BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY AND SCIENCE: BATLAPALEM

DEPARTMENT OF CIVIL ENGINEERING

Course Name: RS&GIS | Year / Sem: III B.Tech/ II Sem

AY: 2023-2024 | Faculty Name: BH.S.CHAITANYA

Course Code: C324

QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR SLOW LERNERS

1. Explain about emr's interaction with earth surface ?
2. Explain supervised and unsupervised classification ?
3. Explain electromagnetic spectrum with respective earth surface ?
4. Explain the basic concepet of GIS and its components ?

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

DEPARTMENT OF CIVIL ENGINEERING

Course Name: RS&GIS

Year / Sem: IIIB.Tech/IISem

AY: 2023-2024

Faculty Name: BH.chaitanya

Course Code: PC601

LIST OF SLOW LERNERS FOR TUTORIAL [MID-1CUTOFF:10 & 10 BELOW]

SNO	REGD NO	NAME OF THE STUDENT	SIGNATURE
1.	21H41A0101	AKULA SATYA RAMBABU	A.S.Rambabu
2.	21H41A0103	ALLU SAI GANESH	A.S. Ganesh
3.	21H41A0106	BONTHU CHANDRA SOMA SHANKAR	B.C.S Shankar
4.	21H41A0108	DANGETI ESWAR	D. Eswar
5.	21H41A0110	DONTHABAKTUNI S.V.V.RAMA DURGA PRASANTH	D.S.V.V.R.D.Prasanth
6.	21H41A0111	GANDHAM PARDHU SATYA VIJAY	G.P.S.Vijay.
7.	21H41A0113	JANIPIREDDY ASHOK	J. Ashok.
8.	21H41A0116	KANIKALA VENKANNA BABU	K. Venkanna Babu
9.	21H41A0117	KAPISETTI LOKESH	K. Lokesh

10.	21H41A0118	*KASI POOJA*	K. Pooja
11.	21H41A0119	KOMMULA NAGA SRI VENKATA RAMANA	K.S.V. Ramana.
12.	21H41A0120	KOPPISETTI SURENDRA	K. Surendra
13.	21H41A0122	KUMPATLA N S S P SHIKITHA	K. N.S.S.P. Shikitha
14.	21H41A0126	MENDA SATYA LAKSHMI TULASI	M.S.L. Tulasi
15.	21H41A0127	MERLA TEJASRI	M. Tejasri
16.	21H41A0129	NANDULA SRI VEERA PHANI KUMAR	N.S.V. Phani Kumar
17.	21H41A0131	PEDDIREDDY SAI MANI KUMAR	P. Saimani Kumar
18.	21H41A0134	PENTAPATI PRATHIBHA BHARATHI	P.P. Bharathi
19.	21H41A0136	PULIME SAI GANESH	P. Sai Ganesh
20.	21H41A0137	SIDDABATTULA YAMINI	S. Yamini
21.	21H41A0138	UNDRAJAVARAPU JOHNSON RAJU	U. Johnson Raju
22.	22H41A0140	*PRUDHVI GANESH VELIDI*	P. Ganesh velidi

23.	22H41A0142	YADLAPALLI RAM GANESH	Y. Ram Ganesh
24.	22H41A0144	YERUBANDI DIVYA	Y. Divya
25.	22H45A0104	BATTARUSETTY SAI VARDHAN	B.S. Vardhan
26.	22H45A0105	CHOLLANGI DOOMDI GANESH MANIKANTA	Ch.D.G. Manikanta
27.	22H45A0106	CHOLLANGI JAYA NAGA DURGA PRABHU GANESH	Ch.J.N.D. Prabhu Ganesh

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Course Name: RS&GIS

Year / Sem: IIIB.Tech/IISem

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Faculty Name: BH.chaitanya

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LIST OF FAST LERNERS FOR TUTORIAL [BASED ON MID-1[CUTOFF:10M]

SNO	REGD NO	NAME OF THE STUDENT	SIGNATURE
1.	21H41A0102	AKULA SYAM SUNDAR VENKAT	A. S. S. Venkat
2.	21H41A0102	APPANA PAVAN KALYAN	A. Pavan Kalyan
3.	21H41A0105	BOLISETTI DIVYA JYOTHI	B. Divya Jyothi
4.	21H41A0107	CHEEKURUMILLI CHAITANYA	Ch. Chaitanya
5.	21H41A0109	DONGA SITA RAMA PRABHAS	D. S. Rama Prabhas
6.	21H41A0112	GIDUGU PURNA KEERTHI NAGA SAHITYA	G. P. N. Sahitya
7.	21H41A0114	KALIGINEEDI K D SATYA NAGESWARI	K. K. D. Satya Nageswari
8.	21H41A0115	KAMIREDDY VEERA VENKATA NAGA SAI	K. V. V. Nagasai
9.	21H41A0121	KUMPATLA LAKSHMI HARIKA	K. Lakshmi Harika

10.	21H41A0123	MADDURI NAGAVENKATA SATYA SRI SURYA KUMARI	M. V. Satya Sri Surya Kumari
11.	21H41A0124	MATTA AMRUTHA	M. Amrutha
12.	21H41A0125	MEESALA MANIKANTA	M. Manikanta
13.	21H41A0128	MYGAPULA NAGA SATYA PRASANNA	M. N. S. Prasanna.
14.	21H41A0130	NIMMANA VEERA SIDHU	N. Veera sidu
15.	21H41A0132	PENNADA SATYA JEEVAN KUMAR	P S J. Kumar
16.	21H41A0133	PENTA DURGA SATISH	P. Durga Satish
17.	21H41A0135	POLISETTI VEERA VENKATA SIVA SAI BHARGAVI	P. V. V. Sai Bhargavi
18.	21H41A0139	VARA LAXMI SAMPATH	V. Sampath.
19.	21H41A0141	VELUGULA JASMITHA	V. Jasmitha
20.	21H41A0143	YALAMANCHALI SAI	Y. Sai
21.	21H41A0145	VASAMSETTI LOKESH KALYAN	V. L. Kalyan
22.	22H45A0101	AKULA KOTAIAH	A. Kotaiah

23.	22H45A0102	APPARI MOHAN DURGA PRADEEP	A. M. D Pradeep
24.	22H45A0103	ATTILI SANDEEP	A. Sandeep

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DEPARTMENT OF CIVIL ENGINEERING

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QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR FAST LERNERS

1)What does EDM stand for?

A) Electromagnetic Distance Measurement

B) Electrical Distance Meter

C) Electronic Datum Meter

D) Electrical Datum Measurement

2)Which among the following is an example of source of energy in passive system for remote sensing?

A) Laser

B) Sun rays

C) Synthetic Aperture Radar

D) All of these

3)Which of the following is/are the type(s) of remote sensing?

A) Only active remote sensing

B) Only passive remote sensing

C) Both active and passive remote sensing

D) None of these

4)What is the full form of GTS?

A) Great Theodolite System

B) Great Trigonometrical Survey

C) Great Traverse Survey

D) Great Trigonometrical System

5)What are the numbers of orbital planes and satellites in one orbit for a GPS, respectively?

A) Six and Four.

B) Twenty-four and Six.

C) Three and Four.

D) Four and Twenty-eight.

6)The system that uses the Sun as a source of electromagnetic energy and records the naturally radiated and reflected energy from the object is called

A) Geographical Information System

B) Global Positioning System

C) Passive Remote Sensing

D) Active Remote Sensing

7)The point just vertically below the observer's position, in celestial sphere is called____.

A) celestial point

B) Nadir

C) Zenith

D) Pole

8)The minimum number of satellites needed for a GPS to determine its position precisely is

A) 2

B) 3

C) 4

D) 24

9)Which of the following is NOT a function of GPS?

A) Measuring precise time

B) Measurement of earthwork

C) Moving from one location to another

D) Monitoring of any object or personal movement

10)The angle between the observer's meridian and declination circle of the heavenly body is referred to as:

A) Azimuth

B) Declination

C) Sidereal angle

D) Hour angle

11)For which of the following purposes can the Geographic Information System not be used?

A) Studying the relative motions of planets

B) Disaster and business continuity planning

C) Deforestation

D) Development of public infrastructure facilities

12)The angle between the zenith and the celestial equator is called

A) latitude

B) azimuth

C) longitude

D) altitude

13)To uniquely determine the position of the user using GPS, one needs to receive signals from at least

A) 1 satellite

B) 2 satellites

C) 3 satellites

D) 4 satellites

14)Which of the following is NOT a use of total station?

A) Remote distance and elevation measurement

B) Weather forecasting

C) Area computation

D) Point location

15)Remote sensing techniques make use of the properties of _____ emitted, reflected or diffracted by the sensed objects:

(A) Electric waves

(B) Sound waves

(C) Electromagnetic waves

(D) Wind waves

16)A reduction of nitrogen nutrient in plants:

(A) Affects leaf color

(B) Reduces pigment concentration

(C) Increase the visible reflectivity

(D) All of these

17)The altitudinal distance of a geostationary satellite from the earth is about:

(A) 26,000 km

(B) 30,000 km

(C) 36,000 km

(D) 44,000 km

18)Due to scan geometry of a satellite sensor:

(A) The off-nadir resolution is degraded

(B) The ground distance swept by the senor, IFOV is proportional to sec2θ, where θ is the angle of scan measured from the nadir

(C) The details towards the edge of the scan get compressed

(D) All of these

19)Which one of the following statements is correct?

(A) π radians equal to 180°

(B) The cone subtended by an area on the sphere at the centre, is called the solid angle

(C) The solid angle is equal to the ratio of the area on the sphere and the square of the radius of the sphere

(D) All of these

20)Which one of the following parameters is accurate for DGPS?

(A) Positional accuracies ~ 1 - 2 m if rover is less than 1-2 km from the reference station

(B) Positional accuracies ~ 2 - 5 m if rover is less than 2-5 km from the reference station

(C) Positional accuracies ~ 5 - 10 m if rover is less than 5-10 km from reference station

(D) Positional accuracies ~ 5 - 10 m if rover is less than 25 km

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

COURSE NAME : UTILISATION OF ELECTRICAL ENGINEERING YEAR/SEM : III B.TECH/ I SEM

AY: 2023-24 COURSE CODE : C3152 FACULTY NAME : CHALADI S GANGA BHAVANI

LIST OF FAST LEARNERS FOR TUTORIAL [BASED ON MID-1 CUT OFF : 8M AND ABOVE]

S.NO	REGD.NO	NAME OF THE STUDENT	SIGNATURE
1	21H41A0201	AKULA JNAANI VEDHUMA DEVI	A. Devi
2	21H41A0204	ANNABATHULA HARITHA	A Haritha
3	21H41A0205	BALLA HIMA NANDINI	B. Hima Nandini
4	21H41A0207	BOKKA SAILAJA NAGA VANI VEERA DURGA	B. Durga
5	21H41A0210	DANGETI HEMANI	D. Hemani
6	21H41A0216	ETHAKOTA KASI ANNAPURNESWARI	E. Annapurneswari
7	21H41A0219	GANTA SARANYA	Ganta Saranya
8	21H41A0221	KALVAKOLANU DURGA SAI MEGHANA	K. Meghana
9	21H41A0226	KORLAPATI SANDHYA DEVI	K. Sandhya
10	21H41A0227	KORLAPATI SWAPNA MARY JYOTHI	K.S. Mary Jyothi
11	21H41A0228	KUNAPAREDDY SRI NAGA DURGA PRAMEELA	K. Prameela.
12	21H41A0231	LINGOLU LOKESH	L. Lokesh.
13	21H41A0232	LINGOLU RAKESH	L. Rakesh
14	21H41A0233	MANE NAGA INDHU	M. Naga Indhu
15	21H41A0235	MEDURI H N V VIJAYASRI SARANYA	M. Saranya
16	21H41A0237	NALLA S NAGADURGA MANIKANTARAMA VARAPRASAD	N. Varaprasad
17	21H41A0240	NIMMAKAYALA NITYA SRI VAISHNAVI MANASA	N. N. S. V Manasa
18	21H41A0242	PAPPULA PRIYANKA NAYAKI	P Priyanka
19	21H41A0243	PARIMI SAHITHI	P. Sahithi
20	21H41A0244	PILLI POORNA TEJA	P. Teja
21	21H41A0245	PINISETTI RAMA DURGA SUREKHA	P.R.D. Surekha
22	21H41A0246	PUGAKU SAI DURGA SARASWATHI	P. Saraswathi
23	21H41A0247	RAJULAPUDI JAYASREE	R. Jayasree
24	21H41A0248	RAVANAM VENKATA SRI SAI HARSHA	R.V.S.S. Harsha
25	21H41A0249	REKAPALLI SINDHU	R Sindhu
26	21H41A0251	SONTI LAKSHMI AASRITHA	S. aaSrithe
27	21H41A0253	THOTA SOWMYA	T. Sowmya
28	21H41A0254	UDDISAPU GANGA PHANISRI	U. G. phanisri
29	21H41A0255	VAKA BHAVANA	V. Bhavana
30	21H41A0256	VEERA RAMA SAI SIVA SURYA MANIKANTA	V. Manik
31	21H41A0257	VEMULAPUDI SRAVANI	V. Sravani
32	21H41A0259	VITHANALA SATYA PRAVEEN	V. Praveen
33	21H41A0260	VUKKEM GURU SAI CHARAN	V. Charan
34	21H41A0262	YADLA VINEETHA SRI	Y. Vineetha Sri
35	21H41A0263	YALLA SIRI NAGA BALA RAMYA	Y. S. N. B. Ramya
36	21H41A0264	YANAMADALA SRI NAGA SUMA HARSHITHA	Y. S. N. S. Harshitha
37	21H41A0265	YANAMADALA SRIRAM SAGAR	Y. Sriram Sagar

38	22H45A0201	BEVARASAI	B. Sai
39	22H45A0202	SAI SRI CHARANBHAGAVATHULA	B.S.S.Charan
40	22H45A0203	CHINTABALA NAGA SATYA SAI GANESH	C.N.S.S. Ganesh
41	22H45A0204	DANGETIMADHUSRI	D. MADHUSRI
42	22H45A0205	KOMATIVIJAYA RAJESH GOWDA	K. Rajesh Gowda
43	22H45A0206	LANKADIDURGA PRASAD	L D Prasad
44	22H45A0207	PEYYALAJYOTHIKA	P. Jothika
45	226M5A0215	KandregulaPuneeth Sai veer	K.P.S. Veer
46	20H41A0232	VANAPALLI SIRISHA	V. Sirisha

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

COURSE NAME : UTILISATION OF ELECTRICAL ENGINEERING YEAR/SEM : III B.TECH/ I SEM

AY: 2023-24 COURSE CODE : C3152 FACULTY NAME : CHALADI S GANGA BHAVANI

LIST OF SLOW LEARNERS FOR TUTORIAL [BASED ON MID-1 CUT OFF : BELOW 8M]

