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V Semester B.Sc. 6 (NEP) Degree Examination, March/April - 2024

PHYSICS

PHYSICS-IX Classical Mechanics-I and Quantum Mechanics - I

Paper : I

(Regular)

Time : 2 Hours

Maximum Marks : 60

Instructions to Candidates :

- 1) Calculators may be allowed for solving problems.
- 2) Write intermediate steps.
- 3) Give physical meaning for symbols and notations.

Answer any SIX of the following questions.

(6×2=12)

1. a) What is non-inertial frame of reference?  
b) What is scleronomic constraint?  
c) What is fictitious force?  
d) State the fundamental postulates of special theory of relativity.  
e) What is photo electric effect?  
f) What are the matter waves?  
g) What are the eigen values and eigen functions?  
h) What is zero-point energy.

Answer 'a' and 'b' or 'c' and 'd' for all the following questions.

2. a) i) Define the terms work done by a force, and conservative force  
ii) State and explain law of conservation of energy.  
b) What is inertial frame of reference? State the Newton's laws of motion. (8+4)

(OR)

- c) Derive Lagrange's equation of motion from D, Alemberts principle.  
d) Derive the equation of motion of simple pendulum using Lagrange's equation. (8+4)
3. a) Derive Lorentz transformation equations.  
b) What is length contraction? Derive an expression for the length contraction. (8+4)

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(OR)

- c) Derive an expression for the variation of mass with velocity.
- d) The rest mass of proton is 2000 times the rest mass of an electron, what should be the velocity of an electron at which its mass will be equal to the rest mass of proton? (8+4)
4. a) What is Compton effect? Derive an expression for the Compton shift.
- b) Derive the relation between group velocity and phase velocity. (8+4)

(OR)

- c) Define Heisenberg uncertainty principle? Explain the illustration of uncertainty principle by Gamma ray microscope.
- d) 20 KV electrons are passed through a thin film of a metal for which the atomic spacing is  $2.5 \text{ \AA}$ . What is the angle of deviation for the first order diffraction?

Given: Mass of an electron  $m = 9.1 \times 10^{-31} \text{ kg}$

Charge of an electron  $e = 1.6 \times 10^{-19} \text{ C}$ . (8+4)

5. a) Derive Schrodinger time-dependent and time-independent wave equation.
- b) Derive Schrodinger wave equation for a free particle in one dimension. (8+4)

(OR)

- c) Obtain an expression for energy of a particle in one dimensional box using Schrodinger wave equation.
- d) Consider that three electrons are confined to a one dimensional box of the length  $1 \text{ \AA}$ . Calculate the total energy of the system.

Given: Mass of an electron  $= 9.1 \times 10^{-31} \text{ kg}$

Planck's constant  $h = 6.625 \times 10^{-34} \text{ JS}$  (8+4)

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V Semester B.Sc. 6 (NEP) Degree Examination, March/April - 2024

**PHYSICS**

**Elements of Atomic, Molecular and Laser Physics**

**Paper : II**

**(Regular)**

**Time : 2 Hours**

**Maximum Marks : 60**

**Instructions to Candidates :**

- 1) Calculators are allowed.
- 2) Show the intermediate steps.

Answer any **SIX** of the following questions.

**(6×2=12)**

1. a) Who proposed quantum model for atom.  
b) Define critical potential.  
c) What is orbital quantum number and how it is related to principle quantum number.  
d) Write the selection rule for L and S.  
e) How molecular spectrum is different from atomic spectrum.  
f) What are anti stoke lines.  
g) Give an example for Boson.  
h) Mention the types of ensembles.

**Answer 'a' and 'b' OR 'c' and 'd'.**

2. a) Derive the expression for energy of electron in case of hydrogen atom. **(8)**  
b) calculate the wave length first member of Lyman series of hydrogen atom **(4)**  
Given  $R = 1.097 \times 10^7 \text{ m}^{-1}$ .

**(OR)**

- c) Explain Frank-Hertz Experiment. **(8)**  
d) The critical potential of hydrogen atom is 13.6 eV, if it is bombarded by an electron of this energy find the wave length of radiation emitted. **(4)**

**[P.T.O.]**



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Answer 'a' and 'b' OR 'c' and 'd'.

