowledge may become harmful unless it is combined with wisdom." Justify this statement. (Knowledge and Wisdom)

Q.No. 4: Write a short paragraph about your dream job after you finish your education in about 150 words. [7]

Q.No. 5: You were away from home for a few days because of your family problem. As a result, you were unable to submit your project work meant for your internal assessment on due date. Write an email to your subject teacher requesting him/her to accept your work and grade it. [8]

Q.No. 6: Do as indicated in the brackets and rewrite the sentences. [8x1=8]

- (a) A number of students playing in the hall. (Put the correct form of verb "be" in the blank) *are*
- (b) My mother ran a bookshop five years. (Put the correct preposition in the blank)
- (c) You (will/must/has to/had to) stop smoking. It is very harmful. (Fill in the blank choosing the appropriate auxiliary verb)
- (d) He finished (to do/doing) his homework and then he went to the party with Gopal and Binod. (Choose the correct option from the bracket to complete the sentence)

- e) She worked hard. She didn't pass her exam. (Join these sentence with 'although')
- f) He is the man (whom/who/whose) son plays football for Three Star Club. (Choose correct option from the bracket to complete the sentence)
- g) Someone is preparing the tea. (Change into passive voice)
- h) My mother ~~had redecorated~~ the flat, before I reached home. (Complete the sentence using correct forms of verbs: 'redecorate')

Q.No. 7: Choose and copy the correct answer. [4x1=4]

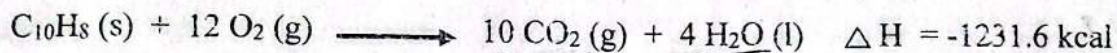
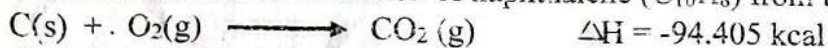
- (a) Which of the following words has a different final sound?
(i) rough (ii) tough (iii) ~~though~~ (iv) calf
- (b) Which of the following words does not have the prefix 'in'?
(i) independent (ii) inactive (iii) instrument (iv) inability
- (c) The beauty of nature must be praised by all. Here the word 'beauty' is ?
(i) a noun (ii) ~~an adjective~~ (iii) an adverb (iv) a verb
- (d) The babysitter the girl while her parents were not at home.
(i) ~~looked after~~ (ii) looked at (iii) looked over (iv) looked up

PM: 27

$$[11 \times 1 = 11]$$

1. Write down the chemistry of white vitriol. ($\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$)
2. Write short notes about steel and its applications.
3. 4g of NaOH was added to 20 cc of 2N H_2SO_4 solution, and solution was diluted to 1L. Predict whether the solution is acidic, basic or neutral. Calculate the normality of the resulting solution.

4. Explain about factors that affects rate of reaction.
5. Explain: a) CuSO_4 solution is acidic b) Na_2CO_3 solution is basic
6. State and explain Hess's law of constant heat summation.
7. Calculate the heat of formation of naphthalene (C_{10}H_8) from the following data:



8. An organic compounds 'A' on ozonolysis gives compound B and C. B and C both give positive DNP test. B has molecular formula $\text{C}_3\text{H}_5\text{O}$ and gives negative Tollen's test. C has same molecular formula and gives positive Tollen's test. Identify A, B and C giving relevant chemical reactions.
9. Write a method of preparation of each of the following polymers.
 - a) Polyethene
 - b) PVC
 - c) Polytetrafluoroethene (Teflon)

Attempt any three question. (Group C)

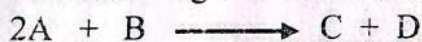
1. Define following terms: flux and slag.

How is copper metal extracted from its pyrites ore?

2. a) How can you prepare chloroform in laboratory? Why is chloroform stored in dark coloured bottles with little ethanol?
b) Write the action of chloroform with phenol in presence of alcoholic NaOH.

3. Define rate of reaction and half life period.

The following rate data were obtained at 303K for the reaction



Exp.	[A] molL^{-1}	[B] molL^{-1}	Initial rate of formation [D] $\text{molL}^{-1}\text{min}^{-1}$
1.	0.1	0.1	6.0×10^{-3}
2.	0.3	0.2	7.2×10^{-2}
3.	0.3	0.4	2.88×10^{-1}
4.	0.4	0.1	2.4×10^{-2}

- i. What is the rate law?
 - ii. Write the order with respect to each reactant and overall order.
 - iii. Find the unit of rate constant(K) of reaction.
4. Define electrochemical series with an example. Predict which one of the following reactions occur simultaneously?