S.NO	REGD.NO	NAME OF THE STUDENT	SIGNATURE
1	21H41A0202	AKULA LAKSHMI AISWARYA	A.Lakshmi Aiswarya
2	21H41A0208	CHIKKAM AYYAPPA	
3	21H41A0209	CHINTA SAI RAKESH	
4	21H41A0211	DASAM MOHAN NAGA MANIKANTA ESWAR	D.MNM Eswar
5	21H41A0212	DEVA VASIL	D. Vasil
6	21H41A0213	DOMMETI JUGUN GANESH	D. Jugun ganesh
7	21H41A0215	DONGA YUKESH SATYA	D. Yukesh Satya
8	21H41A0218	GANNABATTULA MOUNIKA NAGA RAMA RATNA SRIJA	G.MNRR Srija
9	21H41A0220	KADALI BHANU PRASAD	K Bhanu Prasad
10	21H41A0222	KAMANA MADHU SATYA RAJESH GOWD	K. Rajesh
11	21H41A0223	KOLA HOSANNA	K. Hosanna
12	21H41A0224	KOPPISETTI CHARANTEJA	K.charanteja
13	21H41A0225	KOPPISETTY JAYA PRAJNA	K. Jaya Prajna
14	21H41A0229	KURACHA DINESH KUMAR	K. Dinesh
15	21H41A0230	KUSUMA SAMUEL KUMAR	K. Samuel Kumar
16	21H41A0234	MATTAPARTHI SAI KUMAR	M. Sai Kumar
17	21H41A0238	NANDYALA SAI VENKAT	N Sai venkat
18	21H41A0239	NETHALA SRIVAS EMMANUEL	N. Srivas
19	21H41A0241	PALEPU VYSHNAVI SOUJANYA	P. V. Soujanya
20	21H41A0250	SADHANALA S V V G CHAITANYA VIKAS	S. SVVG C. Vikas
21	21H41A0252	TAVITIKI VENKATA DURGA PRAVEEN	T. Praveen
22	21H41A0258	VENNA MOHANA KRISHNA	V. Mohana Krishna
23	21H41A0261	YADLA VINEELA SRI	Y. Vineela Sri

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY AND SCIENCE: BATLAPALEM

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Name of the Faculty:	Mrs.CHALADI SIVA GANGA BHAVANI
Subject Name:	UTILISATION OF ELECTRICAL ENERGY
Year / Sem:	III / I
Subject Code:	**C3152**

QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR SLOW LEARNERS

1.How electrical drives are classified? Discuss the factors to be considered in selecting a motor.

2.A 250 V D.C shunt motor has an armature resistance of 0.5 ohms and field resistance of 250 ohms. When driving a constant torque load at 600 r.p.m. the motor draws 21A. What will be the new speed of the motor if an additional 250 ohms resistance is inserted in the field circuit?3. Describe different methods for solving hydro thermal optimal scheduling

3. Why electric heating is preferred over other forms of heating? Explain the requirements of good heating material.

4.Whit a neat sketch explain the working of resistance arc welding.

5.Explain the terms light energy, luminous flux, luminous intensity, MSCP, illumination, luminance and lamp efficiency.

Ch.S.C.Bhavani

Faculty Coordinator

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Class Test

1. How electrical drives are classified? Discuss the factors to be considered in selecting a motor.

Ans: Depending on the type of equipment used to run the electric motors in industrial purpose, they may be classified into three types.

They are:

*Group Drive:

Electric drive that is used to drive one or more than 100 machines from line shaft through belts and pulley is known as group drive

*Individual Drive:

A single electric motor is used to drive one individual machine, such a drive is very common in most of the industries.

*Multi Motor Drive:

In multi-motor drives, several separate motors are provided for opening different paths of the same machine.

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While selecting a motor, the following factors must be taken into consideration

* Cost:
(i) initial cost
(ii) running cost

* Electrical characteristics
(i) starting characteristics
(ii) Running characteristics
(iii) Speed control characteristics
(iv) braking characteristics.

* Mechanical characteristics:
(i) type enclosure and bearings
(ii) arrangement for the transmission of power
(iii) noise and
(iv) cooling

* Size and rating of motors:
(i) requirements for continuous, intermittent, or variable load cycle
(ii) and overload capacity.

* Type of Drive:
(i) the drive is for one or more machines and
(ii) the type of transmission though gears, belts, etc.

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3. Why electric heating is preferred over other forms of heating? explain the requirements of good heating material.

Ans 1. High efficiency: Electrical heating systems have nearly 100% efficiency, as all the electrical energy is converted into heat without significant loss.

2. Clean and pollution-free: Unlike combustion-based heating, electrical heating produces no pollutant, smoke or harmful gases

3. Uniform Heating: Electrical heating provides uniform distribution of heat, unlike flame-based methods where localized hotspots may occur

4. Safety: No need for fuel storage, combustion, or exhaust systems, reducing fire hazards and health risks.

5. Low initial cost and Maintenance: No requirements for fuel handling, storage or complex piping systems, leading to lower installation and maintenance costs.

Requirements of Good Heating Materials

1. High Resistivity:

Materials with high electrical resistivity produce more heat for a given current, making them more efficient

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2. High Melting point:
The material should withstand high temperatures without melting or deforming.
3. Low Temperature coefficient of Resistance:
Minimal change in resistance with temperature variations ensure stable and consistent heating.
4. High oxidation and corrosion Resistance:
To avoid degradation of the material when exposed to air, moisture, or corrosive environment
5. Mechanical Strength:
Should resist mechanical stress, expansion, and contraction during heating and cooling cycles.
6. Cost and Availability:
Should be cost-effective and readily available for large-scale production.
7. thermal conductivity:
In some applications (like heating elements), moderate thermal conductivity is essential for effective heat transfer.

4. With a neat Sketch explain the working of resistance arc welding.

Ans Resistance welding is the process of joining of metals by applying mechanical pressure and by passing high electric current for a length

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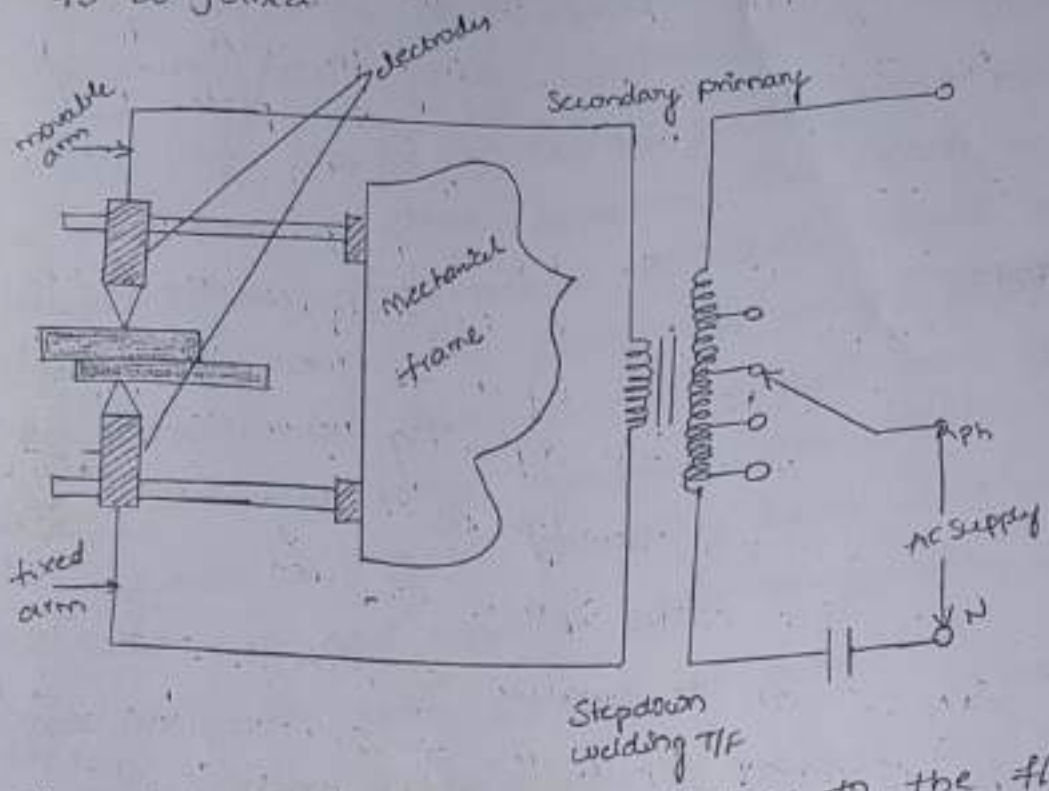
of time through the metal area which is to be joined.



The heat produced by the resistance to the flow of current is given by

$$H = I^2Rt$$

where,

I is the current through the electrodes

R is the resistance of the interface and

t is time for which current flows

Here the total resistance offered by the flow of the ~~path being~~ welded current is made up of

* The resistance of current path in the work
* The resistance between the contact surfaces of the path being welded

[redacted]

* The resistance blw electrodes and the surface of parts being welded.

In this process of welding the heat developed at the contact area between the pieces to be welded reduces the metal to plastic state or liquid state, when the pieces are pressed under high mechanical pressure. to complete the weld. The electrical voltage input to the welding varies in between 4 and 12V depending upon area, thickness composition etc and usually power ranges from about 60 to 180W for each sq mm of area.

Any desired combination of voltage and current can be obtained by means of suitable transformer in AC. Hence AC is found to be most of a suitable for the resistance welding. The magnitude of current is controll by changing its primary voltage of welding transformer. which can be done by using an auto-transformer or a tap-changing transformer. Automatic arrangements are provided to switch off the supply after a pre-determined time for applying the pressure, why because the duration of the current flow through the coork is very import in the resistance welding.

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5. Explain the terms Light energy, luminous flux, luminous intensity, MSCP, illumination, luminance and lamp efficiency

Ans: **Light energy:**

It is defined as the radient energy from a hot body that produces the visual sensation upon the human eye. It is expressed in lumen-hour. It is denoted 'Q'.

Luminous flux:

It is defined as the energy in the form of light waves radiated per second from a luminous body. It is represented by 'Φ'. It is measured in lumens.

$$\Phi = \frac{Q}{t}$$

Luminous Intensity

Luminous intensity for a point source in any given direction is the "luminous flux emitted per unit solid angle in that direction". It is denoted by 'I'. and measured in candela or lumen/steradian

$$I = \frac{\Phi}{\omega}$$

MSCP:

Mean spherical candle power is the mean of candle power in all direction and in all planes, radiating from the lamp, it is given by

$$MSCP = \frac{\text{total flux}}{4\pi}$$

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Illumination

It is the amount of lighting distribution on a surface and is defined as "Luminous flux per unit area". It is denoted by 'E' and is measured in Lux or Lumens per square meter or metre-candela.

$$E = \frac{\Phi}{A} \text{ lumens/m}^2 \text{ @ LUX.}$$

Luminance:

It is the amount of light emitted, passing through, or reflected from a surface

Lamp efficiency:

It is defined as the ratio of luminous flux to the power input. It is expressed as lumen/watt

$$\text{Lamp efficiency} = \frac{\text{Lumens emitted by light source}}{\text{wattage of light source}}$$

2. A 250V Dc shunt motor has an armature resistance of 0.5 ohms and field resistance of 250 ohms. When driving a constant torque load at 600 rpm the motor draw 21A. What will be the new speed of the motor if an additional 250 ohms resistance is inserted in the field circuit? Describe different methods for solving hydro thermal optimal scheduling

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5) Voltage $V = 250V$.

$R_a = 0.5\Omega$

$R_f = 250\Omega$

$N = 600$ rpm

$I_L = I_a = 21A$

Additional resistance $= 250\Omega$

$I_{new} = I_L = 21A$

$I_f = \frac{V}{R_f}$

$I_f = \frac{250}{250} = 1A$

$I_a = I_L - I_f$

$I_a = 21 - 1 = 20A$

$\therefore I_a = 20A$

$E_b = V - I_a R_a$

$= 250 - (20 \times 0.5)$

$= 250 - 10$

$E_b = 240V$

$R_{fnew} = R_f + 250$

$= 250 + 250$

$= 500\Omega$

$I_{fnew} = \frac{V}{R_{fnew}}$

$= \frac{250}{500}$

$I_{f\,new} = 0.5A$

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$$\phi_{new} = \frac{I_{f\,new}}{I_f} \times \phi$$

$$\phi_{new} = \frac{0.5}{1} \times \phi$$

$$= 0.5\phi$$

$$N_{new} \propto N \times \frac{\phi}{\phi_{new}}$$

$$= 600 \times \frac{1}{0.5}$$

$$= 600 \times 2$$

$$= 1200 \text{ rpm}$$

∴ The new speed of the motor will be 1200 rpm

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Name of the Faculty:	CHALADI S GANGA BHAVANI
Subject Name:	UTILISATION OF ELECTRICAL ENERGY
Year / Sem:	III / I
Subject Code:	**C3152**

QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR FAST LEARNERS

1.A hall 30 m long and 15 m wide with a ceiling height of 5 meters is to be provided with a general illumination of 120 lumens/m2. Taking a coefficient of utilization of 0.5 and depreciation factor of 1.4, determine the number of fluorescent tubes required, their spacing, mounting height and total wattage. Take luminous efficiency of fluorescent tube as 40 lumens/watt for 80 W tube.

2. Explain the significance of heating and cooling curves of Electrical Machines used in Electric Drives.

3. A resistance oven employing nichrome wire is to be operated from 230 V single phase supply and is to be rated at 20 KW. If the temperature of the element is to be limited to 11500C and average temperature of the charge is 5000C. Find the diameter and length of the element wire. Assume radiating efficiency = 0.57, Emissivity = 0.9, Specific resistance of nichrome = 109 x 10-8Ω - m.

4. A goods train weighing 500 tonnes is to be hauled by a locomotive up an ascending gradient of 2 percent with an acceleration of 1 KMPHPS. If the coefficient of adhesion is 0.25, train resistance 40 N/t and effect of rotational inertia 10 percent. Find the weight of locomotive and number of axles if load is not to increase beyond 21 tonnes / axle.

5. A slab of insulating material 120 cm2 in area and 2 cm thick is to be heated by dielectric heating. The power required is 400 W at 30 M Hz. Material has a relative permittivity of 8 and power factor of 0.5. Absolute permittivity = 8.854 x 10-12F/m. Determine the necessary voltage.

Faculty Coordinator

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Class Test

① A Hall 30m long and 15m wide with a ceiling height of 5 meters is to be provided with a general illumination of 120 lumens/m^2. Taking a coefficient of utilization of 0.5 and depreciation factor of 1.4, determine the no.of fluorescent tubes required, their spacing, mounting height and total wattage. Take luminous efficiency of fluorescent tube as 40 lumens/watt for 80w tube.

Solution:

The total lumens required for the hall can be calculated as

Total lumens = Area x Illumination level

= 450m^2 x 120 lumens/m^2

Total lumens = 54,000 lumens ($\because$ Area = l x w)

Considering the coefficient of utilization (CU) and depreciation factor (DF):

Effective lumens required = Total lumens x $\frac{DF}{CU}$

= 54,000 x $\frac{1.4}{0.5}$

= 151,200 lumens.