3. a) Derive the expression for magnetic dipole moment due to orbital motion of electron. (8)  
b) Mention the difference between Normal and anomalous Zeeman effect. (4)

(OR)

- c) Explain the experimental setup used observe the zeeman effect. (8)  
d) Experimental value of Bohr magneton is  $9.2 \times 10^{-24} \text{ JT}^{-1}$ . Calculate the specific charge of electron  $h = 6.625 \times 10^{-34} \text{ J-S}$ . (4)

Answer 'a' and 'b' OR 'c' and 'd'.

4. a) Give the quantum theory of Raman effect and mention applications. (8)  
b) Mention characteristics of laser and two applications of laser. (4)

(OR)

- c) Give the construction and working of Ruby Laser. (8)  
d) Absorption in Co molecule occurs at freq  $1.153 \times 10^{11} \text{ Hz}$  Calculate the MI of Co Molecule. (4)

Answer 'a' and 'b' OR 'c' and 'd'.

5. a) Explain distribution of identical particles. (8)  
b) Mention difference between M-B statistics and F-D statics. (4)

(OR)

- c) Derive Bose Einstein distribution function. (8)  
d) Mention the limitation of M-B Statistics. (4)
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V Semester B.Sc.(NEP) Degree Examination, March/April - 2024

CHEMISTRY(DSC)

Paper : I

(Regular)

Time : 2 Hours

Maximum Marks : 60

**Instructions to Candidates :**

- 1) All questions are compulsory
- 2) Draw neat diagrams and give equations wherever necessary.

1. Answer any **SIX** questions:

(6×2=12)

- a) What is ligand? Give an example of bidentate ligand.
- b) What are linkage isomers? Give example.
- c) Give two examples of condensed hetero cycles.
- d) Write the chlorination reaction of Furan and Pyridine.
- e) Write the spectral region and criteria of rotational spectra.
- f) Calculate the vibrational degrees of freedom of CO<sub>2</sub> molecule.
- g) Write the structure of monomer of Poly Styrene and its use.
- h) What are Silicones? Mention their one use.

2. Answer any **THREE** questions:

(3×4=12)

- a) Explain the complex formation property of transition elements.
- b) What is Lanthanide contraction? Write its causes and consequences.
- c) Discuss the hybridisation, geometry and magnetic property of [FeCCN<sub>6</sub>]<sup>4+</sup> ion on the basis of VBT.
- d) Write the IUPAC name of following complexes.
  - i) Na[Au(CN)<sub>2</sub>]
  - ii) K<sub>3</sub>[Cr(C<sub>2</sub>O<sub>4</sub>)<sub>3</sub>]
  - iii) [Mn(H<sub>2</sub>O)<sub>6</sub>]Cl<sub>2</sub>
  - iv) [Co(en)<sub>2</sub>Cl<sub>2</sub>]Cl

[P.T.O.]



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3. Answer any **THREE** questions: (3×4=12)
- Explain the molecular orbital picture and aromaticity of Thiophene.
  - Compare and explain the basicities of pyridine, piperidine and pyrrole.
  - Write the reactions to show the following in Nicotine
    - Presence of Pyridine ring with a side chain at position - 3.
    - N - methyl pyrrolidine ring attached to pyridine through position - 2.
  - Write the principles of Green chemistry.
4. Answer any **THREE** questions: (3×4=12)
- Show that the spectral lines in rotational spectra are equidistant.
  - Give the potential energy curve for antibonding molecular orbital and write the characteristics of antibonding molecular orbitals.
  - State Frank - condon principle and illustrate it with a suitable potential energy curve.
  - The fundamental vibrational frequency of Hcl is  $8.667 \times 10^{13} \text{ S}^{-1}$ . Calculate the force constant for the bond in Hcl.
5. Answer any **THREE** questions: (3×4=12)
- Write the type, preparation and application of Nylon 66 Polymer.
  - What are conducting polymers? Write the preparation and application of polyaniline conducting polymer.
  - What are Phosphazenes? Write the differences between inorganic and organic polymers.
  - What are nanomaterials? How are they classified based on composition.
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V Semester B.Sc.(NEP) Degree Examination, March/April - 2024

CHEMISTRY(DSC)

Paper : II

(Regular)

Time : 2 Hours

Maximum Marks : 60

*Instructions to Candidates :*

- 1) All questions are compulsory
- 2) Draw neat diagrams and give equations wherever necessary.