Given standard reduction potentials of $\text{Fe}^{3+}/\text{Fe}^{2+}$ and $\text{Sn}^{4+}/\text{Sn}^{2+}$ are 0.77 V and 0.15 V respectively.



SHREE BHANU SECONDARY SCHOOL

School of Computer Engineering
Shivasatakshi-07, Laljhoda (Thapa)

Sub Code: 9131
"Dedicated to Excellence"

Grade_XII

Physics

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Time: 3 hrs

Full Marks: 75

Group 'A'

Re-write the correct option in your answer sheet. (11x1=11)

1. When torque acting upon a system is zero, which of the following will be constant?

a) Force

b) Impulse

c) Linear momentum

d) Angular momentum

2. The time period of simple pendulum is;

a) $T = 2\pi \sqrt{\frac{l}{g}}$

b) $T = \frac{1}{4\pi} \sqrt{\frac{l}{g}}$

c) $T = 4\pi \sqrt{\frac{g}{l}}$

d) $T = \frac{1}{2\pi} \sqrt{\frac{g}{l}}$

3. During the reverse biasing of a P-N junction diode, the thickness of depletion layer

a) decreases

b) increases

c) first increases then decreases

d) remains constant

4. In Young's double slits experiment, the distance between slits is halved & distance between slits & screen is doubled. Then, fringe width becomes;

a) half

b) double

c) four times

d) six times

5. Holes exists in;

a) metals

b) insulators

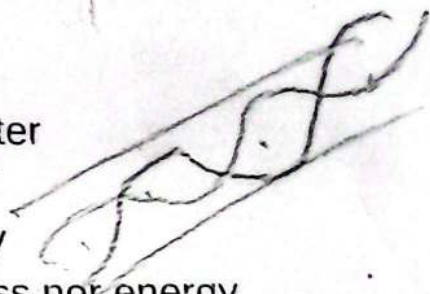
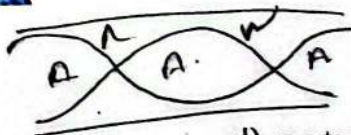
c) semiconductor

d) conductor

6. The instrument used for the accurate measurement of the emf of a cell is;

a) voltmeter

b) a slide wire bridge



- c) ammeter
d) potentiometer
7. Wave motion in a medium transfers;
a) mass only
b) energy only
c) both mass and energy
d) neither mass nor energy
8. Which of the following is ferromagnetic material?
a) Nickel b) Bismuth c) Aluminum d) Quartz
9. In a thermodynamic process, if the volume remains constant, then the process is known as;
a) isothermal b) isobaric c) adiabatic d) isochoric
10. If the meniscus of a liquid kept in a glass tube is plane then what will be the value of angle of contact?
a) zero b) less than 90° c) greater than 90° d) equal to 90°
11. In our country supply of ac voltage is 220 V then the peak voltage is,
a) 310V b) 220V c) 110V d) 350V

Group 'B' (8x5=40)

12. a) Define angular momentum. Write its SI unit. [1+1]
b) The speed of a motor engine decreases from 900 rev/min to 600 rev/min in 10 seconds; [3]
i) The angular acceleration
ii) Number of revolutions made by the motor during this interval
iii) How many additional seconds are required for motor to come to rest in the same rate?

$\omega = \frac{\omega_2 - \omega_1}{t}$
 $\omega = \frac{2\pi \times 900}{60} - \frac{2\pi \times 600}{60}$
 $\omega = 10\pi - 2\pi = 8\pi$
 $\omega = 8\pi \text{ rad/s}$

OR

- a) What is a simple harmonic motion? Derive an expression for time period in simple harmonic motion. [3]
b) A particle of mass 0.25 kg oscillates with a period of 2 sec. If its greatest displacement is 0.4m, what is its maximum kinetic energy? [2]
13. a) Define harmonics. [1]
b) Describe the various modes of vibration of air column in an

$\omega = \frac{2\pi}{T}$
 $\omega = \frac{2\pi}{2} = \pi \text{ rad/s}$

open organ pipe. [3]

c) What is end correction of an organ pipe? [1]