No.of fluorescent tubes required,

luminous output of one tube = luminous efficiency x Power

= 40 x 80

= 3200 lumens.

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No. of tubes = $\frac{\text{Effective luminous required}}{\text{Luminous output of one tube}}$

$= \frac{151,200}{3,200} = 47.25$

∴ No. of tubes = 48

2) Spacing of the tubes,

Spacing along length = $\frac{\text{Length of hall}}{\text{No. of rows}}$

$= \frac{30}{6} = 5m$

Spacing along width = $\frac{15}{8}$

$= 1.875m.$

3) Mounting height is typically taken as the ceiling height, so:

∴ Mounting height = 5m;

4) Total Wattage,

Total Wattage = No. of tubes × Power of one tube

$= 48 \times 80$

$= 3840 W.$

∴ 1) No. of tubes = 48

2) Spacing is 5m along the length 1.875 along the width.

3) Mounting height = 5m

4) Total Wattage = 3840 W.

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③ A resistance oven employing nichrome wire is to be operated from 230V single phase supply and is to be rated at 20 KW. If the temparature of the element is to be limited to 1150°C and average temparature of the charge is 500°C. Find the diameter and length of the element wire. Assume radiating efficiency = 0.57, Emissivity = 0.9, specific resistance of nichrome = 109×10^{-8} Ω-m.

Solution:

Given, $P = 20\,KW = 20000\,W$

$V = 230V$

$T_1 = 1150°c = 1150 + 273 = 1423\ K$

$T_2 = 500°c = 500 + 273 = 773K$

$\varepsilon = 0.9$

$\eta = 0.57$

$\rho = 1.09 \times 10^{-8}\ \Omega\ m$

$$P = \frac{V^2}{R} \rightarrow R = \frac{V^2}{P} = \frac{(230)^2}{20000}$$

$$R = 2.645\ \Omega$$

$$R = \rho \frac{L}{A}$$

A is the cross sectional area of wire

L is the length of wire

$$A = \pi \left(\frac{d}{2}\right)^2 = \frac{\pi d^2}{4}$$

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$$R = \rho \frac{L}{\frac{\pi d^2}{4}} = \frac{4\rho L}{\pi d^2}$$

$$L = \frac{R \pi d^2}{4\rho}$$

$$L = \frac{2.645 \times \pi \times d^2}{4 (1.09 \times 10^{-5})}$$

$$L = 1.91 \times 10^5 \times d^2$$

Heat radiated,

$$Q_r = \eta \varepsilon \sigma \pi d L (T_1^4 - T_2^4)$$

Radiated power,

$$P = \eta \varepsilon \sigma \pi d L (T_1^4 - T_2^4)$$

$$(T_1^4 - T_2^4) = 4.51 \times 10^{12}$$

Substitute all the values in "P"

$$20,000 = 0.57 \times 0.9 \times 5.67 \times 10^{-8} \times \pi \times d \times (1.754 \times 10^5 d^2) \times 4.51 \times 10^{12}$$

$$d^3 = 0.0339$$

$$d = 0.323 \text{ m.}$$

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(4) A goods train weighing 500 tonnes is to be hauled by a locomotive up an ascending gradient of 2% with an acceleration of 1 KMPHPS. If the coefficient of adhesion is 0.25, train resistance 40 N/t and effect of rotational inertia 10%. Find the weight of locomotive and no. of axles if load is not to increase beyond 21 tonnes/axle.

Solution: Given,

W_{train} = 500 tonnes

gradient slope θ = 2% = 2/100 = 0.02

a = 1 km/h² = $\frac{1}{3600}$ m/s²

coefficient of adhesion μ = 0.25

R_{train} = 40 N/t

Effect of rotational inertia = 10% increase

Maximum load per axle = 21 tonnes

⇒ Force due to gradient,

$F_{gradient} = W_{train} \times g \times \sin(\theta)$

$= 500{,}000 \times 9.81 \times 0.02$

$F_{gradient} = 98{,}100$ N

⇒ Force due to train resistance,

$F_{resistance} = 500 \times 40$

$= 20{,}000$ N

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→ Force required for acceleration,

$F_{acceleration} = m \times a$

where, $m = 500,000$ kg

$a = 1/3600$ m/s²

$F_{acceleration} = 138.89$ N

→ Total force needed (including rotational inertia)

$F_{total} = F_g + F_r + F_a$

$= 118,239.89$ N

including the effect of rotational inertia,

$F_{total\ inertia} = 1.1 \times F_{total}$

$= 130,063.78$ N

→ Locomotive weight (Force provided by locomotive)

$F_{locomotive} = \mu \times W_{locomotive} \times g$

$\mu \times W_{locomotive} \times g = 130,063.78$ N

$W_{locomotive} = \frac{130,063.78}{0.25 \times 9.81} = 53,100$ tonnes

$W_{locomotive} = \frac{53,100}{9.81} = 5.4$ tonnes

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→ No. of axles for the locomotive,

$$N_{axles} = \frac{W_{locomotive}}{\text{Max. load per axle}}$$

$$= \frac{5.4}{21} = 0.257 \sim 1 \text{ axle}$$

∴ Weight of locomotive = 5.4 tonnes

No. of axles = 1 axle

② Explain the significance of heating and cooling curves of Electrical Machines used in Electric Drives.

Heating and Cooling Curves of Electrical Drives:

An accurate prediction of Heating & Cooling curves of Electrical Drives rise inside an electrical motor is very difficult owing to complex geometrical shapes and use of heterogeneous gross materials. Since conductivities of various materials do not differ by a large amount, a simple thermal model of the machine can be obtained by assuming machine to be a homogenous body. Although inaccurate, such a model is good enough for a drive engineer whose job is only to select the motor rating for a given application ensuring that tempera-tures in various parts of motor body do not exceed the safe limits.

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Let the machine, which is assumed to be a homogeneous body, and the cooling medium has following parameters at time (t).

P_1 = Heat developed, joules/sec or watts

P_2 = Heat dissipated to the cooling medium, joules/sec or watts.

W = Weight of the active parts of machine, kg

h = Specific heat, Joules per kg per °C

A = Cooling surface, m^2.

d = Coefficient of heat transfer or specific heat dissipation, joules/sec/m^2/°C.

θ = Mean temparature rise, °C.

During a time increment dt, let the machine temparature rise be $d\theta$. Since,

Heat absorbed in machine =

(Heat developed inside the machine
− Heat dissipated to surrounding cooling medium.)

$$Wh\,d\theta = P_1\,dt - P_2\,dt \quad \rightarrow (1)$$

$$P_2 = \theta\,dA \quad \rightarrow (2)$$

Substituting in eq(1) & reatranging the terms

$$C\,\frac{d\theta}{dt} = P_1 - D\theta \quad \rightarrow (3)$$

$$C = Wh$$

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$$D = dA \quad \rightarrow (5)$$

Here, C is the thermal capacity of the machine. watts / °C.

D is the heat dissipation constant, watts/°C.

from eq (3), the first order different equation is

$$\theta = \theta_{ss} + Ke^{-t/\tau} \quad \rightarrow (6)$$

$$\theta_{ss} = \frac{P_1'}{D} \quad \rightarrow (7)$$

$$\tau = \frac{C}{D} \quad \rightarrow (8)$$

At $t = 0$ in eqn (6),

$$\theta = \theta_{ss}\left(1 - e^{-t/\tau}\right) + \theta_1 e^{-t/\tau} \quad \rightarrow (9)$$

τ_1 = heating time constant of machine.

Let the load on machine be thrown off after its temp. rises reaches a value θ_2. Heat loss will reduce to a small value P_1' and cooling operation of motor will begin.

D' is the new value of heat dissipation constant

$$C\frac{d\theta}{dt} = P_1' - D'\theta \quad \rightarrow (10)$$

$$\theta = \theta_2 \quad \text{at} \quad t = 0$$

$$\theta = \theta_{ss}'\left(1 - e^{-t/\tau'}\right) + \theta_2 e^{-t/\tau'} \quad \rightarrow (11)$$

$$\theta_{ss}' = \frac{P_1'}{D'} \quad \rightarrow (12)$$

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θ'_{ss} is steady state temp rise' for new value.

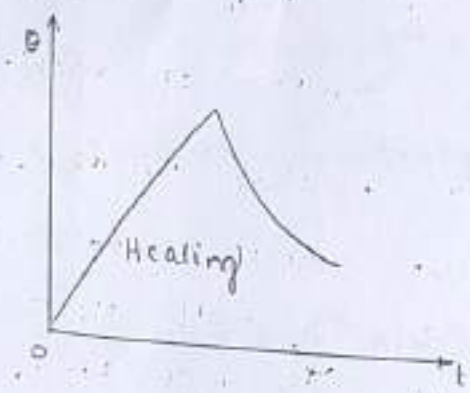
τ' is cooling time constant of machine.

$$P_1' = \theta'_{ss} = 0$$

substitute the above equation in eq (11)

$$\theta = \theta_2' e^{-t/\tau'} \longrightarrow (13)$$

Cooling time constant at standstill is much larger than when running. Therefore, in high performance and medium and high power variable speed drives, motor is always provided with separate forced cooling, so that motor cooling be independent of speed.



The curve shows the variation of motor temparature rise with time during Heating & Cooling curves of Electrical Drives.

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⑤ A slab of insulating material 120 cm^2 in area and 2cm thick is to be heated by dielectric heating. The power required is 400W at 30 MHz. Material has a relative permitivity of 8 and power facta of 0.5. Absolute permicivity $= 8.854 \times 10^{-12}$ F/m. Determine the necessary voltage.

Solution: Given,

$A = 120\ cm^2 = 0.012\ m^2$

$d = 2cm = 2 \times 10^{-2}\ m$

$P = 400W$

$f = 30MHz = 30 \times 10^6\ Hz$

$\varepsilon_r = 8$

$\cos\theta = 0.5$

$\varepsilon_0 = 8.854 \times 10^{-12}\ F/m$

ε = absolute permitivity

$\varepsilon = \varepsilon_0 \cdot \varepsilon_r$

$= 8(8.854 \times 10^{-12}\ F/m) = 7.0832 \times 10^{-11}\ F/m$

Capacitive reactance,

$$X_C = \frac{1}{2\pi f \varepsilon \frac{A}{d}}$$

$$X_C = \frac{1}{2\pi (30 \times 10^6)(7.0832 \times 10^{-11})(0.012)/(2 \times 10^{-2})}$$

$$X_C = \frac{1}{7.98 \times 10^{-12}} = 1.252 \times 10^{11}\ \Omega$$

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$$P_r = \frac{V_{rms}^2}{X_c} \cos\theta$$

$$V_{rms} = \sqrt{P_r \cdot X_c \cdot \frac{1}{\cos\theta}}$$

$$= \sqrt{400 \cdot (1.252 \times 10^{11}) \cdot \frac{1}{0.5}}$$

$$= \sqrt{1.002 \times 10^{14}}$$

$$V_{rms} = 1.001 \times 10^7 \text{ V.}$$

$\therefore$ $V_{rms} \approx 10^7$ V (or) 10 MV.

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DEPARTMENT OF MECHANICAL ENGINEERING

COURSE NAME:NON DESTUCTIVE EVALUATION YEAR/SEM:IV BTECH/ISEM

A.Y:2023-2024 COURSE:C413 FACULTY NAME:G.RAMESH

LIST OF SLOW LEARNERS FOR TUTORIALS(BASED ON FIRST MID)

		TOPICS COVERED	ULTRASONIC TESTING	PENETRATION TESTING	MAGNETIC PARTICLE TESTING	THERMAL TESTING	
		DATE	24/8/23	10/09/23	14/9/23	20/9/23	
SNO	REGD NO	NAME OF THE STUDENT	1	2	3	4	
1.	20H41A0305	DONIPATI SURESH	1	2	3	4	Suresh
2.	20H41A0307	KAMISETTI GOWTHAM	1	A	A	4	Gowtham
3.	20H41A0308	KUMPATLA SAMADHANA RAJU	1	2	3	4	K. Samadhana Raju
4.	20H41A0309	NAVEED ABBAS MUNNU	A	A	A	4	Munnu Raju
5.	20H41A0310	PAPPULA ADI DURGA RAO	1	2	3	4	Durga Rao
6.	20H41A0311	PENNADA BHAIRAVA MURTHY	1	2	3	4	Murthy
7.	20H41A0312	PENNADA RAJU	1	2	3	4	Raju
8.	20H41A0313	YERUBANDI GUNA DURGA VENKATESH	1	2	3	4	venkatesh
9.	21H41A0301	ADARI SATISH	1	2	3	4	satish
10.	20H45A0308	GOLLU LOKESH	1	2	3	4	lokesh
11.	21H45A0312	KOPPISETTI DEVI NAGA SAIRAM	1	2	3	4	Sai Ram
12.	21H45A0315	MAMIDISETTI SRIRAMANARAYANAREDDY	1	2	3	4	Sriram
13.	21H45A0318	MASAKAPALLI LAKSHMI NARASIMHA	1	2	3	4	Narasimha
14.	21H45A0322	PATI SURYA DINESH	1	A	2	A	Dinesh
15.	21H45A0325	POLISETTI SURIBABU	A	1	2	3	SURIBABU
16.	21H45A0328	RELANGI V V S S N DURGA RAVI TEJA	1	2	3	4	Ravi teja
17.	21H45A0329	SAMINEEDI NAGA SIVA DURGA PRASAD	1	2	3	4	Durga Prasad

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DEPARTMENT OF MECHANICAL ENGINEERING

COURSE NAME:NON DESTUCTIVE EVALUATION YEAR/SEM:IV BTECH/ISEM

A.Y:2023-2024 COURSE:C413 FACULTY NAME:G.RAMESH

LIST OF SLOW LEARNERS FOR TUTORIALS(BASED ON FIRST MID)

18.	21H45A0334	VANACHARLA ADITYA AVINASH	1	2	3	4	Avinash

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DEPARTMENT OF MECHANICAL ENGINEERING

