

Group "A"

10 X 1 mark =10

Attempt all questions

Tick (✓) the best answers

- Which of the items listed below is NOT one of the software engineering layers?
  - Process
  - Manufacturing
  - Methods
  - Tools
- Which phase of the RUP is used to establish a business case for the system?
  - Transition
  - Elaboration
  - Construction
  - Inception
- Which is NOT a step of requirement engineering?
  - Requirements elicitation
  - Requirements design
  - Requirements analysis
  - Requirements documentation
- Which design identifies the software as a system with many components interacting with each other?
  - Architectural design
  - Pattern design
  - High-level design
  - Component Design
- Which of the following is a measure of the degree of interdependence between modules?
  - Cohesion
  - Coupling
  - Relation
  - correlation
- Which of the following is NOT a Software Configuration Management Activity?
  - Configuration item identification
  - Release management
  - Risk management
  - Version management

- Which of the following does NOT include Software Maintenance?
  - Error corrections
  - Enhancements of capabilities
  - Business Requirement corrections
  - Version Correction

- What can be estimated either in terms of KLOC or by calculating number of Function Points in the software?
  - Time estimation
  - Cost estimation
  - Effort estimation
  - Software size estimation
- What is the order in which test levels are performed?
  - Unit, Integration, System, Acceptance
  - Unit, System, Integration, Acceptance
  - Unit, Integration, Acceptance, System
  - It depends on nature of a project.
- Which of the following is not categorized under Product Operation of McCall's Software Quality Factors?
  - Flexibility
  - Usability
  - Reliability
  - Integrity



a Complete Guide [www.bictblogs.blogspot.com](http://www.bictblogs.blogspot.com)

**BICT** Blog

TRIBHUVAN UNIVERSITY

2076

Bachelors/ Education /5<sup>th</sup> Semester

Full Marks: 40

ICT.Ed.457 – Software Engineering and Project Mgmt. Time: 3 hrs.

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

Attempt all questions

Group "B"

6 X 5 marks =30

- What is software engineering? Describe the software myth.
- Explain the Spiral Software Development Process Model.
- Describe the importance of SRS and explain requirement engineering process.
- What are the activities of software project management? Explain the software development planning process.
- What are software metrics? Describe the calculation parameters of Functional Point and Object Point.
- Describe the back box and white box software testing approach.



**TRIBHUVAN UNIVERSITY**

Faculty of Education

2076

Bachelors/5<sup>th</sup> Semester

Symbol No.: .....

Ed.451 –Fundamental of Curriculum

**Group "A"**

10 X 1 mark =10

Attempt all questions

Tick (✓) the best answers

- "Curriculum as experiences" refer primarily to experience of?
  - teacher
  - Parents
  - Students
  - all of the above
- Which one of the following is not the least important factor in curriculum decision making process?
  - school
  - society
  - nature of learner
  - nature of knowledge
- Behaviour modification approach is related to-----
  - cognitivism
  - constructivism
  - behaviourism
  - existentialism
- "Senses are the gateways of knowledge" is the main slogan of-
  - idealism
  - realism
  - pragmatism
  - naturalism
- The initial and most important components of curriculum is----
  - content
  - method
  - objectives
  - evaluation
- What is the main feature of horizontal organization of content?
  - integration
  - continuity
  - order
  - sequence
- The sequence of curriculum components is-----
  - objectives, methods, content and evaluation
  - objectives, evaluation, content and methods
  - objectives, content ,evaluation and methods
  - objectives, content, methods and evaluation

- Which of the following criteria is less important for selecting contents in curriculum?
  - validity
  - significance
  - interest
  - localness
- According to NCF-2063, basic education includes-----
  - Grade 1-3
  - Grade 1-5
  - Grade 1-8
  - Grade 1-10
- School level curriculum will be implemented only after the approval of-----
  - subject committee
  - National Curriculum Development Council
  - Co-ordination committee
  - Ministry of education



a Complete Guide [www.bictblogs.blogspot.com](http://www.bictblogs.blogspot.com)  
**BICT** Blog

**TRIBHUVAN UNIVERSITY**

2076

Bachelors/ Education /5<sup>th</sup> Semester  
 Ed.451 –Fundamental of Curriculum  
 Full Marks: 60  
 Time: 3 hrs.