14. a) What is meant by diffraction of light? [1]

b) Explain diffraction pattern due to a single slit and derive condition for secondary maxima and minima. [4]

15. a) What is Doppler's effect? [1]

b) Deduce the formula for the apparent frequency of sound wave when the source is moving towards the stationary listener. [2]

c) A car travelling at 20 m/s sounds its horn which has frequency of 600 Hz. What frequency is heard by a stationary distant observer as the car approaches? (velocity of sound = 340 m/s) [2]

16. a) What is Hall effect? Describe its mechanism. [2]

b) Derive an expression for Hall voltage and Hall coefficient. [3]

17. a) State Biot Savart's law. [2]

b) Derive an expression for the magnetic field at the centre of a circular coil using above law. [3]

18. a) State and explain Einstein photo electric equation. [3]

b) If 5 eV photon strikes on a surface of a metal of work function 1.8 eV, calculate the maximum speed of the emitted electron. [2]
($h = 6.62 \times 10^{-34} \text{ Js}$, $m = 9.1 \times 10^{-31} \text{ kg}$, $e = 1.6 \times 10^{-19} \text{ C}$)

19. a) Define rectifier. [1]

b) Explain with a neat diagram of full wave rectifier using two semiconductor diodes. [3]

c) Plot input and output waveform of full wave rectifier. [1]

OR

a) State Bohr's postulate and hence derive expression for the energy of n^{th} orbit of hydrogen atom. [3]

b) Write truth table related to OR and AND gate. [2]

Group 'C'

(3x8=24)

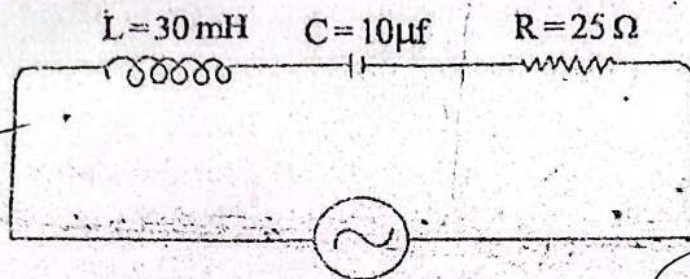
20. a) Define r.m.s value of an ac. [1]

b) How rms value of an ac is related to the peak value? [1]

c) Show that current through a circuit containing resistor and an capacitor leads the voltage by a phase angle $\frac{\pi}{2}$. [3]

d) From the LCR circuit shown below, calculate the impedance

and current in the circuit. [3]



$E = 250 \text{ V}, f = 50 \text{ Hz}$

$$P = \frac{V \times V}{Z^2}$$

$$Z = \sqrt{R^2 + X_L^2 + X_C^2}$$

$$Z = \sqrt{R^2 + X_L^2 + X_C^2}$$

$$Z = \sqrt{25^2 + 10^2 + 10^2}$$

$$Z = 31.6$$

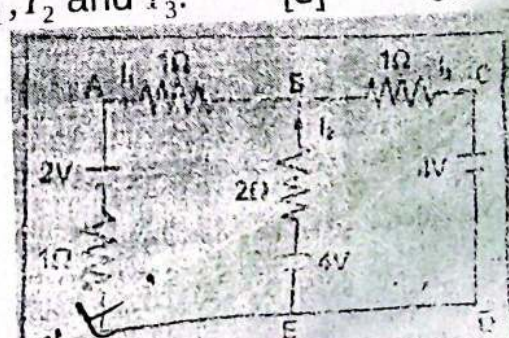
$$I = \frac{E}{Z} = \frac{250}{31.6} = 7.91 \text{ A}$$

21. a) Explain quantization of charge. [2]
 b) Why are X-rays used in Millikan's oil drop experiment? [1]
 c) In an Millikan's oil drop experiment, a charged oil drop of [density 900 kg/m^3 is held stationary between two parallel plates 9.0 mm apart held at a p.d of 150 V . When the electric field is switched off, the drop is observed to fall steadily through a distance of 3 mm in 53.5 seconds. Determine the radius and charge on the drop. [3]
 (viscosity of air $(\eta) = 1.80 \text{ Nsm}^{-2}$)
 d) Define specific charge. Calculate its value for an alpha particle. [2]