FAST LEARNERS

Course Name:	NON DISTRUCTIVE (C413)
Class:	IV B.TechISem
Academic Yr:	2023-2024

		TOPICS COVERED	LPT	MPT	ECL	PT	
		DATE	14/8/23	17/09/23	24/9/23	21/9/23	
SNO	REGD NO	NAME OF THE STUDENT					
1	20H41A0301	ANDROTHU NAGA DURGA JAGADEESH	1	2	3	4	Jagadish
2	20H41A0302	BUDITHI NANDINI	1	2	3	4	NANDINI
3	20H41A0303	CHELLU LAYA SATYA KISHORE	1	2	3	4	Kishore
4	20H41A0309	ANALA PRASAD	1	2	3	4	Prasad
5	21H41A0302	AVALA SURYAPRAKASH	1	2	3	4	Surya Prakash
6	20H45A0303	BALLA VIJAYA MANOHAR	1	2	3	4	Manohar
7	21H45A0305	BENDI GANESH	1	2	3	4	Ganesh
8	21H45A0306	DIVAKARLA SAI LAKSHMI RAMARAO	1	2	3	4	Ramarao
9	21H45A0307	GOKARLA UDAY	1	2	3	4	UDAY
10	21H45A0309	GOLLU LOKESH	1	2	3	4	lokesh
11	21H45A0310	GUTHULA UDAY BHASKAR	1	2	3	4	Bhaskar
12	21H45A0311	KADIYAM RAJESH	1	2	3	4	Rajesh
13	21H45A0313	KASIREDDY SAI SIVA ADARSH	1	2	3	4	adarsh
14	21H45A0314	KOPPISETTI DEVI NAGA SAIRAM	A	1	2	3	Sairam
15	2HH45A0315	KOTIPALLI SATYA JOGARAO	1	2	3	4	Satya Jagarao
16	21H45A0316	MAJJI GANESH	1	2	A	3	ganesh
17	21H45A0317	MAMIDISETTI SRIRAMANARAYANAREDDY	1	2	3	4	Sriram Narayana
18	21H45A0318	MANEPALLI CHANDRA VENKATA SATISH	1	A	2	3	venkata Satish
19	21H45A0319	MANEPALLI CHARAN MEHAR SAI	1	2	3	A	mehar sai
20	21H45A0321	MASAKAPALLI LAKSHMI NARASIMHA	1	A	2	3	Narasimha
21	21H45A0323	MATTAPARTHI VISHNU VARDHAN	A	1	2	3	vardhan
22	21H45A0324	MERLA CHINNA NAGESWARA RAO	1	2	A	3	Nageswara Rao

FACULTY SIGNATURE

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BATLAPALEM, AMALAPURAM - 533 221

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

DEPARTMENT OF MECHANICAL ENGINEERING

FAST LEARNERS

Course Name:	NON DISTRUCTIVE (C413)
Class:	IV B.TechISem
Academic Yr:	2023-2024

23	21H41A0326	PATI SURYA DINESH	A	1	2	3	Dinesh
24	20H45A0327	PETLA DURGA PRASAD	1	2	3	4	prasad
25	21H45A03330	PITHANI AKHIL	1	2	3	4	Akhil
26	21H45A0331	POLISETTI SURIBABU	1	A	2	3	SURIBABU
27	21H45A0332	PONNANA GNANESWARA RAO	1	2	3	4	Gnaneswararao
28	21H45A0333	REDDY RAVITEJA	1	2	3	4	Ravi Teja
29	21H45A0335	VANTHALA VIKASH RAJU	1	2	3	A	vikash raju
30	21H45A0336	VEERA YEJNA NAGA DURGA RAO	1	2	3	4	Durga Rao
31	21H45A0337	YEDIDA SRI SAI DURGA VARAPRASAD	1	2	A	3	varaprasad
32	21H45A0338	YELCHURI JASWANTH KUMAR	1	2	3	4	Jaswanth kumar
33	20H41A0339	GEDDAM ROHITH	1	2	3	4	Rohith

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B V C INSTITUTE OF TECHNOLOGY & SCIENCE:BATLAPALEM

DEPARTMENT OF MECHANICAL ENGINEERING

YEAR/SEM : IV B TECH I SEM MECH **SUB: NDE**

A.Y:2023-2024 **FACULTY NAME:G.RAMESH**

NDE QUESTIONS DISCUSSED IN TUTORIALS HOURS FOR FAST LEARNERS

1)Discuss the procedure of Liquid penetration system.

2)Illustrate the principle of wave propagation and reflection.

3)Explain the principle magnetic particle test.

4)Basic principles and operating procedures of magnetic particle testing.

5)Write short notes about the standard depth of penetration in Eddy Current testing.
6)Explain active and passive techniques in detail.
7)Illustrate the principle of eddy current testing in detail?

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B V C INSTITUTE OF TECHNOLOGY & SCIENCE:BATLAPALEM

DEPARTMENT OF MECHANICAL ENGINEERING

YEAR/SEM :IV B TECH I SEMMECH SUB: NDE

A.Y:2023-2024 FACULTY NAME:G.RAMESH

NDE QUESTIONS DISCUSSED IN TUTORIALS HOURS FOR SLOW LEARNERS

1) Write short notes about the standard depth of penetration in Eddy Current testing.

2) Illustrate the principle of eddy current testing in detail?

3)Discuss the procedure of magnetic particle test in detail?

4) Explain active and passive techniques in detail.

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Course Name: VLSI DESIGN

Year / Sem: IIIB.Tech/IISem

AY: 2023-2024

Faculty Name: P.Girish

Course Code: C322

LIST OF FAST LERNERS FOR TUTORIAL [BASED ON MID-1[CUTOFF:10M]

SNO	REGD NO	NAME OF THE STUDENT	SIGNATURE
1.	21H41A0402	ADABALA H L K SUJITHA	A.H.L.K Sujitha
2.	21H41A0403	ADAPA PRAMEELA	A.pramecla
3.	21H41A0404	AKKISETTI PINAKAPANI VENKATESH	A.P. Venkatesh
4.	21H41A0406	BORSU VANITHA	B. Vanitha
5.	21H41A0407	CHINNAM MANEESHA	ch. Maneesha
6.	21H41A0408	CHITIKELA SAI KUMAR	Ch. Sai Kumar
7.	21H41A0410	CHITTURI RAJESWARI	ch Rajeswari
8.	21H41A0411	DAIVALA MADHUVENKATA VIGNESH	Dmv. vignesh
9.	21H41A0412	DANGETI YAJNESWARI	D. Yajneswari
10.	21H41A0413	DEVALLA ESWAR SAI KRISHNA CHOWDARI	D.E.S.K. Chowdari
11.	21H41A0414	DUKKIPATI TEJASWI	D. Tejaswi
12.	21H41A0417	GANESNA LAKSHMI ANU SRI	G. Anu Sri
13.	21H41A0419	GUDDATI ESWARI SRI SAI SUJITA	G.E.S.S. Sujitha
14.	21H41A0421	JAKKAMPUDI SUSHMITHA	J. Nagesh
15.	21H41A0422	JAKKAVARAPU NAGESH	K. Sruthi
16.	21H41A0426	KALLA SRUTHI	K. Sruthi.
17.	21H41A0432	KOTIPALLI LAKSHMI PRASANNA	K. Prasanna

18.	21H41A0435	*KURACHA LAKSHMI DURGA PREMA SINDHUJA*	K L. Sindhuja
19.	21H41A0436	MARELLA MOUNIKA	M. Mounika
20.	21H41A0437	MEDIDA GANESH	M. Ganesh
21.	21H41A0442	NAGALLA NAGA MALLESWARI	N. N. Malleswari
22.	21H41A0444	NALLA NAVYA SAI SRI LAKSHMI	N. Navya Sai Sri Lakshmi
23.	21H41A0445	NANDIKA LAKSHMI LAVANYA	N. Lakshmi Lavanya
24.	21H41A0448	PANTHANI SIRISHA	P. Sirisha
25.	21H41A0449	PATTAPAGALU VEERA SURESH	P. V. Suresh
26.	21H41A0450	PILLI JNANESWARI	P. Jnaneswari
27.	21H41A0451	PINDI NAGADURGA SAI VIJAYA LAKSHMI	P. N. S. V. Lakshmi
28.	21H41A0452	POLISETTI CHAYA RAMALAKSHMI	P. C. Rama Lakshmi
29.	21H41A0454	PURUSHOTTAM POORNA CHANDINI	P. P. Chandini
30.	21H41A0457	*RUDRA NAGA SATYA DURGA DEVIKA*	R. N. Satya Durga
31.	21H41A0458	SELA DIMPLE SRIDEVI	S. D. Sridevi
32.	21H41A0460	SURAMPUDI SATYA NAGA DURGA PRASOONA	S. Satya Naga Durga Prasoona
33.	21H41A0461	TOTTARAMUDI CHARAN SUBHASH	T. C. Subhash
34.	21H41A0466	YANDRA SUGUNA	Y. Suguna
35.	21H41A0467	ACHANTA GEETHA SARANYA	A. G. Saranya
36.	21H41A0468	ADAPA CHAITANYA SURYA LAKSHMI	A. Surya
37.	21H41A0472	CHELLUBOINA SANVITHA RATHNAM	C. S. Rathnam
38.	21H41A0473	CHELLUBOYINA USHA PAVANI	C. U. Pavani
39.	21H41A0474	CHIKKAM SOWJANYA RAMA MUTYA MANI	C. Rama Mutyam
40.	21H41A0475	CHINTA STEVEN	C. Steven

41.	21H41A0477	CHEGONDI BHAVANA	
42.	21H41A0478	DONGA NAGA SAI RAMYA SREE	
43.	21H41A0479	DUNNALA BHAGYA SRI	
44.	21H41A0480	ELLIMILLI MEGHANA	
45.	21H41A0481	ETHA NAVYA	
46.	21H41A0482	GALIDEVARA SRI NEYYA	
47.	21H41A0483	GANDHAM SRI PRIYA	
48.	21H41A0487	KARRI SRAVANI	
49.	21H41A0488	KOPPINEDI LAKSHMI PRASANNA	
50.	21H41A0489	KOPPISETTI RAJYA LAKSHMI RAKSHITHA	
51.	21H41A0491	KOPPISETTI SURYA	
52.	21H41A0492	KORAVATI SIVA BABALU	
53.	21H41A0493	KOTLA SAI SAKETH	
54.	21H41A0496	KUSUNURI SANTOSH KUMAR	
55.	21H41A0497	LAKKIMSETTI SWATHI	
56.	21H41A0498	LINGOLU POOJA RAKSHITHA	
57.	21H41A0499	MACHIRAJU SATYAVATHI SRINIJA	
58.	21H41A04A2	*MANDELA SNEHA BHAVANI*	
59.	21H41A04A3	MANE MALLIKA RAMYA	
60.	21H41A04A4	MATTA NAVYASREE	
61.	21H41A04A5	MATTAPARTHI LEELA GANESH BALAJI	
62.	21H41A04A6	MEDEPALLI PAVANI	
63.	21H41A04A7	MEDICHARLA DURGA LAKSHMI	
64.	21H41A04A8	MEKALA ANU NAGA VENKATA LAKSHMI	

65.	21H41A04B0	NALLA ABHIRAM CHANDRA SEKHAR	N.A.C. Sekhar
66.	21H41A04B1	NAMANA GOWRI DEVI	N. G. Devi
67.	21H41A04B3	ODURI SRI NAGA DEVI	O.S.N. Devi
68.	21H41A04B5	PRASANNA DEVI KANDREGULA	Prasanna Devi.K
69.	21H41A04B6	PULIDINDI TASLI	P. Tasli
70.	21H41A04B8	RAYUDU JEEVA VANI	R.J. Vani
71.	21H41A04B9	SAMANTHAKURTHI MANI SAI RAM	S.M. Sai
72.	21H41A04C1	SAVARAPU SRINIJA	S. Srinija
73.	21H41A04C3	TALABATHULA VINDHYAMRUTHA	T. Vindhyamrutha
74.	21H41A04C6	VARA SUVARNA JYOTHI	V.S. Jyothi
75.	216M1A04B6	VEGI SINDHU SRI SAI MANI	V.S.S.S. Mani
76.	22H45A0401	BASINA VENKATA SATYA SRI	B.V. Satya Sri
77.	22H45A0402	DARAPU RAHUL	D. Rahul
78.	22H45A0405	MALLAVARAPU SATYA SAI ANIL	M. Satya Sai Anil
79.	22H45A0406	MATTAPARTHI SAI SREE	M. Sai Sree
80.	22H45A0408	KUMPATLA DIVYA	K. Divya
81.	22H45A0409	MUDUMBA HANUMA SADHANA	M.H. Sadhana
82.	22H45A0410	MUTTABATHULA SUVIJNA	M. Suvijna
83.	22H45A0411	PEMMADI ADI LAKSHMI	P.A. Lakshmi
84.	22H45A0412	SAMSANI NAGA MOUNIKA	S.N. Mounika

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P. Srinija.
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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY AND SCIENCE: BATLAPALEM

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Course Name: VLSI DESIGN | Year / Sem: IIIB.Tech/IISem

AY: 2023-2024 | Faculty Name: P.Girish

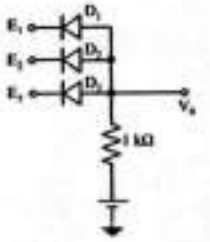
Course Code: C322

QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR FAST LERNERS

1. NAND gate delay can be given as
a) Tint
b) Tint/n
c) n*Tint
d) 2n*Tint
View Answer
Answer: c
Explanation: NAND gate delay can be given as the product of number of inputs n and the nMOS inverter delay Tint.

2. Pass transistors are transistors used as _____
a) switches connected in series
b) switches connected in parallel
c) inverters used in series
d) inverter used in parallel
View Answer
Answer: a
Explanation: Pass transistors are transistor used as switches in series with lines carrying logic levels due to its isolated nature of the gate.