Answer any **SIX** questions:

(6×2=12)

1. a) Write the types of alloys with example.  
b) Mention the changes involved in setting of cement.  
c) Write the structure of DCC and one use in organic reactions.  
d) How NBS reagent is prepared?  
e) Write the reaction of lead acid battery during the discharging and charging.  
f) What is oxidation - reduction electrode? Give example.  
g) Write the types of electronic transitions.  
h) What is Base peak in Mass Spectrometry?

Answer any **THREE** questions:

(3×4=12)

2. a) How Carborundum is manufactured?  
b) Write any four types of glass and their one use.  
c) Write about the following i) Mohs scale of hardness ii) Calorific value of a fuel.  
d) Explain the manufacture of water gas.

Answer any **THREE** questions:

(3×4=12)

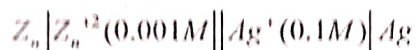
3. a) Write the mechanism of Benzylic oxidation of tetralin to naphthalene using DDQ.  
b) Give the mechanism of oxidation of 1,2-diol to aldehyde using lead tetra acetate.  
c) What type of dye is Indigo? Write its synthesis.  
d) Write the synthesis of Alizarin.

[P.T.O.]

4 Answer any **THREE** questions:

(3×4=12)

a) Calculate the EMF of following cell at 25°C



(Given  $E^0_{Z_n/Z_n^{+2}} = -0.76V$  and  $E^0_{Ag^+/Ag} = 0.80V$ )

- b) Derive an expression for the EMF of concentration cell without transference.  
c) How the  $p^H$  of solution is determined using the Hydrogen electrode.  
d) Explain the Hydrogen - Oxygen Fuel cell.

Answer any **THREE** questions:

(3×4=12)

5. a) Discuss the variation in stretching frequencies of  $>C=O$ ,  $-O-H$  IR absorption bands in organic compound.  
b) Explain the following with example i) Chromophores ii) Hypochromic Shift.  
c) Write about the following:  
i) Bathochromic Shift. ii) Position of IR absorption bands.  
d) Explain the McLafferty rearrangement with respect to 2 - hexanone.
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V Semester B.Sc. (NEP) Degree Examination, March/April - 2024

## MATHEMATICS

Real Analysis - II and Complex Analysis

Paper : I

(Regular)

Time : 2 Hours

Maximum Marks : 60

*Instructions to Candidates :*

- 1) Answer any six questions from q.No.1.
- 2) Answer any three questions from q.No: 2,3,4 and 5.

Answer any SIX of the following.

(6×2=12)

1. a) Define upper and Lower Riemann integral.
- b) Find  $W(p, f)$  and  $L(p, f)$  for the function  $f(x) = x^2$  on  $[0, 1]$  and  $p = \left\{0, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}, 1\right\}$
- c) State Darboux theorem.
- d) Evaluate  $\int_0^1 x^8 (1-x)^7 dx$ .
- e) Prove that  $f(z) = \bar{z}$ , is not differentiable at origin.
- f) If  $u = \frac{1}{2} \log(x^2 + y^2)$ , Is it harmonic?
- g) Prove that  $\int_C \frac{dz}{z-a} = 2\pi i$ , where C is a circle.
- h) Define transformation.

Answer any THREE of the following.

(3×4=12)

2. a) State and prove the necessary and sufficient condition for integrability of bounded function  $f(x)$  in  $[a, b]$ .
- b) If  $f(x)$  is bounded integrable in  $[a, b]$  and M, m are bounds of  $f(x)$  in  $[a, b]$  then prove that  $m(b-a) \leq L(p, f) \leq U(P, f) \leq M(b-a)$ .

[P.T.O.]



c) Prove that  $f(x) = 3x + 1$  is integrable on  $[1, 2]$  and  $\int_1^2 (3x+1) dx = \frac{11}{2}$

d) Prove that  $\frac{1}{3\sqrt{2}} \leq \int_0^1 \frac{x^2}{\sqrt{1+x^2}} dx \leq \frac{1}{3}$ .

Answer any THREE of the following.