OR

- a) Define coefficient of viscosity. Also write its unit and dimension. [2]
 b) Obtain an expression for terminal velocity of the spherical solid falling inside the viscous liquid. [3]
 c) An air bubble of radius 2 mm is rising through a liquid of density 0.82 gm/cm^3 . The coefficient of viscosity of liquid is 349 poise. Neglecting the density of air, calculate the terminal velocity of the air bubble. [3]

22. a) State Kirchhoff's voltage law. [1]
 b) In the given circuit, find the value of I_1, I_2 and I_3 . [3]
 c) Find the value of p.d. between A and F. [2]
 d) How can you convert galvanometer into an ammeter? Explain with circuit diagram. [2]



$$V = IR$$

"Best of Luck"

4.15
 Einsten
 Einsten
 Einsten

श्री मानु माध्यमिक विद्यालय

शिवसताक्षी-७, लालमोडा, भापा

आन्तरिक परीक्षा २०८२

कक्षा :- १२

समय : ३ घण्टा

पूर्णाङ्क :- ७५

विषय :- सामाजिक अध्ययन (प्राविधिक धार)

सबै प्रश्नहरूको उत्तर दिनुहोस्।

समूह - 'क'

तलका प्रश्नहरूको अति संक्षिप्त उत्तर लेख्नुहोस्। (११×१=११)

१. सामाजिक अध्ययनलाई किन बहुआयामिक विषय भनिएको हो ? लेख्नुहोस्।
२. नेपालको हिमाली प्रदेशमा रहेका मुख्य दुई धार्मिक स्थलहरूको नाम लेख्नुहोस्।
३. तपाईंले विपतको समयमा गर्न सक्ने कुनै एक कार्य लेख्नुहोस्।
४. समावेशीकरण भनेको के हो ? एक वाक्यमा परिभाषित गर्नुहोस्।
५. नेपाली वास्तुकलाको संरक्षण प्रवर्धन कसरी गर्न सकिएला ? तपाईंको धारणा एक वाक्यमा लेख्नुहोस्।
६. वर्तमान नेपाली समाजका दुई विशेषताहरू लेख्नुहोस्।
७. नेपाल कहिले धर्म निरपेक्ष राष्ट्र घोषित भयो ? पूरा मिति लेख्नुहोस्।
८. राष्ट्रिय सुरक्षालाई किन संवेदनशील रूपमा लिइन्छ ? एक कारण दिनुहोस्।
९. जीवनोपयोगी सिप भनेको के हो ? परिभाषा दिनुहोस्।
१०. सानो-सानो कुरामा पनि तनाव लिने तपाईंको नजिकको साथीलाई दिने कुनै दुई सुझावहरू लेख्नुहोस्।
११. जनगणना २०७८ अनुसार नेपालको कुल जनसंख्या र जनसंख्या वृद्धिदर कति छ ? लेख्नुहोस्।

समूह - 'ख'

तलका प्रश्नहरूको छोटो उत्तर लेख्नुहोस्। (८×५=४०)

१२. समाज रुपान्तरणमा प्राविधिक तथा व्यवसायिक शिक्षाको भूमिका वर्णन गर्नुहोस्।
१३. दुइगो युग र कृषि तथा पशुपालन युगका पाँच भिन्नताहरू देखाउनुहोस्।
१४. "पर्यटकीय एवं धार्मिक दृष्टिले कोशी प्रदेश महत्वपूर्ण छ।" यस भनाइलाई उदाहरण सहित पुष्टि गर्नुहोस्।
१५. सामाजिक सुरक्षा कार्यक्रमका पाँच महत्वहरू उल्लेख गर्नुहोस्।
१६. दोस्रो जनआन्दोलन ०६२-०६३ ले नेपालको आर्थिक र सामाजिक क्षेत्रमा ल्याएका उपलब्धीहरूको समीक्षा गर्नुहोस्।

१७. भर्खरै सम्पन्न निर्वाचनमा अत्याधिक मत बढेर भएको पाइयो । उक्त बढेर मतको दर घटाउन के गर्नुपर्ला ? आफ्ना पाँच सुझावहरू प्रस्तुत गर्नुहोस् ।

१८. सामाजिक सञ्जालको उत्तरदायी प्रयोगका लागि के गर्न सकिन्छ ? पाँच बुँदा उल्लेख गर्नुहोस् ।

१९. जनसंख्या बृद्धि मात्र होइन, जनसंख्या न्यून हुनु पनि देशको लागि हानिकारक छ । यो भनाइलाई उदाहरण सहित प्रष्ट पार्नुहोस् ।