3. In the circuit shown, diodes and are ideal, and the inputs and are "0 V" for logic '0' and "10 V" for logic '1'. What logic gate does the circuit represent?
(GATE ECE 2015 Set 3)



a. 3-input OR gate
b. 3-input NOR gate
c. 3-input AND gate
d. 3-input XOR gate

Answer (c)

4. The number of comparators required in a 3-bit comparator type ADC is

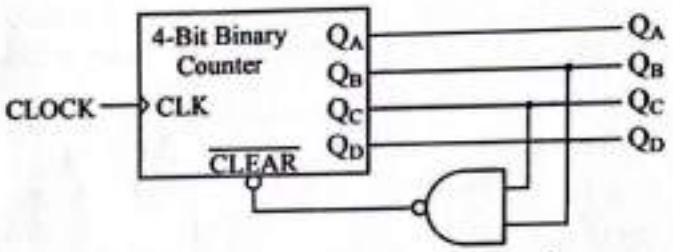
(GATE ECE 2002)

a. 2
b. 3
c. 7
d. 8

Answer (c)

5. A mod-n counter using a synchronous binary up-counter with synchronous clear input is shown in the figure. The value of n is _____

(GATE ECE 2015 Set 2)

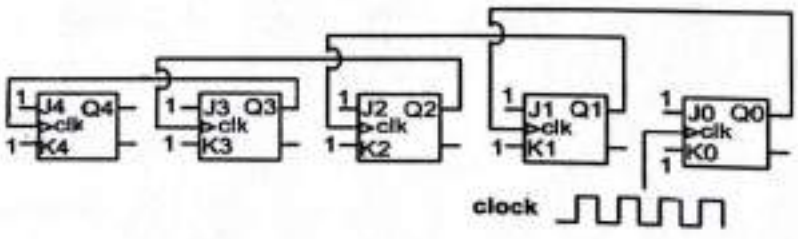


a. 7
b. 10
c. 15
d. 20

Answer (a)

6. Five JK flip – flops are cascaded to form a circuit shown in figure. The clock pulses at a frequency of 1 MHz are applied as shown. The frequency (in kHz) of the waveform at Q_3 is _____

(GATE ECE 2014 Set 1)



a. 62.5
b. 66

c. 67.67
d. 70

Answer (a)

7. In a DRAM,

(GATE ECE 2017 Set 2)

a. Periodic refreshing is not required
b. Information is stored in a capacitor
c. Information is stored in a latch
d. Both read and write operations can be performed simultaneously

Answer (b)

8. A 16 Kb (=16,384 bit) memory array is designed as a square with an aspect ratio of one (number of rows is equal to the number of columns). The minimum number of address lines needed for the row decoder is _____

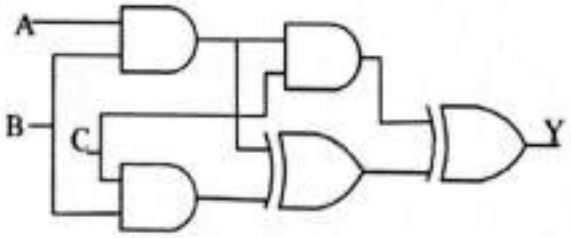
(GATE ECE 2015 Set 1)

e. 10
f. 7
g. 5
h. 1

Answer (b)

9. The output of the combinational circuit given below is

(GATE ECE 2016 Set 1)

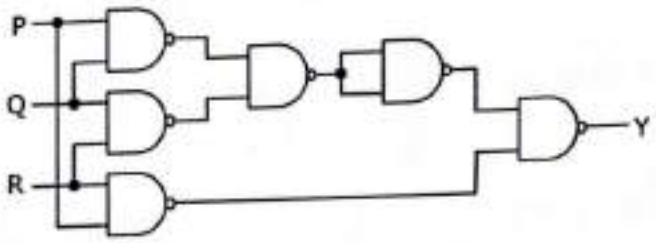


a. A+B+C
b. A(B+C)
c. B(+A)
d. C(A+B)

Answer (c)

10. The output Y in the circuit below is always '1' when

(GATE ECE 2011)

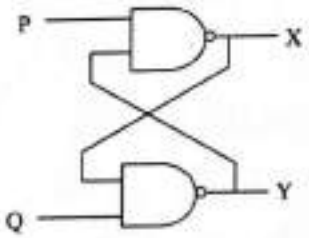


a. Two or more of the inputs P, Q, R are '0'
b. Two or more of the inputs P, Q, R are '1'
c. Any odd number of the inputs P, Q, R is '0'
d. Any odd number of the inputs P, Q, R is '1'

Answer (b)

11. In the latch circuit shown, the NAND gates have non-zero, but unequal propagation delays. The present input condition is: P = Q = "0". If the input condition is changed simultaneously to P = Q = "1", the outputs X and Y are

(GATE ECE 2017 Set 1)



a. X = '1', Y ='1'
b. Either X = '1', Y = '0' or X ='0', Y = '1'
c. Either X = '1', Y = '1' or X ='0', Y = '0'
d. X = '0', Y ='0'

Answer (b)

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Course Name: VLSI DESIGN

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AY: 2023-2024

Faculty Name: P.Girish

Course Code: C322

LIST OF SLOW LERNERS FOR TUTORIAL [MID-1CUTOFF:10 AND 10 BELOW]

SNO	REGD NO	NAME OF THE STUDENT	SIGNATURE
1.	21H41A0401	ACHANTA JAGADEESWARI	A. Jagadeesw
2.	21H41A0405	ATTILI LEELA VARA PRASAD	A. Vara Prasad.
3.	21H41A0409	CHITTIMENU VEERA MANIKANTA	Ch. manikanta
4.	21H41A0415	DUNABOYINA RAVINDRA	D. Ravindra
5.	21H41A0416	EETA TEJA RAJU	G. Sandhya
6.	21H41A0418	GOLLA SANDHYA	G. Sandhya
7.	21H41A0420	JAKKAMPUDI AKSHAY	J. Akshay
8.	21H41A0424	JITHUKA SIDDHARDHA	J Siddu
9.	21H41A0425	JOGI PRIYANKA	J. Priyanka
10.	21H41A0427	KANCHUSTAMBHAM SAI PAVAN SEKHAR	K. Pavan Kha
11.	21H41A0428	KATADI SIREESHA	K. Sireesha
12.	21H41A0429	KETHA DEVIKA	K. Devika
13.	21H41A0430	KODURI KRUPAVATHI	K. Parvathi
14.	21H41A0431	KOMMURI JANAKI	K. Janaki
15.	21H41A0433	KOTIPALLI SAI KRISHNA	K. S. krishna
16.	21H41A0434	KOTTALA LOKESH	K. lokesh.
17.	21H41A0438	MENDU ABHINESH VARMA	M. Abhinesh.
18.	21H41A0439	MOHAMMAD AYESHA JABEEN	M. Ayesha.

19.	21H41A0440	NAGABATHULA VAMSI MOHAN	
20.	21H41A0441	NAGALLA DURGA MADHAV	
21.	21H41A0443	NALAM SAI ESWAR	
22.	21H41A0446	NANDYALA RATNA KUMARI	
23.	21H41A0447	NIMMAKAYALA SRI RAMA RATNA PRASANTHI	
24.	21H41A0453	PURUSHOTHAM LAVANYA	
25.	21H41A0455	RANKIREDDY N D L MANI PRASAD	
26.	21H41A0456	RAPAKA DANIEL JAMES	
27.	21H41A0459	SRI VENKATA JAYA RAM VAMSI GANDHAM	
28.	21H41A0462	VADDI PRANATHI	
29.	21H41A0463	VANAMALI NAVEEN KUMAR	
30.	21H41A0464	VELIGANTI MANIKANTA	
31.	21H41A0465	VENKATA SATYA REETHU DANGETI	
32.	21H41A0469	*AKSHINTALA SAI JAYANTH*	
33.	21H41A0470	ALLAM VEERA VENKATA SAI SURYA	
34.	21H41A0471	ANKADI SAI VENKATA SURAJ	
35.	21H41A0476	CHINTHA VASANTHA	
36.	21H41A0484	JALEM VARSHA	
37.	21H41A0485	JANGA RISHITA	
38.	21H41A0486	KAMADI BHAVANI HARIKA	
39.	21H41A0494	KUMPATLA SRI MANIKANTA	
40.	21H41A0495	KUSUME PRAVEEN	
41.	21H41A04A0	MAHADASA MADHAVESWAR	
42.	21H41A04A9	NAINALA PRANESH	

43.	21H41A04B2	NOUNDRU BALAGANESH	N. Balaganesh
44.	21H41A04B4	PEDDIREDDY JYOTHI R SIDDHU LAKSHMANESH	P. Lakshmanesh
45.	21H41A04B7	RAJULAPUDI SATISH GOWD	R. Satish Gowd
46.	21H41A04C2	*SURNEEDI KARTHIKEYA*	S. Karthikeya
47.	21H41A04C4	TELAGANI PRAVEENA RAMA NAGA SRI	T. P. R. N. Sri
48.	21H41A04C5	TUNDURI JOSHI SRI VINAY	T. Vinay
49.	21H41A04C8	YAGA ESWAR TEJA	Y. Eswar Teja
50.	21H41A04D1	YEDIDA MANENDRA	Y. Manendra
51.	21H41A04D2	YERUBANDI MADHU KIRAN	Y. Madhu Kiran
52.	22H45A0403	GARAGA SRAVAN REVANTH	G. Revanth
53.	22H45A0404	GELLA SAMUYELU	G. Samuyelu
54.	22H45A0407	NAGABATHULA UDAY KUMAR	N. U. Kumar.

P. Girish.
Faculty Signature

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY AND SCIENCE: BATLAPALEM

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Course Name: VLSI DESIGN | Year / Sem: III B.Tech/ II Sem

AY: 2023-2024 | Faculty Name: P.Girish

Course Code: C322

QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR SLOW LERNERS

1. Determine pull-up to pull-down ratio of an NMOS inverter when driven through one or more pass transistors.
2. Draw the circuit diagram of single stage amplifier with resistive load and explain its operation.
3. Explain the importance of Pass-Transistor Logic along with example.
4. What are the Issues in Dynamic Design and explain.
5. Explain the operation of Master-Slave Based Edge Triggered Register along with diagram.

P. Girish

Faculty Signature

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY AND SCIENCE: BATLAPALEM
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Course Name: VLSI DESIGN
AY: 2023-2024
Course Code: C322

Year / Sem: III B.Tech/ II Sem
Faculty Name: P.Girish

REGDNO: 21H91A0450

NAME OF THE STUDENT: Jnaneswari

9/11

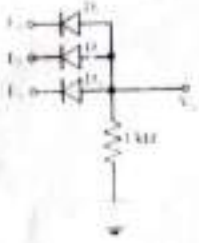
QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR FAST LERNERS

1. NAND gate delay can be given as c
a) T_{int}
b) T_{int}/n
c) $n * T_{int}$
d) $2n * T_{int}$

2. Pass transistors are transistors used as a
a) switches connected in series
b) switches connected in parallel
c) inverters used in series
d) inverter used in parallel

3. In the circuit shown, diodes and are ideal, and the inputs and are "0 V" for logic '0' and "10 V" for logic '1'. What logic gate does the circuit represent? c

(GATE ECE 2015 Set 3)



a. 3-input OR gate
b. 3-input NOR gate
c. 3-input AND gate
d. 3-input XOR gate

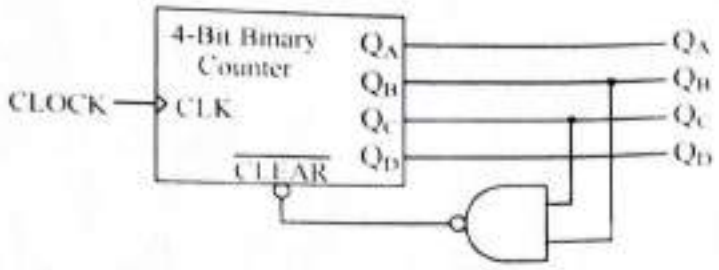
4. The number of comparators required in a 3-bit comparator type ADC is c

(GATE ECE 2002)

a. 2
b. 3
c. 7
d. 8

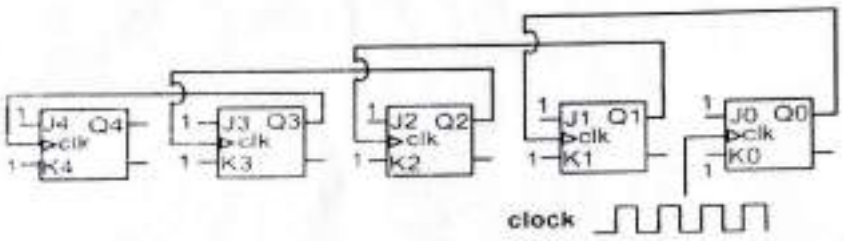
5. A mod-n counter using a synchronous binary up-counter with synchronous clear input is shown in the figure. The value of n is 9

(GATE ECE 2015 Set 2)



a. 7
b. 10
c. 15
d. 20

6. Five JK flip – flops are cascaded to form a circuit shown in figure. The clock pulses at a frequency of 1 MHz are applied as shown. The frequency (in kHz) of the waveform at Q_2 is ____b____
(GATE ECE 2014 Set 1)



a. 62.5
b. 66
c. 67 or 7
d. 70

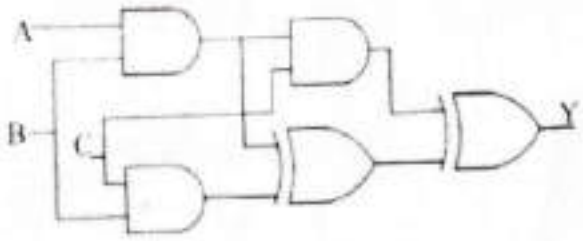
7. In a DRAM, (b)
(GATE ECE 2017 Set 2)

a. Periodic refreshing is not required
b. Information is stored in a capacitor
c. Information is stored in a latch
d. Both read and write operations can be performed simultaneously

8. A 16 K × 4 (i.e. 16,384 bit) memory array is designed as a square with an aspect ratio of one (number of rows is equal to the number of columns). The minimum number of address lines needed for the row decoder is _____
(GATE ECE 2015 Set 1) b

e. 10
f. 7
g. 5
h. 1

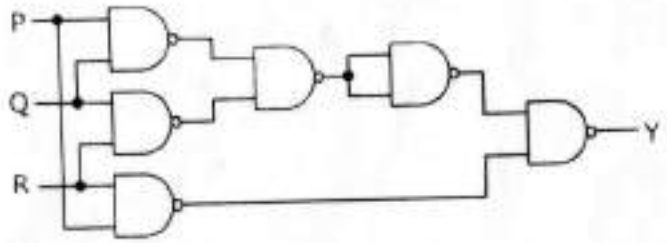
9. The output of the combinational circuit given below is d
(GATE ECE 2016 Set 1)



a. A+B+C
b. A(B+C)
c. B(+A)
d. C(A+B)

10. The output Y in the circuit below is always '1' when (b)

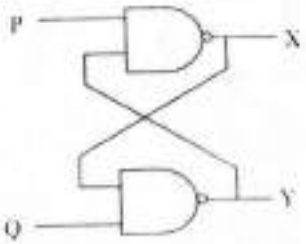
(GATE ECE 2011)



a. Two or more of the inputs P, Q, R are '0'
b. Two or more of the inputs P, Q, R are '1'
c. Any odd number of the inputs P, Q, R is '0'
d. Any odd number of the inputs P, Q, R is '1'

11. In the latch circuit shown, the NAND gates have non-zero, but unequal propagation delays. The present input condition is P = Q = '0'. If the input condition is changed simultaneously to P = Q = "1", the outputs X and Y are (c)

(GATE ECE 2017 Set 1)



a. X = '1', Y = '1'
b. Either X = '1', Y = '0' or X = '0', Y = '1'
c. Either X = '1', Y = '1' or X = '0', Y = '0'
d. X = '0', Y = '0'