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

Attempt all questions

**Group "B"**

6 X 5 marks =30

- Explain the differences between curriculum and course of study?
- How learning theories can influence on curricular decision making process? Explain in brief.
- "The nature of learner" is a important base for curriculum decision making. Explain this statement with example.
- List the elements of curriculum and explain any one of them.
- Differentiate between aims and objectives with suitable examples.
- Sketch the existing structure of secondary school level curriculum (General area) of Nepal?

**Group "C"**

2 X 10 marks =20

- Classify the educational objectives according to B.S. Bloom and explain the different levels of cognitive domain with suitable examples?
- List the competencies of Grade 9-10 as stated by existing school curriculum of Nepal?





Attempt all questions

Tick ( ✓ ) the best answers

- What is the type of transmission impairment in which the signal loses strength due to the resistance of the transmission medium?
  - Attenuation
  - Noise
  - Distortion
  - Decibel
- Which multiplexing technique involves signals composed of light beams?
  - WDM
  - FDM
  - TDM
  - SDMA
- Which color coding of cable is used to connect similar devices?
  - Straight Cable
  - Serial Cable
  - Cross Over Cable
  - All of Above.
- Which is/are subcategories of Packet-switched networks?
  - virtual-circuit networks and datagram networks
  - Carrier-circuit networks and datagram networks
  - virtual-circuit networks and Bitgram networks
  - all of the above
- Which of the following is NOT a class of LAN?
  - Broad band
  - Token Bus
  - CSMA/CD
  - Token Ring
- What type of connector is typically used to connect thin net (RG-58) coaxial cabling to a network interface card?
  - BNC
  - UI
  - RJ-11
  - RJ-45
- Which of the following is the loopback address?
  - 0.0.0.1
  - 127.0.0.1
  - 255.255.255.255
  - 127.0.0.0

- Which of the following transport layer protocols is connectionless?
  - UDP
  - TCP
  - FTP
  - Nvt

- Which one of the following devices rebroadcasts the signals it receives after conditioning them for increased strength and clarity?
  - Repeater
  - Bridge
  - Gateway
  - Router

- Which of the IEEE 802 standards defines the technologies used to form and manage personal area networks?
  - 802.15
  - 802.16
  - 802.11
  - 802.3



a Complete Guide [www.bictblogs.blogspot.com](http://www.bictblogs.blogspot.com)  
**BICT** Blog

TRIBHUVAN UNIVERSITY

2076

Bachelors/ Education /5<sup>th</sup> Semester

Full Marks: 40

ICT.Ed.456 –Data Communication & Computer Network Time: 3 hrs.

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

Attempt all questions

Group "B"

6 X 5 marks =30

- Define Switching. Differentiate between Packet switching and Circuit switching.
- Write short notes on Bandwidth, Throughput and Jitter.
- Explain the different types of guided communication media.
- Describe the OSI reference model with functional description of each layers.
- What are the different classes of addresses used in IPv4? Explain.
- Explain CSMA/CD and Token Passing access protocols.



Group "A"

10 X 1 mark =10

Attempt all questions

Tick (✓) the best answers

- Which of these keywords is used by a class to use an interface defined previously?
  - import
  - Import
  - implements
  - Implements
- In a java program, which of the following is true about package declaration?
  - must precede
  - must succeed
  - may precede or succeed
  - none
- Which method is called internally by Thread start() method?
  - execute()
  - run()
  - launch()
  - main()
- Using which keyword we can access value of the instance variables and class variables inside the method of the class?
  - super
  - final
  - this
  - either super or this
- Which component is used to compile, debug and execute java program?
  - JVM
  - JDK
  - JIT
  - JRE
- Which of these keywords is not a part of exception handling?
  - try
  - finally
  - thrown
  - catch
- Which of the following statements about abstract methods/classes in Java is true?
  - An abstract class cannot be instantiated.
  - Constructors can be abstract.
  - A subclass of an abstract class must defined the abstract methods.
  - Static methods may be declared abstract.