समूह - 'ग'

तलका प्रश्नहरूको लामो उत्तर लेख्नुहोस् । (३×८=२४)

२०. "नेपालको सामाजिक तथा सांस्कृतिक मूल्यमान्यता हाम्रो पहिचान, गौरव र जीवनको मार्ग निर्देशक हुन् ।" उदाहरण सहित प्रष्ट पार्नुहोस् ।

२१. पृथ्वीनारायण शाह कुशल संगठक, दूरदर्शी र महत्त्वकांक्षी राजा थिए । नेपाल एकीकरणमा उनका गतिविधिका आधारमा पुष्टि गर्नुहोस् ।

२२. जलवायु परिवर्तनको असरबाट बच्न नेपालले कस्तो रणनीतिहरू अपनाउनुपर्ला ? व्याख्या गर्नुहोस् ।

का. वि. सं. वि. वि.
संस्कृत वि. वि.
संस्कृत वि. वि.
संस्कृत वि. वि.



"Dedicated to Excellence"
SHREE BHANU SECONDARY SCHOOL
Shivasatakshi-07, Laljhoda(Jhapa)

Grade-XII
Final-Term Exam 2082 (2026)

Software Engineering

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Time: 2hrs.

Full Marks: 50

Group 'A'

Rewrite the correct options of each questions in your answer sheet. 9x1=9

1. Which of the following best describes the primary goal of Software Engineering?
A) To write code as fast as possible.
B) To produce high-quality software that is maintainable and delivered on time.
C) To eliminate the need for project documentation.
D) To ensure software never needs to be updated.
2. Which of the following is NOT considered a characteristic of "good" software?
A) Maintainability B) Portability C) Efficiency D) Complexity
3. Which of these is typically event-oriented?
A) PERT B) Activity Network C) CPM D) WBS
4. What is the primary goal of the "System Study" phase?
A) To write the source code B) To understand the current system and its problems
C) To install hardware D) To perform unit testing
5. Designing the database structures and data flows is part of:
A) System Design B) System Testing
C) System Implementation D) System Planning
6. Which type of testing is performed by the end-user to ensure the system meets their business needs?
A) Unit Testing B) Integration Testing
C) User Acceptance Testing D) Stress Testing
7. "Coding" takes place in which SDLC phase?
A) Analysis B) Development C) Design D) Feasibility

*Reliable.
Real*

8. Which model is often called the "Linear-Sequential" model?

A) RAD B) Spiral C) Prototyping D) Waterfall

9. Which modeling tool is specifically used for designing the logical structure of a database?

A) DFD B) Structure Chart C) ER Diagram D) Decision Tree

Group 'B'

Short Answer Questions

5x5=25

1. Who is Software Engineer? Explain the primary objectives or "attributes" of well-engineered software?
2. Differentiate between PERT and CPM. ✓
3. How does the Spiral Model handle "Technical Risks" differently than the Waterfall Model?

OR

What is Prototyping Model? Write its advantages and disadvantages.

4. What is a Feasibility Study? Describe its various types. ✓

5. Draw an E-R Diagram for School Management System. ✓

OR

Draw a Level-0 Data Flow Diagram for School Management System.

Group 'C'

Long Answer Questions

8x2=16

1. Elaborate on the "System Study" phase. Why is it considered the foundation of SDLC?

OR

Discuss the importance and components of an SRS (System Requirements Specification) document.

2. What are the essential features and architectural requirements of an e-Learning Platform?

OR

Describe various methods used in a Software Piracy Protection System.

The End

DPet.

DPet 2021



"Dedicated to Excellence"
SHREE BHANU SECONDARY SCHOOL

School of Computer Engineering
Shivasatakshi-07, Laljhoda (Jhapa)
Third-Term Examination (2082)