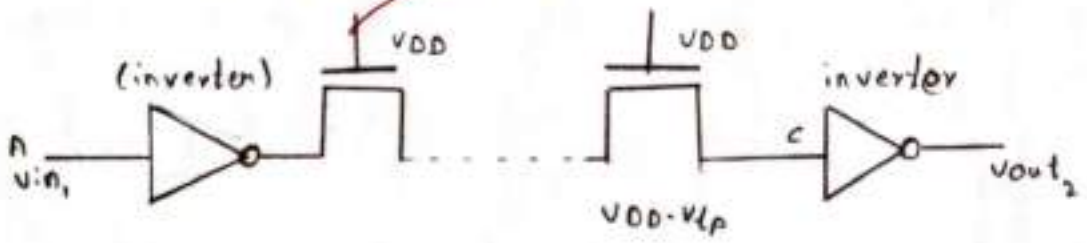
VLSID

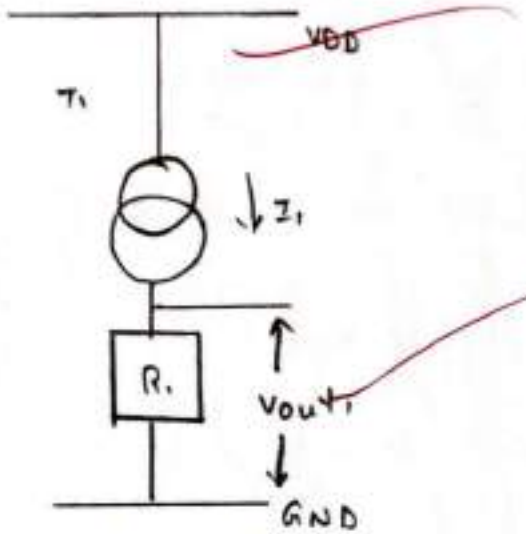
N. Saiesswar

21H41A0443 Assignment Test

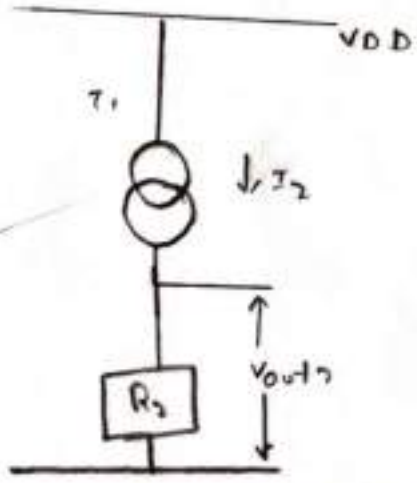
4/5

consider the arrangement of figure in which the input to "inverter 2" comes from the output of "inverter 1" but passes through one or more NMOS transistors used as switches in series (called pass transistors)





a) Inverter 1 with i/p = V_{DD}



b) Inverter 2 with the i/p $= V_{DD} - V_{tp}$

fig: equivalent circuit of inv_1 and inv_2

For the p.d transistor

$$I_{ds} = k \cdot \frac{W_{Pd1}}{L_{Pd1}} (V_{DD} - V_t) V_{ds} - \frac{V_{ds}^2}{2}$$

$$I_{ds} = k \cdot \frac{1}{\frac{z}{L}_{pd_1}} (V_{DD} - V_t) V_{ds} - \frac{V_{ds}^2}{2}$$

$$R_1 = \frac{V_{ds}}{k \cdot \frac{1}{\frac{z}{L}_{pd_1}} V_{ds} (V_{DD} - V_t - \frac{V_{ds}}{2})}$$

$$R_1 = 1/k \cdot \frac{\frac{z}{L}_{pd_1}}{V_{DD} - V_t - \frac{V_{ds}}{2}}$$

$$R_1 = 1/k \cdot \frac{\frac{z}{L}_{pd_1}}{V_{DD} - V_t}$$

since, $\frac{V_{ds}}{2}$ is small, so it is ignored

Now for deflection mode P.U in saturation with $V_{gs} = 0$

$$I_1 = I_{ds} = k \cdot \frac{W_{PU_1}}{L_{PU_1}} \left(\frac{(-V_t)^2}{2} \right)$$

$$I_1 = k \cdot \frac{1}{\frac{z}{L}_{PU_1}} \left(\frac{V_t^2}{2} \right)$$

$$I_1 R_1 = V_{out_1}$$

$$V_{out_1} = I_1 R_1 = \frac{\frac{z}{L}_{pd_1}}{\frac{z}{L}_{PU_1}} \left(\frac{V_t^2}{2} \right) \left(\frac{1}{V_{DD} - V_t} \right)$$

Consider inv_2 when $i/p = V_{DD} - V_{tp}$ as shown for inv,

$$V_{out_2} = I_2 R_2$$

for Pull up transistor, $I_2 = k \cdot \frac{1}{\frac{z}{L}_{PU_2}} \left(\frac{V_t^2}{2} \right)$

Pulldown , $R_2 = 1/k \left(\frac{\frac{z}{L}_{pd_2}}{V_{DD} - V_{tp} - V_t} \right)$

$$V_{out_2} = k \cdot \frac{1}{\frac{z}{L}_{pd_2}} \left(\frac{V_t^2}{2} \right) 1/k \cdot \frac{\frac{z}{L}_{pd_2}}{V_{DD} - V_{tp} - V_t}$$

$$V_{out_2} = \frac{\frac{z}{L}_{pd_2}}{\frac{z}{L}_{PU_2}} \left(\frac{V_t^2}{2} \right) \left(\frac{1}{V_{DD} - V_{tp} - V_t} \right)$$

If inv_2 is to have the same o/p voltage under these conditions then $V_{out1} = V_{out2}$ that is

$$I_1 R_1 = I_2 R_2$$

$$\frac{\partial P_1}{\partial V_1}\left(\frac{V_{tn}}{5}\right)\left(\frac{1}{V_{DD}-V_{tn}}\right) = \frac{\partial P_2}{\partial V_2}\left(\frac{V_{tp}}{5}\right)\left(\frac{1}{V_{DD}-V_{tp}-V_t}\right)$$

$$\frac{\partial P_1}{\partial V_1}\left(\frac{1}{V_{DD}-V_t}\right) = \frac{\partial P_2}{\partial V_2}\left(\frac{1}{V_{DD}-V_{tp}-V_t}\right)$$

$$\frac{\partial P_2}{\partial P_1}\left(\frac{V_{DD}-V_t}{V_{DD}-V_{tp}-V_t}\right)\frac{\partial V_1}{\partial P_1}$$

Typical values

$V_t = 0.1V_{DD}$, $V_{tp} = 0.3V_{DD}$

$$\frac{\partial V_2}{\partial P_2} = \frac{\partial V_1}{\partial P_1}\left(\frac{0.8}{0.5}\right)$$

$$\Rightarrow \frac{\partial V_2}{\partial P_2} = 2\frac{\partial V_1}{\partial P_1}$$

$$\frac{\partial V_2}{\partial P_2} = 2\left(\frac{4}{1}\right)$$

$$\frac{\partial V_2}{\partial P_2} = 8/1$$

$$\partial V_2 : \partial P_2 = 8:1$$

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COURSE NAME: DATA WAREHOUSING AND DATA MINING YEAR/SEM: III B.TECH/I SEM

A.Y:2023-24 COURSE CODE: C313 FACULTY NAME: N SUSHUMA

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3	21H41A0503	ANUPOJU MOHAN KRISHNA VAMSI	
4	21H41A0504	ARIGELA SRI VIRALI DURGA AKSHAYA	
5	21H41A0505	AVASARALA LALITHA GAYATHRI	A Lalitha Gayathri
6	21H41A0506	BASA NAGA SURYA SATYA V MAHESH	B.N.S.S. Mahesh
7	21H41A0507	CHALLA DEVI MANI	Ch. Devi
8	21H41A0508	CHITTURI DEEKSHITA	CH. Deekshitha
9	21H41A0509	DARAPUREDDY LAKSHMI DURGA BHAVANI	D. Durga Bhavani
10	21H41A0510	DASARI JEEVITHA	D.Jeevitha
11	21H41A0511	ERAVADA VANI	E Vani
12	21H41A0514	GANESULA V V S S SAI GANESH	G V.V.S.S.S.Ganesh
13	21H41A0515	GANIREDDI MAHESH	
14	21H41A0516	GUNDUMOGULA KAVYA SRI	G. kavya Sri
15	21H41A0517	JAMPANA KALYANI	J. Kalyani
16	21H41A0518	JANGA SALMAN RAVI RAJU	J. Ravi Raju
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18	21H41A0520	KADALI SAI VENKATA PRASAD	K. Prasad
19	21H41A0521	KANDULA BHASKAR	K. Bhaskar
20	21H41A0523	KOLA GAJJALU JANARDHAN	K. Janardhan
21	21H41A0524	KOMMULA KUMARI NAGA RATNA MANI	K.K.N. Ratnamani
22	21H41A0525	KOMMULA SAI VENKATA SURYA AKSHITHA	K.S.V.S. Akshitha
23	21H41A0526	KOMPELLA N V S D L N CHINMAIE	K.N.V.S.D.L.N. Chinmaie
24	21H41A0527	KOPPISETTI AKASH	K Akash
25	21H41A0528	KUCHU NAGA HARSHINI	K. N. Harshini
26	21H41A0529	KUMPATLA SUBBALAKSHMI NARAYANAMMA	K.S. Narayanamma
27	21H41A0530	KUNAPAREDDY NEELIMA HARIKA	K. Neelima Harika
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29	21H41A0532	MAMIDISETTI SIRI	M. Siri

30	21H41A0533	MAMIDISETTI SRIRAM BALAJI	M Sriram balaji
31	21H41A0534	MANCHIKANTI GAYATHRI	M. Gayathri
32	21H41A0535	MANDEPUDI ANJANI DEVI	M. Anjana Devi
33	21H41A0536	MEDICHARLA SAIDEEP	M Saideep
34	21H41A0537	MENDA LAKSHMI PRASANNA	M. L. Prasanna
35	21H41A0539	MORAM HARI NAGA SIVA SRI NANDAN	M. H. N Siva Sri Nandan
36	21H41A0540	MULLAPUDI SAI SRI AMRUTHA	M. Sai Sri Amrutha
37	21H41A0541	NAGALLA BHAVANI SURYA NAGESWARI	N B.S. Nageswari
38	21H41A0542	NALLA MEGHANASRIYA	N. Meghana Sriya
39	21H41A0543	NAVEEN EEPI	E Naveen
40	21H41A0544	OLETI PARAMESWARI	O. parameswari
41	21H41A0545	PATABALLA CHANDU BHAVYA SRI	P Bhavya Sri
42	21H41A0546	PATTA JYOTHI	P. Jyothi
43	21H41A0547	PEDAPATI HARINI	P. Harini
44	21H41A0548	POLAMURI VARSHITHA	P. Varshitha
45	21H41A0552	SUDABATHULA VENKATA LAKSHMI	S. V. Lakshmi
46	21H41A0553	SUNKARA ASWARTHA LAKSHMI ALEKHYA	S. A. L Alekhya
47	21H41A0554	SUNKARA HARSHA VARDHINI	S. H. Vardhini
48	21H41A0555	SURISETTI LEELA PRASANNA	S. Leela Prasanna
49	21H41A0557	TOTA SRI SATYA	T. Sri Satya.
50	21H41A0559	VANKAYALA NAGA DURGA LAKSHMI SAHITI	V. N. D L Sahiti
51	21H41A0560	VARRE VIJAYA KUMARI	V. Vijay kumari
52	21H41A0563	YAKKALADEVARA KASI KRISHNA PALLAVI SRIJA	Y. K. K. P Srija
53	21H41A0566	YERUBANDI CHANDINI RATNA DURGA	Y. C. Ratha Durga
54	22H45A0501	KADALI NANDINI	K. Nandini
55	22H45A0502	MEDISETTI JOSHAP	M. Joshap
56	22H45A0503	GANGUMALLA VINEETHA	G. Vineetha
57	22H45A0504	CHINTA SAIVENKATA SRAVANKUMAR	C. S. Sravan kumar
58	22H45A0505	JOGI SRIDURGA TIRUMALA KONDABABU	J. S. Tirumala Kondababu
59	22H45A0506	PODALADA SASI KIRAN	P. S. Kiran
60	22H45A0507	AMPILI VINOD KUMAR	A. Vinod kumar

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

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A.Y:2023-24 COURSE CODE: C313 FACULTY NAME: N SUSHUMA

QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR FAST LEARNERS

1. The process of removing details from a given state representation is called _____

   A. Extraction
   B. Mining
   C. Selection
   D. Abstraction

Answer: D

Explanation: The process of removing detail from a representation is called abstraction.

2. A data warehouse is always _____.
   A. Subject oriented
   B. Object oriented
   C. Program oriented
   D. Compiler oriented

Answer: A

Explanation:*Data Warehouse is a subject oriented central repository of data having information from one or more data sources*

3. Which of the following is not a basic data mining task?
   a) Spooling
   b) Prediction
   c) Classification
   d) Clustering

Answer: a

Explanation: Spooling facilitates data exchange between slow peripheral devices and the computer applications and hence, is not a data mining task.

4. Which of the following statement about knowledge and data discovery management system (KDDMS) is false?
   a) It will provide concurrency features
   b) It will provide recovery features
   c) It will include data mining tools and data management tools
   d) It will include data mining tools but not data management tools

Answer: d

Explanation: Knowledge and data discovery management systems (KDDMS) are the

upcoming data mining systems that will include data mining tools, data management tools, concurrency features, recovery features, and will also ensure data consistency.

5. Which of the following refers to the set of features that describe a data object?
   a) Attribute vector
   b) Instance
   c) Sample
   d) Data point

Answer: a
Explanation: A data object is described by one or more attributes or features. The set of attributes or features that represent the characteristics of a data point is called an attribute vector or a feature vector.

6. Which of the following is not true about scatter plots?
   a) It is used in the case of univariate distribution
   b) It is used to identify relationship between attributes
   c) It is used to identify clusters
   d) It is used to identify outliers

Answer: a
Explanation: Scatter plots are the plots that are used in bivariate distribution. They are used to identify the relationships between the data values. They are also used to identify clusters and outliers in a data set.

7. Which of the following is not true about data reduction?
   a) It involves dimensionality reduction
   b) It involves numerosity reduction
   c) Reduced data strives to gives same analytical results as the original data
   d) Reduced data gives strives to give less accurate analytical results the original data

Answer: d
Explanation: Data reduction is a part of the data preprocessing. It aims to reduce the size of the data, yet give same results on analysis of the reduced data as the original data. it involves dimensionality reduction and numerosity reduction.

8. The process of using a few cut points to split the entire attribute range recursively is also referred to as _____
   a) Splitting
   b) Merging
   c) Bottom up discretization
   d) Approximate discretization

Answer: a
Explanation: In top down discretization, which is also known as splitting, a few points are chosen to split the entire attribute range. These points are known as split points or cut points. This process is recursively applied on the resulting intervals.

9. Given the maximum and minimum height of students of a class as 190 cm and 157 cm, a student having a height of 178 cm when normalized to the range of [0.0 to 1.0] using min max normalization will have the normalized height as _____
   a) Radius of the cluster
   b) Centroid distance
   c) Median distance
   d) Mean square distance

Answer: d

Explanation: Using min max normalization, a value v is mapped to v1 using the formula:

$v1 = \frac{v - old_{min}}{old_{max} - old_{min}}(new_{max} - new_{min}) + (new_{min})$

Given, $old_{min} = 157$, $old_{max} = 190$, $new_{min} = 0$, $new_{max} = 1$, $v = 178$

$v1 = [((178 - 157)/(190 - 157))*(1 - 0)] + 0$

$v1 = (21/33) = 0.63$

Hence, using min max normalization, v1 = 0.63

10. If the class information is used during discretization process, it is called _____
    a) Supervised discretization
    b) Unsupervised discretization
    c) Clustered discretization
    d) Disorganized discretization

Answer: a

Explanation: Data discretization technique is used to divide the range of attributes into intervals. When the discretization process uses class information, it is known as supervised discretization.