(3×4=12)

3. a) State and prove Abel's test for the convergence of improper integral

b) Test the convergence of  $\int_0^1 \frac{dx}{x^{1/2}(1-x)^{1/4}}$ .

c) Prove that  $\beta(m, n) = \frac{\Gamma(m)\Gamma(n)}{\Gamma(m+n)}$ , where  $m > 0, n > 0$ .

d) Prove that  $\int_0^\infty x^2 e^{-x^4} dx \cdot \int_0^\infty e^{-x^4} dx = \frac{\pi}{8\sqrt{2}}$

Answer any THREE of the following.

(3×4=12)

4. a) State and Prove the necessary condition for Cauchy-Riemann equations.

b) Prove that real and imaginary part of an analytic function are harmonic.

c) By Using Milne-Thomson method, construct the analytic function whose real part is  $2x - x^3 + 3xy^2$ .

d) If  $f(z) = u + iv$  is analytic and  $u - v = e^x (\cos y - \sin y)$ , find  $f(z)$  in terms of  $z$ .

Answer any THREE of the following.

(3×4=12)

5. a) Evaluate  $\int_C [(x+y)dx + x^2ydy]$  along the straight line  $y = 3x$  from  $(0,0)$  to  $(3,9)$ .

b) State and prove Cauchy's integral formula for the derivative.

c) Prove that bilinear transformation is a resultant of the elementary transformations, translations, magnification and rotation, and inversion.

d) Find the bilinear transformation which maps  $z = 0, -i, -1$  onto  $w = i, 1, 0$  respectively.

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V Semester B.Sc. (NEP) Degree Examination, March/April - 2024

MATHEMATICS

Vector Calculus and Analytical Geometry

Paper : II

(Regular).

Time : 2 Hours

Maximum Marks : 60

Instructions to Candidates :

- 1) Answer any Six questions from Q.No.1
- 2) Answer any Three questions from Q.No. 2,3,4 and 5.

Answer any SIX of the following.

(6×2=12)

1. a) If  $\phi = 3x^2y - y^2z^2$  then find grad  $\phi$  at  $(1, -2, -1)$
- b) If  $\vec{A} = ti - tj + (2t - 2)k$  and  $\vec{B} = (2t - 1)i + tj - tk$ , find  $\frac{d}{dt}(\vec{A} \cdot \vec{B})$
- c) State stokes theorem.
- d) If  $\vec{F} = 3xyi - y^2j$ , evaluate  $\int_C \vec{F} \cdot d\vec{r}$ , where C is the path along the parabola  $y = 2x^2$  from  $(0, 0)$  to  $(1, 1)$
- e) Find the length of perpendicular from  $(1, 3, 4)$  to the plane  $2x - y + z + 3 = 0$
- f) Find the equation of a sphere on the join of  $(1, 2, 1)$  and  $(2, 3, 4)$  as end points of diameter of a sphere.
- g) Define cone and write the general equation of a cone.
- h) Find the equation of the cone with vertex at origin at whose guiding curve is  $\frac{x^2}{4} + \frac{y^2}{9} + \frac{z^2}{1} = 1$  and  $x + y + z = 1$ .

[P.T.O.]

Answer any THREE of the following.

(3×4=12)

2. a) Explain Geometrical significance of  $\frac{dr}{dt}$ .
- b) For the curve  $x = 3 \cos t$ ,  $y = 3 \sin t$ ,  $z = 4t$ , find
- The unit tangent vector
  - The Binormal vector.
- c) If  $\vec{A}$  and  $\vec{B}$  are differentiable vector functions of scalar variable  $t$ , prove that
- $$\frac{d}{dt}(\vec{A} \times \vec{B}) = \frac{d\vec{A}}{dt} \times \vec{B} + \vec{A} \times \frac{d\vec{B}}{dt}$$
- d) If  $\vec{f} = xy^2\mathbf{i} + 2x^2yz\mathbf{j} - 3yz^2\mathbf{k}$  find  $\text{div}(\text{curl } \vec{f})$ .

Answer any THREE of the following.