Sub. Code: 9341

Grade-XII
Visual Programming

Time: 2 hrs

Full Marks: 50

Group- A

Multiple Choice Questions

1. int keyword targets to which .Net type?
a. System. Int8 b. System. Int16
c. System. Int32 d. System. Int64
2. Which of the following methods is used to convert a string to lowercase in C#?
a. ToUpper() b. ToLower()
c. TrimQ d. ReplaceQ)
3. What is the syntax for a for loop in C#?
a. for(initialize; condition; iterator){code}
b. for(condition; initialize; iterator){code}
c. for(condition; iterator; initialize){code}
d. for(iterator , initialize;condition){code}
4. Which of the following is the correct output of the C#.NET code snippet given below?
Int [, ,] a= new int [3,2,3];
Console.writeline(a.length);
a. 20 b. 4 c. 18 d. 10
5. Which of the following is used to handle exception in C#?
a) Try catch b) if-else
c) switch case d) while loop
6. When would a structure variable get destroyed?
a. When no reference refers to it, it will get garbage collected.

smallest
 $9 \times 1 = 9 = b$
y
if (c < smallest, et)
c = smallest

- b. Depends upon whether it is created using new or without using new.
 c. When it goes out of scope.
 d. Depends upon the Project Settings made in Visual Studio.NET.
7. Among the given pointers which of the following cannot be incremented?
 a. int b. Char c. Float d. Void
8. Which control statement is used to define user-defined method in C#?
 a) if b) for
 c) while d) function
9. Which namespace is used to connect to a database in C#?
 a. System.Data.SqlClient b. System.Data.OracleClient
 c. System.Data.OleDb d. All of the above

Group -B

(Short answer questions)

5 x 5 = 25

10. Explain any two data types used in C#.
 11. Demonstrate the switch statement with an example.
 OR
 Illustrate for loop with an example.
 12. Write a program to find the smallest number among three numbers in C#.
 OR
 Explain Replace() and length() string functions in C#.

13. Demonstrate the multidimensional array with example.
 14. Write the advantages and disadvantages of the pointer in C#

Group -C

(Long answer question)

8 x 2 = 16

15. What is a pointer? Demonstrate the access of data value using a pointer in C#.
 16. Explain the database connection procedure in C# to develop the application with an example.

OR

Write a C# program to enter the details of three students (Roll No and Name) and display them using structure.

int smallest = 20;

if (b < smallest)

Min numbers = 20, 20, 20

if (b < smallest)
Min numbers = 20, 20, 20

ex
excellent

int numbers
= 20, 20, 20

new int[3]



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SHREE BHANU SECONDARY SCHOOL
Shivasatakshi-07, Laljhoda(Jhapa)

Grade-XII
Final-Term Exam 2082 (2026)
Contemporary Technology

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Time: 2hrs.

Full Marks: 50

Group 'A'

Rewrite the correct options of each questions in your answer sheet. 9x1=9

1. What is a major advantage of modern technology?
a) It is cheap to implement.
b) It makes people inactive.
c) It saves a lot of time and provides ease of access to information.
d) It reduces global connectivity.
2. What is the role of a payment gateway in e-commerce?
a) Displaying products b) Delivering physical items
c) Providing customer support d) Processing financial transactions safely
3. Which application has emerged as a key platform for providing citizen services in Nepal?
a) TikTok b) Nagarik App c) Hello Sarkar d) Viber
4. OLX and Hamrobazar are examples of which E-commerce segment?
a) B2B b) B2C c) C2C d) P2P
5. What is a major challenge for IoT implementation in Nepal?
a) Lack of interest from farmers
b) High cost of hardware and geographical terrain
c) Too many satellite providers
d) Excess of skilled IoT engineers
6. A Chatbot like ChatGPT or Siri is an application of which AI area?
a) Expert Systems b) Robotics
c) Natural Language Processing (NLP) d) Computer Vision
7. Which standard is specifically used for compressing video files?
a) MIDI b) JPEG c) MPEG d) PNG

8. Multimedia that allows an end user to control what and when the elements are delivered is called:
- a) Linear Multimedia b) Interactive Multimedia
c) Hypermedia d) Streaming
9. Which component of Hadoop is responsible for storage?
- a) MapReduce b) YARN
c) HDFS (Hadoop Distributed File System) d) Spark

Group 'B'

Short Answer Questions

5x5=25

1. Define contemporary technology and explain its core characteristics in the context of the 21st century.
2. Briefly describe the major types of E-commerce models with suitable examples.

OR

3. Analyze the current scope and challenges of E-commerce in Nepal.
3. Define E-Governance and discuss its key benefits and potential challenges in a developing context like Nepal.
4. Explain the key characteristics/features of IoT that differentiate it from traditional networking.

OR

5. Describe the core components that constitute an IoT system architecture.
5. Define Big Data and explain the 5 Vs of Big Data in detail.