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4	21H41A0538	MOHAMMAD ABBAS	M. Abbas
5	21H41A0549	SAPPIDI RAJESH KUMAR	S Rajesh
6	21H41A0550	SATYAVADA SUNITHA LAKSHMI	S. Sunitha.
7	21H41A0551	SHEIK GALEEB SHAHID	S. galeeb shahid
8	21H41A0556	TATIPAKA MOUNIKA	T. Mounika
9	21H41A0558	ULLINGI ANUSHA	U. Anusha
10	21H41A0561	VEERA MEGHANA	V. Meghana
11	21H41A0562	VIPPARTHI SINDHU	V. Sindu
12	21H41A0564	YALLA AHALYA	Y Ahalya
13	21H41A0565	YENUMULA SAHINI	Y. Sahini

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QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR SLOW LEARNERS

1. Differentiate between OLAP and OLTP.
2. Explain in detail data preprocessing techniques.
3. What is Classification? Write in detail about Decision tree Induction.
4. Define clustering. Explain about simple K-Means clustering.

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COURSE NAME: DATA WAREHOUSING AND DATA MINING YEAR/SEM: III B.TECH/I SEM

A.Y:2023-24 COURSE CODE: C313

REGD. NO: 21W91A0507 NAME OF THE STUDENT: CH Devi mani

QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR FAST LEARNERS

1. There are many ways in which various types of data can be stored. Ex: 0,1 as binary data and names as nominal data. Choose the attribute which is not relevant to store data.
a) Binary Attributes
b) Nominal Attributes
c) Executable Attributes
d) Ordinal Attributes

8/10

2. Which among the given is not among the basic statistical descriptions of data?
a) Mean
b) Median
c) Average
d) Mode

3. What cannot be done when the basic statistics regarding each attribute and its types are known?
a) Null values can be filled
b) Noisy values
c) Mining the data using various tools
d) Fixing the inconsistencies

4. Plotting the data can help in knowing the type of data.
a) True
b) False

5. Which field of data mining helps in removing uncertainty, noise etc.
a) Data preprocessing
b) Outlier detection and removal
c) Data Mining
d) Uncertainty Reasoning

6. Which type of mining allows slicing, dicing, pivoting?
a) Presentation and Visualization

b) Ad-hoc data mining
c) Interactive Mining
d) Incorporation of background knowledge

7. By which parameters are the data sets made up of?
a) Data Relations
b) Data Objects
c) Data Classes
d) Data Patterns

8. An object refers to the feature of the data.
a) True
b) False

9. Which among the following is not the name for the data whose values are simply names?
a) Nominal Attributes
b) Categorical Attributes
c) Symmetrical data
d) Enumerations

10. If the value to the variable is 35 degrees, into which type of attribute can the data be classified?
a) Nominal Attribute
b) Binary Attribute
c) Ordinal Attribute
d) Numeric Attribute

DWDM Test

Veesc meghana
21114IA0561

What is cluster Analysis?

cluster analysis groups data objects based only on information found in the data that describes the objects and their relationships. the goal is that the objects within a group be similar (or related) to one another and different from the objects in other groups. the greater the similarity within a group and the greater the difference between groups the better or more distinct the clustering.

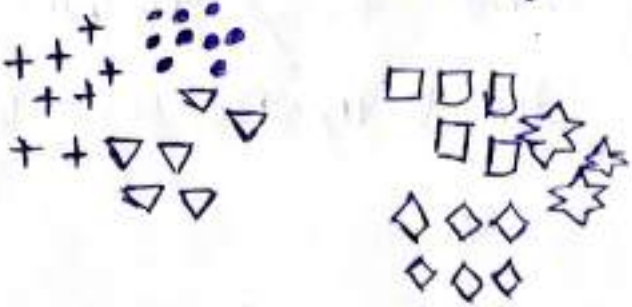
Example:-

this figure illustrates that the definition of a cluster is imprecise and that the best definition depends on the nature of data and the desired results.

a) original points - 

b) two clusters - 

c) four clusters - 

d) six clusters - 

K-MEANS:

Prototype-based clustering techniques create a one-level partitioning of the data objects. There are a number of such techniques, but two of the most prominent are K-medoid. K-means and defines a prototype in terms of a centroid which is usually the mean of a group of points applied to objects in a continuous n-dimensional space.

The Basic K-means Algorithm: We first choose K initial centroids, where K is a user-specified parameter, namely, the number of clusters desired. Each point is then assigned to the closest centroid and each collection of points assigned to the cluster. We repeat the assignment and update steps until no point changes clusters or equivalently, until the centroids remain the same.

In the Basic K-means Algorithm write the Algorithm of the K-means and the K-means Algorithm.

Algorithm :-

1: Select k points as initial centroids

2: Repeat

3: Form K clusters by assigning each point to its closest centroid

4: Recompute the centroid of each cluster

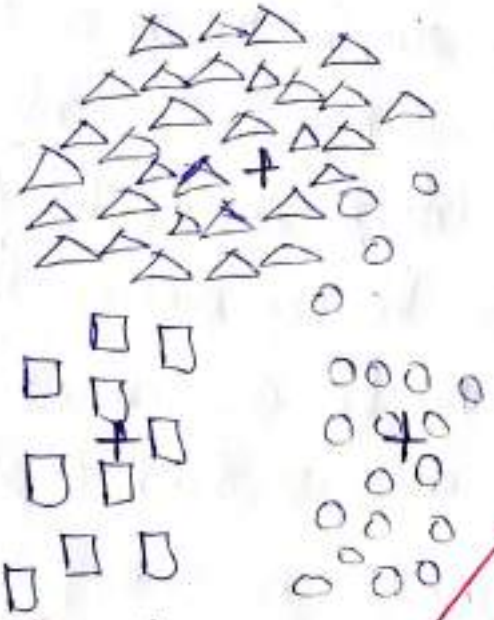
5: Until centroids do not change.

In the first step, shown in figure points are all in the large group of points for this example, we use the mean as the centroid. After points are assigned to a centroid, the centroid is then updated. Again, the figure for each step shows the centroid at the beginning of the step and the assignment of points to those centroids are updated again. In steps 2, 3 and 4, which are shown in figure respectively. two of the centroids move to the two small groups of points at the bottom of the figures. When the K-means algorithm terminates in figure because no

no more changes occur, the centroids have identified the natural groupings of point.

(a) Iteration 1

(b) Iteration 2



(c) Iteration 3

(d) Iteration 4

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

DEPARTMENT OF CSE ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Course Name: cloud computing

Year / Sem: IVB.Tech/ISem

AY: 2023-2024

Faculty Name:G TULASI

Course Code: C412

LIST OF SLOW LERNERS FOR TUTORIAL [MID-1CUTOFF:10 AND 10 BELOW]

sno	ROLL NO	NAME	MARKS
1	20H41A4501	ADABALA SRAVYA AMRUTHA VALLI	5
2	20H41A4502	ADABALA CHANDINI SAI LAKSHMI	10
3	20H41A4503	AKULA AYYAPPA ARUN KUMAR	6
4	20H41A4504	AKULA VINAY SURESH	7
5	20H41A4505	AMBATI YESUPRASANN	8
6	20H41A4506	APPARI PAVANI SANTH	6
7	20H41A4508	BESE KATHYAYANI CHAMUNDESWARI	4
8	20H41A4509	BOLISETTI SATYA SRINIVAS	6
9	20H41A4515	GEDDADA POOJITHA	4
10	20H41A4517	GOKARAKONDA SURESH	0
11	20H41A4519	GUNDABATTULA TRIPURA RAHUL KUMAR	10
12	20H41A4520	GUNTURU LYDIA	10
13	20H41A4522	INUKONDA VENKATA SAI RAM PAVAN	9
14	20H41A4529	MANDAVALLI N V S M S R MALLIK GUPTA	1
15	20H41A4532	NAGAM KARTHEEK RAM	10
16	20H41A4533	NAGIREDDI VINAY BABU	0
17	20H41A4538	PEDDIREDDI MADHAVI NAGA DURGA LAKSHMI	7

18	20H41A4539	PEDDIREDDI NAGA SATYA PRAVARDHAN	4
19	20H41A4540	PERABATTULA DIVYASAI BHAIRAVA SWAMY NAIDU	5
20	20H41A4542	PINISETTI CHARISHMA	6
21	20H41A4544	RAVURI RAMYA SRI	6
22	20H41A4545	SAI CHAKRAPANI UDDISA	8
23	20H41A4547	SALADI V V SATYANARAYANA MURTHY	5
24	21H45A4502	BONTHU JITENDRA SAI	10
25	21H45A4506	VUTUKURI NAGA VENKATA SATYA VIKRAM	10
26	21H45A4507	KOLAPALLI VEERA VENKATA SATISH NAIDU	6

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY AND SCIENCE: BATLAPALEM

DEPARTMENT OF CSE-ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Course Name: cloud computing | Year / Sem: IVB.Tech/ I Sem

AY: 2023-2024 | Faculty Name: G Tulasi

Course Code: C412

QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR SLOW LERNERS

1. List and explain the benefits of scalable computing over the internet in cloud computing.
2. What are the key technologies used in network based systems? Explain
3. State and explain different implementation levels of virtulization in cloud computing
4. What are different layers of cloud architecture.
5. Explain different virtulizations in cloud computing.

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20H41A4508

1. List and explain the benefits of scalable computing over the internet in cloud computing.

Scalable computing over the internet, a hallmark of cloud computing, offers numerous benefits for businesses and users. These include:

1. Cost Efficiency:
→ Users only pay for what they use, reducing capital expenditure on hardware and software.

2. On-Demand Resource Allocation:
→ Resources like CPU, memory, and storage can be scaled up & down as needed without delays.

3. Flexibility
→ Businesses can quickly adapt to changing workload & business needs without investing in physical infrastructure.

4. Global Accessibility:
→ Cloud resources are accessible from anywhere with an internet connection, enabling remote work and global operations.

5. Performance Optimization.
→ Load balancing and dynamic allocation of resources ensure optimal performance even during high traffic.

6. High Availability:
→ Cloud providers offer redundant systems and geographically distributed data centers to minimize downtime.

hat are the key technologies used in network
ased systems? Explain.

ey Technologies used in Network-Based Systems:

Networking Protocols:

-> Protocols like TCP/IP enable reliable data transfer while HTTP/HTTPS supports web communication with secure encryption.

2. Network Infrastructure Devices:

Routers direct data between networks, switches manage internal traffic, and firewalls provide security by filtering traffic.

3. Cloud Computing platforms.

Services like Iaas, Paas and Saas offer scalable infrastructure, platforms for application development and software delivery.

4. Virtualization and Containerization.

Virtual Machines (VMs) and containers (e.g., Docker, Kubernates) enable efficient use of resources and application portability.

5. Wireless communication Technologies.

Includes Wi-Fi for local networking, Bluetooth for short-range connections, and 5G/4G LTE for high-speed mobile internet.

6. Security Technologies.

VPNs secure communications over public networks, encryption protocols data, and firewalls and IDS/IPS monito and prevent unauthorized access.

State and explain different implementation levels of virtualization in cloud computing.

Implementation levels of Virtualization in cloud computi

1. Hardware Virtualization:

Description: Abstracts physical hardware into multiple virtual machines (VMs) using a hypervisor.

Benefits: Efficient resource utilization, hardware independen and isolation.

Ex: VMware Esxi, Microsoft Hyper-V.

2. Operating System Virtualization

Description: Multiple isolated user spaces (containers) run on a shared operating system kernel.

Benefits: Lightweight and fast compared to VMs with lower resource overhead.

Ex:- Docker, Kubernetes

3. Application Virtualization:

Description, Applications run in isolated environments, independent of the underlying OS.

Benefits: Resolves compatibility issues and simplifies application deployment.

Ex:- Microsoft App-V, Citrix XenApp.

These implementation levels of virtualizati enable efficient resource management, scalability, flexibility and cost efficient in cloud computing environments.

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Course Name: cloud computing

Year / Sem: IVB.Tech/ISem

AY: 2023-2024

Faculty Name:G TULASI

Course Code: C412

LIST OF FAST LERNERS FOR TUTORIAL [MID-1CUTOFF:11 AND 11 ABOVE]

sno	ROLL NO	NAME	MARKS
1	20H41A4507	BANDARU GNANIKA RATNAM	13
2	20H41A4510	CHEEKATLA VIJAYA DURGA	14
3	20H41A4511	CHELLUBOINA YESWANTH	14
4	20H41A4512	CHITTURI PUJITHA	12
5	20H41A4513	DEGALA V KANAKA MAHALAKSHMI TEJASWI	13
6	20H41A4514	GANNABATHULA VENKATA KASI VISWA SAINADH	14
7	20H41A4516	GEDDAM ANKITHA JESSIE	15
8	20H41A4518	GOLLA UDAY KIRAN	11
9	20H41A4521	GUTHULA VINAYAKA DURGA PRASAD	14
10	20H41A4523	JAKKAMPUDI DURGA VINAYKUMAR	14
11	20H41A4524	KAVALI CHAITHANYA BHARGAVI	15
12	20H41A4525	KOLAPALLI SATYAVANI	14
13	20H41A4526	KONALA APARNA DEVI	12
14	20H41A4527	KOTLA SATYA LAHARI	14
15	20H41A4530	MANEPALLI LILLY PUSHPA	14
16	20H41A4531	MEKA BANGARU SATYA BHARGAVI	14
17	20H41A4534	NAKKA SRI LAKSHMI NAGA SIRISHA	13

18	20H41A4535	NAMUDURI SATYASRI VIJAYALAKSHMI VAISHNAVI	14
19	20H41A4536	PALLACHOLLA VINAYA	13
20	20H41A4537	PATTI YUVA SRILAKSHMI	11
21	20H41A4541	PERABATTULA SUBBALAKSHMI	13
22	20H41A4543	PULAVARTHI LEELA NAGA SAI LOKESH	14
23	20H41A4546	SALADI JAYA LAKSHMI	14
24	20H41A4548	SAMSANI JAI SRI MANIKANTA	11
25	20H41A4549	SATTI JYOTHI NAGA SOWMYA	11
26	20H41A4550	SEELAM DENI NAGA APARNA	13
27	20H41A4551	SEELAM SATYA RESHMA	14
28	20H41A4552	SUNKARA ISWARYA	13
29	20H41A4553	TALABATTULA VASUNDHARA	15
30	20H41A4554	TAMARAPALLI MAHITHA VENKATA PADMAJA	14
31	20H41A4555	THIKKIREDDY SAI VENKATA BHARGAVI	12
32	20H41A4556	TIRUPATHI HYMA MANI MEGHANA	12
33	20H41A4557	UDDISA AMRUTHA	12
34	20H41A4558	UDDISA ANJANA LIKHITHA	14
35	20H41A4559	VANKAYALA SAI LAKSHMI	14
36	20H41A4560	YALLA SIRISHA	15
37	20H41A4561	YALLA VEERA SATYA ANUSHA	14
38	21H45A4501	ADABALA SATYA GANA NAGA SAI CHERISHMA	14
39	21H45A4503	CHAMAKURA VIJAYA LAKSHMI	12
40	21H45A4504	CHILLARIGI SRIDHAR	13
41	21H45A4505	KANCHUSTAMBHAM RAMESH BABU	14

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

DEPARTMENT OF CSE-ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Course Name: cloud computing

AY: 2023-2024

Course Code: C412

Year / Sem: IVB.Tech/ISem

Faculty Name:G TULASI

Questions discussed for fast learners

1. What is Cloud Computing?
a) Cloud Computing means providing services like storage, servers, database, networking, etc
b) Cloud Computing means storing data in a database
c) Cloud Computing is a tool used to create an application
d) None of the mentioned

Answer: a
Explanation: Cloud computing means providing services like storage, servers, database, networking, etc. over the internet without the user managing it directly. The data stored can be accessed by an authorized user anywhere anytime provided the user must have an internet connection and a device.