(3×4=12)

3. a) Find  $\int_C \vec{F} \cdot d\vec{r}$  where  $\vec{F} = (2y+3)\mathbf{i} + xz\mathbf{j} + (yz-x^2)\mathbf{k}$  along the line joining the points  $(0,0,0)$  to  $(2,1,1)$
- b) State and prove Green's theorem
- c) Evaluate  $\iint_S \vec{F} \cdot d\vec{s}$  where  $\vec{F} = z\mathbf{i} + x\mathbf{j} - 3y^2z\mathbf{k}$  and  $s$  is the surface of the cylinder  $x^2 + y^2 = 16$  included in the first octant between  $z=0$  and  $z=5$
- d) If  $\vec{F} = 2z\mathbf{i} - x\mathbf{j} - y\mathbf{k}$ , evaluate  $\iiint_V \vec{F} \cdot d\vec{v}$  where  $v$  is closed region bounded by the surfaces  $x=0, x=2, y=0, y=4, z=x^2, z=2$

Answer any THREE of the following.

(3×4=12)

4. a) Derive the equation of sphere in the general form.
- b) Find the equation of the tangent plane to the sphere  $3x^2 + 3y^2 + 3z^2 - 2x - 3y - 4z - 22 = 0$  at the point  $(1,2,3)$
- c) Prove that the equation of any plane through  $(x_1, y_1, z_1)$  is  $A(x-x_1) + B(y-y_1) + C(z-z_1) = 0$
- d) Show that the spheres  $x^2 + y^2 + z^2 + 6y + 2z + 8 = 0$  and  $x^2 + y^2 + z^2 + 6x + 8y + 4z + 20 = 0$  are orthogonal.



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Answer any THREE of the following.

(3×4=12)

5. a) Find the equation of a cone with vertex at the origin which passes through the curve  $ax^2 + by^2 + cz^2 = 1, lx + my + nz = p$ .
- b) Find the equation to the cone whose vertex is the point  $(0,0,0)$  and which passes through  $x^2 + y^2 + z^2 + x - 2y + 3z = 4$  and  $x^2 + y^2 + z^2 + 2x - 3y + 4z = 5$
- c) Find the equation of the cylinder whose generators are parallel to the line  $\frac{x}{1} = \frac{y}{-2} = \frac{z}{3}$  and passing through the curve  $x^2 + 2y^2 = 1, z = 0$ .
- d) Find the equation to the cylinder whose generators are parallel to the line  $\frac{x}{1} = \frac{y}{m} = \frac{z}{n}$  and the base conic is  $ax^2 + by^2 + 2hxy + 2gx + 2fy + c = 0, z = 0$ .
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Degree Examination, March/April - 2024  
**COMPUTER SCIENCE**  
Cyber Security (SEC)  
(Regular)

Maximum Marks : 50

**Time : 1½ (90 Minutes)**

**Instructions to Candidates:**

1. Check for complete printing of 50 questions.
2. The last page of the question paper may be used for rough work.
3. Each question has four multiple choice answer and choose the correct one.
4. Darken the appropriate circle with the ball pen.
5. Damaging/overwriting using whitener on the OMR sheets are strictly prohibited.
6. No candidates will be allowed to leave the examination Hall till the end of the session and without handing over his/her answer sheet to the invigilator.
7. Candidates should ensure that the invigilator has verified all the entries and that the invigilator has affixed his/her signature in the space provided on the OMR.



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No. of Printed Pages : 16

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**V Semester All U.G. Courses Degree Examination, March/April - 2024**  
**COMPUTER SCIENCE**  
**Cyber Security (SEC)**  
**(Regular)**

**Time : 1½ (90 Minutes)**

**Maximum Marks : 50**

***Instructions to Candidates:***

1. Check for complete printing of 50 questions.
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**[P.T.O.]**



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(50×1=50)

**Answer All the questions. Each carries 1 mark.**

1. What is Cyberspace?
  - A) A Physical Computer Network.
  - B) A virtual space for online communication .
  - C) A type of computer virus
  - D) An offline storage system.
  