Group 'C'

Long Answer Questions

8x2=16

1. Define Cloud Computing and Provide a detailed classification of Cloud Computing based on service models and deployment models.
2. What is AI? explain the major areas of AI in brief.

OR

Explain the advantages of AI in automating repetitive tasks and its role in enhancing human productivity across various industries.

The End



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Shivasatakshi-07, Laljhoda(Jhapa)

Grade-XII

Third Term Exam 2082 (2026)

Computer Network

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Time: 2 hrs

Full Marks: 50

Group- A

Multiple Choice Questions

9x1=9

1. Which of the following is an advantage of a computer network?
a) Resource sharing ☒ b) Malware
c) Security d) Privacy
2. Internet can be used to
a) Pay bills online b) Order food online
c) Play video games ☒ d) All of the above
3. Data transmission rate of bus topology is
a. slow ☒ b. fast c. average d. none
4. The transmission media used by MAN can be
a. Twisted pair cable b. Optical fiber
c. Coaxial cable ☒ d. both b and c
5. The main function of router is
☒ a. Routing of packets b. Connection between systems
c. Transmission of bits ☒ d. Session control
6. Telephone conversation between two people is
a. Simplex b. Half duplex ☒ c. Full duplex d. All

9

7. The IP 89.12.10.20 belongs to block of IP address.
a. Class A b. Class B c. Class C d. Class D

8. Organization form team for
a. Analysis b. design c. marketing d. all

9. Which of the following is not Fabrication attacks
a. SQL Injection b. Route Injection
c. Eavesdropping on communication d. Email Spoofing

Group -B

Short answer questions

Answer any five questions:

10. What are the advantages of the client server model?

11. Explain level of workgroup computing.

12. What are the advantages and disadvantages of twisted pair cable?

13. Why do you need LAN?

14. Why do you need HTTP and POP?

15. How do you mitigate the interruption attack?

Group -C

Long answer question

16. Explain different types of VPN architecture.

17. Explain OSI model.

18. What are the different classes of IP addresses?

5 x 5 = 25

2 x 8 = 16

web interaction

email no
retrieved
date.

P.D. 1/5

128.000 to common internet.
255.255.255.255
laboration.
resting



Sub Code: 9141
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School of Computer Engineering
Shivasatakshi-07, Laljhoda (Jhapa)

Final Terminal Examination-2082

Grade_XII
Mathematics

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Time: 3 hrs

Full Marks: 75

Group 'A'

Re-write the correct option in your answer sheet. (11x1=11)

- The number of circular permutations of n objects is;
a) $n!$ b) $(n-1)!$ c) $\frac{n!}{r!}$ d) $\frac{n!}{(n-r)!}$
- The polar form of complex number $\frac{1-i}{1+i}$ is.....
a) $\cos 0^\circ + i \sin 0^\circ$ b) $\cos 90^\circ + i \sin 90^\circ$
c) $\cos 120^\circ + i \sin 120^\circ$ d) $\cos 270^\circ + i \sin 270^\circ$
- The nature of the roots of the equation $x^2 - x + 1 = 0$ are;
a) real & equal b) rational & unequal
c) irrational & unequal d) imaginary
- What is $\vec{a} \times \vec{b}$ if $\vec{a} = (0, 2, 0)$ and $\vec{b} = (0, 0, 2)$?
a) $(4, 0, 0)$ b) $(0, 4, 0)$ c) $(0, 0, 4)$ d) $(-4, 0, 0)$
- Is $\sin A : \sin B : \sin C = 1 : \sqrt{3} : 2$, what is the ratio of $a : b : c$?
a) $1 : 2 : \sqrt{3}$ b) $1 : \sqrt{3} : 2$ c) $1 : 2 : 3$ d) $1 : 2 : \sqrt{3} + 1$
- What is the centre of circle represented by the equation $(x+2)^2 + (y-3)^2 = 16$?
a) $(-2, -3)$ b) $(-2, 3)$ c) $(-2, 3)$ d) $(2, 3)$
- It is given that $f(x)$ is continuous and derivable at a point $x=a$ such that $f'(a) > 0$. Which one of the following is nature of $f(x)$ at $x=a$?
a) increasing b) decreasing
c) stationary d) neither increasing nor decreasing