2. Who is the father of cloud computing?
a) Sharon B. Codd
b) Edgar Frank Codd
c) J.C.R. Licklider
d) Charles Bachman

Answer: c
Explanation: In the 1960s J.C.R. Licklider wanted to connect people and share data anytime from anywhere, hence he invented Cloud Computing.

3. Which of the following is not a type of cloud server?
a) Public Cloud Servers
b) Private Cloud Servers
c) Dedicated Cloud Servers
d) Merged Cloud Servers

Answer: d
Explanation: In Public Servers the users share the hardware, storage, and networks. Private Servers provide high security to the data stored through firewalls and internal hosting. Also, in the private cloud, the user can customize their servers with add-ons. In Dedicated Servers, the server completely belongs to a particular organization or a company.

4. Which of the following are the features of cloud computing?
a) Security
b) Availability
c) Large Network Access
d) All of the mentioned

Answer: d
Explanation: One of the important features is security, the data stored is secured and cannot be accessed by unauthorized parties. In case the user exhausts the storage space allocated, the user can buy extra storage for a less amount. The data stored can be accessed by any authorized user anywhere anytime provided the user must have an internet connection and a device.

5. Which of the following is a type of cloud computing service?
a) Service-as-a-Software (SaaS)
b) Software-and-a-Server (SaaS)
c) Software-as-a-Service (SaaS)
d) Software-as-a-Server (SaaS)

Answer: c
Explanation: Software as a Service, is the most widely used choice for enterprises. SaaS makes use of the internet to offer apps to consumers that are controlled by a third-party vendor.

6. Which of the following is the application of cloud computing?
a) Adobe
b) Paypal
c) Google G Suite
d) All of the above

Answer: d
Explanation: Adobe Creative Cloud is used in the art sector. Paypal is an online payment application. Google G Suite is the best storage and backup application used by google.

7. Which of the following is an example of the cloud?
a) Amazon Web Services (AWS)
b) Dropbox
c) Cisco WebEx
d) All of the above

Answer: d
Explanation: Amazon Web Services (AWS), Dropbox, and Cisco WebEx are examples of cloud.

8. Applications and services that run on a distributed network using virtualized resources is known as _____
a) Parallel computing
b) Soft computing
c) Distributed computing

d) Cloud computing

Answer: d

Explanation: Cloud computing refers to the delivery of services such as storage, servers, databases, networking, and other functions through the internet without the need for the user to manage them directly. These applications are accessed by common Internet protocols and networking standards.

9. Which of the following is an example of a PaaS cloud service?
a) Heroku
b) AWS Elastic Beanstalk
c) Windows Azure
d) All of the above

Answer: d
Explanation: PaaS stands for Platform-as-a-Service. In PaaS, the users receive hardware or software tools from the users on the internet. AWS Elastic Beanstalk, Windows Azure, Heroku are example of a PaaS service.

10. Which of the following is an example of an IaaS Cloud service?
a) Digital Ocean
b) Linode
c) rack space
d) All of the above

Answer: d

Explanation: IaaS stands for Infrastructure-as-a-Service. In IaaS, the users receive computing resources like software or hardware tools virtually over the internet. Digital Ocean, Linode, Rack space are the example of an IaaS service.

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY AND SCIENCE: BATLAPALEM

Department of Artificial Intelligence and Machine Learning

Course Name: Machine Learning — Year / Sem: III B.Tech/ I Sem

AY: 2023-2024 — Faculty Name: K V D PADMAVATHI

Course Code: C313

LIST OF FAST LERNERS FOR TUTORIAL [BASED ON MID-1[CUTOFF:10M]

SNO	REGD NO	NAME OF THE STUDENT	SIGNATURE
1	21H41A6106	CH SAI SARANYA	Ch. S. Saranya
2	21H41A6125	K RANI	K. Rani
3	21H41A6140	N KAVYA NIKITHA	N.K. Nikitha
4	21H41A6113	G PHANI VINAYA	G. Phani vinaya
5	21H41A6119	K HARSHINI	K. Harshini
6	21H41A6129	K DEVI SIRISHA	K. Devi Sirisha
7	21H41A6147	P PAVANI SIRISHA	P. Pavani sirisha
8	21H41A6148	P S L PAVANI	P.S.L Pavani
9	21H41A6163	V JAGADEESH	V. jagadeesh
10	21H41A6165	Y S S B SHARMA	Y.S.S.B. sharma
11	21H41A6117	J D SUMA SRI	J. D. Suma sri
12	21H41A6126	K SAROJINI	K. sarojini
13	21H41A6162	T M SAI SIRISHA	T M. Sai sirisha
14	21H41A6134	M DHARANI	M. Dharani
15	21H41A6142	N NAGA DEEPIKA	N. Naga Deepika
16	21H41A6144	P B SAHITHI	P.B. Sahithi
17	21H41A6149	P V S PRAJNA	P.V.S PRAjna
18	22H45A6103	K SAIBABU	M.S. Nagarju K. Saibabu
19	21H41A6166	Y S NAGARJI	
20	21H41A6152	R S S SRIJA	R.S.S. Srija.
21	21H41A6158	S SIRI	S. Siri
22	21H41A6132	M L SL AMMAJI	MLSL Ammaji
23	21H41A6156	S PAVANI SINDHU	S. Pavani Sindhu
24	22H45A6101	B JHANSI	B. Jhansi
25	22H45A6105	N S M SUBBARAO	NSM Subbarao
26	21H41A6124	K S N R LAKSHMI	K.S.N.R. Lakshmi

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY AND SCIENCE: BATLAPALEM

Department of Artificial Intelligence and Machine Learning

Course Name: Machine Learning | Year / Sem: III B.Tech/ I Sem

AY: 2023-2024 | Faculty Name: K V D PADMAVATHI

Course Code: C313

QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR FAST LERNERS

01. Fraud detection are application of **B**

A Unsupervised learning: clustering classification

B Supervised learning:

C Reinforcement Learning

D Unsupervised learning: Regression

02. Which of the following is not a category in unsupervised learning **D**

A Clustering

B Visualization and dimensionality reduction

C Association rule learning

D Regression

03. The_____is an error from sensitivity to small fluctuations in the training set **B**

A Bias

B Variance

C MSE

D RMSE

04. A sample is defined as a smaller and more manageable representation of a larger group **B**

A Population

B Sampling

C Simpling

D Dataset

05. Which of the following is incorrect **D**

A High model complexity tends to have a low bias

B High model complexity tends to have a high variance

C High bias may cause to underfitting D Low variance may cause to overfitting

06. Overfitting can be tackled by using _____ **D**

B Enhance the complexity of the model B Add more features to the data

C Reduce regular parameters D Select a model with lesser features

07. Which of the followings are classification tasks? i) Find the gender of a person by **C**

analyzing his writing style ii) Predicting the price of a house based on the floor area, the number of roomsiii) Predict whether there will be abnormally heavy rainfall next year iv) Predict the number of copies of a book that will be sold this month

A I, II B II, III, IV

C I, III D I, III, IV

08. What is Machine Learning? i) Artificial Intelligence ii) Deep Learning iii) Data Statistics **C**

A Only i B Only ii

C i and ii D i and iii

09. Logistic regression is a _____technique **B**

A Regression B Classification

C Clustering D Bagging

10. SVM chooses the extreme points/vectors that help in creating the hyperplane. These **B**

extreme cases are called

A support machine B support vectors

C support points D support line

11. Which of the following is not a valid SVM type? **C**

A Linear SVM B Non-linear SVM

C Multiple SVM D Kernel SVM

12. Regression trees are often used to model which data? **A**

A Linear B Nonlinear

C Categorical D Ordinal

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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY AND SCIENCE: BATLAPALEM

Department of Artificial Intelligence and Machine Learning

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Course Code: C313

LIST OF SLOW LERNERS FOR TUTORIAL [MID-1CUTOFF:10 AND 10 BELOW]

SNO	REGD NO	NAME OF THE STUDENT	SIGNATURE
1	21H41A6102	A S S SOWMYA	A.SS sowmya
2	21H41A6108	D S N B SINDUJA	DS.N B sinduja
3	21H41A6109	G V R SINDHU	G.V.R sindhu
4	21H41A6120	K JAYA LAKSHMI	K.Jaya lakshmi
5	21H41A6128	K SS P KODANDA RAM	KSS.P K; Ram
6	21H41A6114	G PRABHA VIDYA	G.P. Lakshmi
7	21H41A6115	G V LAKSHMI	G.v. Lakshmi
8	21H41A6122	K DEEKSHITA	K. Deekshita
9	21H41A6131	M S N V S SUSHMA	M.S.N.V.S. Sushma
10	21H41A6133	M V S ROHITHA	M.v.s. Rohitha
11	21H41A6138	M V SANDEEP	M.v. Sandeep.
12	22H45A6104	M SIVA SHANKAR	M Siva Shankar
13	21H41A6143	N V D N R S SANJITH	N.v.D.N.R.S. Sanjith
14	21H41A6146	P H N V SUDHAKAR	P.H.N.V. Sudhakar
15	21H41A6154	R N LAKSHMI	R.N Lakshmi
16	21H41A6159	S R LAKSHMANA SAI	S.R Lakshmana Sai
17	21H41A6164	V SANDHYA	V. Sandhya
18	22H45A6106	T SATISH	T. Satish
19	21H41A6107	CH V S S LIKHITH	cH.VSS. Likith
20	21H41A6130	K D S DURGA AMMANI	KDS Durga Ammani
21	21H41A6141	N THARUN RAJ	N.Tharun Raj
22	21H41A6155	SSSG VAISHNAV	SSSG vaishnav
23	21H41A6137	M N D ANKITHA	M M D Ankitha
24	21H41A6157	S HEMALATHA	S. hemalatha.
25	21H41A6104	B HEMA SATYA	B Hema Satya
26	21H41A6112	G N S SAKETH	GNS saketh
27	21H41A6136	M H SRI NAGA SAI	M.H Sri Naga Sai
28	21H41A6139	M PRAKASH	M. Prakash
29	21H41A6161	T JYOTHIKA	T. Jyothika

30	22H45A6102	K PHANINDRA	K. Phanindra
31	21H41A6150	P SUJITH	P. Sujith
32	21H41A6153	R N SOMESH	R. N. Somesh
33	21H41A6111	G GANESH REDDY	G. Ganesh Reddy
34	21H41A6151	P PHANI AKASH	P. Phani Akash
35	21H41A6116	G KUSHBAN	G. Kushban
36	21H41A6160	S V N S PRAKASH	S.V.N.S. Prakash
37	21H41A6101	A.AKHIL NAIDU	A. Akhil naidu
38	21H41A6103	B GANESH	B. Ganesh
39	21H41A6105	B PADMANJALI	B. Padmanjali
40	21H41A6123	K BHAVANA	K. Bhavana
41	21H41A6121	K N B TEJA SAGAR	K.N.B. Teja Sagar
42	21H41A6145	P RAJ KUMAR	P. Raj kumar
43	21H41A6127	K KIRAN TEJA	K. Kiran Teja
44	21H41A6110	G RAMESH	G. Ramesh
45	21H41A6118	K A S PRAVEEN	K.A.S. Praveen

Faculty Signature

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY AND SCIENCE: BATLAPALEM

Department of Artificial Intelligence and Machine Learning

Course Name: Machine Learning | Year / Sem: III B.Tech/ I Sem

AY: 2023-2024 | Faculty Name: K V D PADMAVATHI

Course Code: C313

QUESTIONS DISCUSSED IN TUTORIAL HOURS FOR SLOW LEARNERS

1. What is machine learning? Explain any 4 applications
2. Explain KNN algorithm.
3. Explain about Decision tree classifier with an example.
4. Explain SVM regression in detail with a neat diagram.
5. Explain about Naïve Bayes classifier algorithm with an example.

Faculty Signature

22H45A6102

1. what is Machine learning. Explain any four APPLICATIONS?

Machine Learning is the A computer Program is said to learn from experience E with respect to some task T and some Performance measure P, if its performance on T, as measured by P, improves with experience E.

APPLICATIONS :-

① Detecting tumors in brain scans:

This is semantic segmentation, where each pixel in the image is classified (as we want to determine the exact location and shape of tumors)

② Automatically classifying news articles

This is natural Processing (NLP), and more specifically text classification, which can be tackled using recurrent neural networks (RNNs).

③ Automatically flagging offensive comments on discussion forums:

This is also text classification, using the same NLP tools.

④ summarizing long documents automatically:

This is a branch of NLP called text summarization, again using the same tools.

⑤ creating a chatbot or a personal assistant:

This involves many NLP components, including natural language understanding (NLU) and question-answering modules.

⑥ Building an intelligent bot for a game:

This is an often tackled using Reinforcement learning (RL) machine learning that trains agents (such as bots) to pick the actions that will maximize their rewards over time

Ex:- (a bot may get a reward every time the player loses some life points).

2. Explain KNN Algorithm ?

KNN Algorithm is a simple Algorithm it is a simplest machine learning Algorithms used for both classification and Regression.

* Similarity-Based: It classifies new data by comparing it to existing data, putting it into the most similar category.
* Classification focus: While KNN can be used for both classification and regression, it is mainly used for classification problems.
* Non-Parametric: K-NN doesn't assume anything about the data's distribution; it works directly with the data.

* Lazy Learner: It doesn't build a model during training; instead, it waits until new data arrives to perform classification.

* Training Phase: During training, K-NN simply stores the data; classification happens when new data is introduced.

Steps for K-Nearest Neighbor Algorithm:

step 1: select the number of nearest neighbors K. this is typically a small, odd number to avoid ties in classification.

step 2: calculate the distance between the new data point and the each training point using a suitable distance metric (eg: Euclidean distance, Manhattan distance).

step 3: sort the calculated distances in ascending order to identify the k nearest neighbors.

step 4: select the data points that have the smallest distances to the new data point.

step 5: for classification: Assign the class that is most common among the k nearest neighbors.

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