2. Who invented World Wide Web?
  - A) Bill Gates
  - B) Steve Jobs
  - C) Tim Berners Lee
  - D) Larry Page
  
3. What does DNS stands for?
  - A) Dynamic Network System
  - B) Domain Name System
  - C) Data Network Security
  - D) Digital Naming Service





4. What does TCP/IP stand for?
- A) Total Control Protocol/Internet Protocol.
  - B) Transmission Control Protocol/Internet Protocol
  - C) Technical Control Protocol/Internet Process
  - D) Transferable Communication Protocol/Internet Process
5. What is the primary goal of cyber security?
- A) Ensuring data accuracy.
  - B) Preventing Unauthorized access and protecting systems.
  - C) Maximizing Processing Power
  - D) Facilitating data sharing.
6. Which protocol is fundamental to Internet communication and allows data packets to be routed across the network?
- A) HTTP
  - B) FTP
  - C) TCP/IP
  - D) SMTP



7. What does the World Wide Web (WWW) consists of ?
- A) A collection of text documents.
  - B) A global system of interconnected documents and resources.
  - C) A type of computer virus
  - D) A hardware component of the internet
8. What does URL stands for?
- A) Universal Resource Locator
  - B) Unified Resource Locator
  - C) Uniform Resource Locator
  - D) Ultimate Resource Locator
9. What does the term "HTML" stands for?
- A) Hyper Text Markup Language
  - B) Hypnotic Text Markup Language
  - C) High-Tech Multimedia Language
  - D) Hyper Link Text Management Language
10. Which Protocol is used for secure data transfer over the web?
- A) HTTP
  - B) FTP
  - C) HTIPS
  - D) TCP



11. What is Cybercrime?

- A) Legal Computer activities
- B) Any Legal Act committed using computer
- C) Illegal Act committed using a computer
- D) Computer programming.

12. Which cybercrime is an illegal modification of data?

- A) Cyber Stalking
- B) Phishing
- C) Data Diddling
- D) Denial of Service Attack.

13. Which type of cybercrime involves sending a large number of emails to crash a victim's email account?

- A) Cyber Stalking
- B) Phishing
- C) Email Bombing
- D) Cyber Defamation

14. What does morphing involves in cyber crime?

- A) Changing smoothly from one image to another
- B) Hacking social media accounts
- C) Creating fake documents
- D) Gathering confidential data

[P.T.O.]



15. How can victims report cyber crimes in India according to the content?
- A) Contacting the nearest cyber cell or Police station
  - B) Filing a complaint through the National Cyber Crime Reporting Portal
  - C) Both A and B
  - D) None of the above
16. What type of attacks involve intrusion into computer system to gain unauthorized access?
- A) Phishing
  - B) Ransomware
  - C) Hacking
  - D) Identity theft
17. What is the Primary demand made by ransomware attackers?
- A) Payment in cash
  - B) Payment in cryptocurrency
  - C) Providing access to more devices
  - D) Deleting victim's data
18. How does a computer virus spread according to the content?
- A) Through physical contact
  - B) Through social media links
  - C) Through email and text message attachments
  - D) Through Wi-Fi connections.



19. What elements are recorded in the modus operandi files of cybercrime?
- A) Software vulnerabilities
  - B) Social Engineering techniques
  - C) Details like entry point, means, object, time, state, tate, transport and trademark
  - D) Cyber security best practices.
20. What is CERT-In?
- A) A computer security software.
  - B) A cyber security incident response team
  - C) A social engineering technique
  - D) An online consumer complaints platform.
21. The primary purpose of social networks.
- A) Online shopping
  - B) Business promotion
  - C) Global connectivity and communication
  - D) None of the above.
22. The social media platform which is primarily focussed on professional networking and job searching.
- A) Facebook
  - B) Instagram
  - C) Twitter
  - D) Linked In.



23. What is "Hashtag" used for in social media?
- A) To Separate Paragraphs
  - B) To mark the beginning of a post
  - C) To categorize and link content
  - D) - To hide content from certain users
24. The security measure helps to protect social media accounts from unauthorized access.
- A) Using weak passwords
  - B) Enabling two-factor authentication(2FA)
  - C) Sharing login credentials with friends
  - D) Logging in from public computers.
25. The primary function of YouTube as a social media platform is
- A) Sharing short text updates
  - B) Posting Photos and Videos
  - C) Networking with Professionals
  - D) Live streaming music concerts
26. The primary purpose of social media monitoring.
- A) Creating engaging content
  - B) Managing advertising campaigns
  - C) Tracking and analysing online conversations
  - D) None of the above