8. Which of the following is the integral of $\int \frac{1}{4+x^2} dx$?
 a) $\tan^{-1}\left(\frac{2}{x}\right) + c$ b) $\tan^{-1}\left(\frac{x}{2}\right) + c$ c) $\frac{1}{2}\tan^{-1}\left(\frac{2}{x}\right) + c$ d) $\frac{1}{2}\tan^{-1}\left(\frac{x}{2}\right) + c$
9. What is the equivalent integration of $\int \frac{dx}{(x-1)(x-2)}$?

a) $\int \frac{dx}{x-1} + \int \frac{dx}{x+2}$
 c) $\int \frac{dx}{x-2} - \int \frac{dx}{x-1}$

b) $\int \frac{dx}{x-1} - \int \frac{dx}{x-2}$
 d) $\int \frac{dx}{x-1} + \int \frac{2dx}{x-2}$

10. The degree of differential equation $\left(\frac{d^2y}{dx^2}\right)^2 + \left(\frac{dy}{dx}\right)^3 + 2y^4 + 6 = 0$?
 a) 1 b) 2 c) 3 d) 4

11. Which of the following is condition of positive skewness?

a) mean > median > mode
 c) median > mode > mean

b) mean < median < mode
 d) median < mode < mean

Group 'B'

(8x5=40)

12. For binomial expansion of $(1+x)^n$;

a) write it in expanded form. [1]
 b) Write down its first four coefficients. [1]
 c) If n is even, write the middle term. [1]

d) What is the sum of all binomial coefficient when $x=1$? [1]

e) If $C(n, r_1) = C(n, r_2)$, then write down the relation of r_1, r_2 and n [1]

13. Prove by mathematical induction, $1^2 + 2^2 + 3^2 + \dots + n^2 = \frac{n(n+1)(2n+1)}{6}$ [3]

14. a) In ΔABC , prove that: $\tan\left(\frac{B-C}{2}\right) = \frac{b-c}{b+c} \cdot \cot \frac{A}{2}$ [3]

b) In ΔABC , $A = 75^\circ, B = 4\sqrt{3}, C = 45^\circ$. Find all the sides. [2]

15. a) Write $\frac{dy}{dx}$ in terms of $\frac{dy}{dt}$ and $\frac{dx}{dt}$ [1]

b) Define concavity and convexity of a function. [1+1]

c) Write the necessary conditions that $y = f(x)$ has local maxima and local minima at a point. [1+1]

16. Reduce the expression $\frac{8}{(x+2)(x^2+4)}$ into partial fraction and evaluate the

integral $\int \frac{8}{(x+2)(x^2+4)} dx$

2024/11/21

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17. a) If $z = \cos\theta + i\sin\theta$, find the value of $z^n + \frac{1}{z^n}$ by using De-moivre's theorem. [2]

b) In a group of 12 students, 8 are boys and remaining are girls. In how many ways can 5 students be selected for quiz competition so as to include at most three girls? [3]

18. Calculate the coefficient of Karl-Pearson's skewness of the data given below; [5]

Age in year (x)	50-55	45-50	40-45	35-40	30-35	25-30	20-25
No. of Employees (f)	25	30	40	45	80	110	170

19. Solve the differential equation by reducing in linear form $\frac{dy}{dx} + \frac{y}{x} - x^2 = 0$ [5]

Group 'C'

(8x3=24)

20. A) What are the relation between the roots and coefficient of the quadratic equation $ax^2 + bx + c = 0$? ($a \neq 0$), find it. [4]

b) Find the cube roots of unity. [4]

21. a) Find the direction cosines of the lines satisfying the equations

$$l + m + n = 0 \text{ and } 2lm - mn + 2nl = 0 \quad [4]$$

b) Using vector method, prove that $\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$, where a, b, c are sides of a triangle ABC. [4]

22. a) Find the mean and standard deviation in a binomial distribution, in which probability of success and number of trials are $\frac{1}{2}$ and 6 respectively. [2]

b) Write the meaning of a, b, c in the standard equations $y^2 = 4ax$ and

$$\frac{x^2}{b^2} + \frac{y^2}{c^2} = 1 \quad [2]$$

c) If $x = (2\cos t - \cos 2t)$ and $y = (2\sin t - \sin 2t)$, prove that

$$\left(\frac{dy}{dx}\right)_{t=\frac{\pi}{2}} = -1 \quad [4]$$

24-30 -0-