- Which keyword is used to insert interface by another interface?
  - public
  - extends
  - implements
  - class

- What type of event is generated when the user presses the enter key in a JTextField?
  - ActionEvent
  - ActionListener
  - TextEvent
  - ItemEvent
- Which JDBC driver Type(s) is(are) the JDBC-ODBC bridge?
  - Type 1
  - Type 2
  - Type 3
  - Type 4



a Complete Guide [www.bictblogs.blogspot.com](http://www.bictblogs.blogspot.com)

**BICT** Blog

TRIBHUVAN UNIVERSITY

2076

Bachelors/ Education /5<sup>th</sup> Semester

Full Marks: 40

ICT.Ed.455 – Java Programming

Time: 3 hrs.

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

Attempt all questions

Group "B"

6 X 5 marks =30

- What are the major features of java programming?
- What is multithreading? Explain with example.
- Differentiate between while and do while statements with example.
- Write code for calculating sum of two numbers using console class for getting input from user.
- Why we use interface in java? Explain with example.
- Write java program to create following UI.

Enter Number

Factorial





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

Attempt all questions

Group "B"

6 X 5 marks =30

1. If  $2/3$  is approximated by  $0.667$ , find the absolute error.
2. Define forward, backward and central differences and mention the properties of backward differences.
3. Prove that the relation between shift operator  $E$  and averaging operator  $\mu$  is  $\mu = 1/2 (E^{1/2} + E^{-1/2})$ .
4. The population of a town in the decimal census was as given below. Estimate the population for the year 1895.

Year (X)	1891	1901	1911	1921	1931
Population (Y) in thousand	46	66	81	93	101

5. Find the first derivative of  $y$  at  $x=0.5$  from the following data.

X	0	1	2	3	4
Y	1	1	15	40	85

6. Evaluate  $I = \int_0^1 \frac{1}{1+x} dx$  by Simpson's one third rule.

Group "C"

2 X 10 marks =20

7. Solve the following equations:  $3x + y - z = 3$ ,  $2x + 8y - z = -5$ ,  $x - 2y + 9z = 8$  using Gauss elimination method.
8. Find a real root of the equation  $x^3 + x^2 - 1 = 0$  by iteration method.



Group "A"

10 X 1 mark =10

Attempt all questions

Tick (✓) the best answers

1. How many significant figures does 7090 have?  
a. 2      b. 3      c. 4      d. 5
2. What type of equation is  $ax + by + c = 0$ ?  
a. Linear      b. Quadratic  
c. Bi-quadratic      d. Cubical
3. How many roots at the most does the cubical equation have?  
a. 1      b. 2      c. 3      d. 4
4. How is the shift operator  $E$  of  $f(x)$  defined?  
a.  $Ef(x) = E + f(x)$       b.  $Ef(x) = f(x - h)$   
c.  $Ef(x) = f(x + h)$       d.  $Ef(x) = E - I$
5. Which of the following gives the relation between shift operator  $E$  and averaging operator  $\mu$ ?  
a.  $\mu = 1/2 (E^{1/2} + E^{-1/2})$       b.  $\mu = 1/2 (E^{1/2} - E^{-1/2})$   
c.  $\mu = (E^{1/2} - E^{-1/2})$       d.  $\mu = (E^{1/2} + E^{-1/2})$
6. The divided difference is.....  
a. Distributive      b. Backward  
c. Central      d. Symmetric
7. Newton's forward interpolation formula is appropriate to interpolate the value of  $y$  when it is :  
a. nearly at the beginning of given data  
b. nearly at the end of given data  
c. nearly at the centre of given data  
d. nearly at the beginning or end of the data
8. If the interpolation equation is  $y(x) = x^2 + x + 1$ , then what is the value of  $y(2.5)$ ?  
a. 10      b. 9.25  
c. 9.75      d. 10.75

9. Which of the following is the chain rule of derivative?  
a.  $\frac{dy}{dx} = \frac{dp}{dy} \cdot \frac{dp}{dx}$       b.  $\frac{dy}{dx} = \frac{dx}{dp} \cdot \frac{dp}{dy}$   
c.  $\frac{dy}{dx} = \frac{dx}{dp} \cdot \frac{dy}{dp}$       d.  $\frac{dy}{dx} = \frac{dy}{dp} \cdot \frac{dp}{dx}$
10. Which of the following integration is more accurate?  
a. Trapezoidal rule      b. Simpson's 1/3 rule  
c. Simpson's 3/8 rule      d. Simpson's 1/2 rule