27. The symbol commonly used to represent a Hashtag.

- A) @
- B) #
- C) \$
- D) %

28. What is the key characteristic of viral content on social media?

- A) Limited sharing
- B) Slow engagement
- C) Rapid and widespread sharing
- D) Exclusivity

29. Which of the following is an example of a social media platform?

- A) Microsoft Excel
- B) Amazon Web Services
- C) Facebook
- D) Adobe Photoshop

30. What is the term for using social media platforms for promoting products or services?

- A) Social Networking
- B) Social Engineering
- C) Social Media Marketing
- D) None of the above



31. What is the primary focus of E-commerce?
- A) Physical retail stores
  - B) Online Communication
  - C) Buying and selling goods and services electronically
  - D) Traditional payment methods
32. Which of the following is an element of E-commerce security?
- A) Secure payment gateways
  - B) Confidentiality, Integrity and Availability.
  - C) Both A and B
  - D) None of the above
33. What is recommended as best practice for E-Commerce security?
- A) Publicly sharing sensitive customer information.
  - B) Using weak and easily guessable passwords.
  - C) Regularly updating security measures.
  - D) Ignoring customer feedback.
34. What are some common modes of digital payments?
- A) Banking cards
  - B) UPI
  - C) E-wallets
  - D) All of the above.





35. What does USSD stands for ?
- A) Unrestricted System for Secure Digitalization
  - B) Unstructured Supplementary Service Data
  - C) Unified Secure System for Digital Payments
  - D) None of the above
36. Which organization provides guidelines on digital payments in India?
- A) United Nations.
  - B) Reserve Bank of India (RBI)
  - C) World Health Organization
  - D) All of the above.
37. What does the payment settlement Act 2007, regulates?
- A) Payment and Settlement Systems in India
  - B) Social Media Platforms
  - C) E-Commerce Websites
  - D) All of the above.
38. What is a common threat to E-commerce security?
- A) Physical theft
  - B) Digital Marketing
  - C) Effective Communication
  - D) Unauthorized access and data breaches.



39. What is a significant advantage of E-commerce ?

- A) Limited product variety
- B) Restricted accessibility
- C) Global reach and accessibility
- D) Slow transaction processing.

40. Which is a common fraud related to digital payments?

- A) Transparent Transactions
- B) Secure Authentication
- C) Unauthorized Access
- D) Verified Transactions

41. What is the term for a self replicating malicious program that spreads throughout computer files ?

- A) Worm
- B) Trojan Horse
- C) Virus
- D) Phishing



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42. What is the primary focus of End point Device Security?

- A) Cloud Computing
- B) Securing Physical Devices
- C) Social Media Management
- D) Satellite Communication

43. Why is mobile phone security important?

- A) To improve battery life
- B) To prevent phone calls
- C) To protect personal and sensitive information
- D) To increase processing speed.

44. What is a key aspect of a password policy?

- A) Sharing passwords openly
- B) Same password used for all accounts
- C) Memorizing complex passwords
- D) Regularly changing passwords

[P.T.O.]



45. What does security Patch Management involve?
- A) Ignoring software updates
  - B) Regularly updating and applying patches
  - C) Uninstalling security softwares
  - D) Disabling firewalls
46. What is the significance of a Host firewall?
- A) Enhancing device aesthetics
  - B) Controlling incoming and out going network traffic
  - C) Reducing battery consumption
  - D) Improving processing speed.
47. Why is an Antivirus software important?
- A) To create a digital Art
  - B) To control network traffic
  - C) To improve device battery life
  - D) To protect against and remove malicious software.
48. What is the purpose of configuring basic security policies and permissions?
- A) Enhancing device security by restricting access
  - B) Simplifying device usage
  - C) Granting unlimited access to all users
  - D) Increasing device processing speed



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49. Why is data backup important in cyber security?
- A) To increase device storage capacity
  - B) To slow down data transfer speed
  - C) To prevent data from being accessed
  - D) To recover lost data in case of a cyber incident.
50. What should be considered when downloading third - party software?
- A) Ignoring software reviews
  - B) Downloading from untrusted sources
  - C) Verifying the softwares legitimacy and source
  - D) Downloading without any permission.

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