No.: 1. Date:

Assignment - 3

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| Inland d | Problem s | tatement: | - Ident | ify the | funct | ional | |
| 151.48 | Long cools | Problem statement: - Identify the functional dependencies in given | | | | | |
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| Ans:- | on this | instance | | D -> | BC | loes | othold |
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| Ans:- | $A \rightarrow B$ | holds | <u> </u> | | | AIC MY | |
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Ans:

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No.: 3 Date:

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Date:

| 03 | Identify candidate Keys in following |
|---------------|--|
| | relations |
| | PART CHERT OF THE PROPERTY |
| 1) | $R = ABCD$, $F = 9AB \rightarrow C$, $BC \rightarrow D$, $CD \rightarrow A3$ |
| \rightarrow | R = ABCD · · · · · · · Cgiven) |
| | closure of set AB is LAR - 1/A |
| | AB+ = \$A,B? AS A+ = 15 A? and B+ = &B? |
| | ABT = ZA,B,C3 AB -> C |
| · mad V | ABT = & ABOCIDIZATIBIC -> DAO SOURO |
| | ABT = EAIBICIDIA & CD -> A |
| | AB+= 3 A,B,C,Di3 1492 40 2762010 |
| | \$ 0 8 ± * 10 |
| | The closure of ABt is entire relational schema |
| | BCT = &BJC3 A FILENANDE = TO |
| | $BC^{\dagger} = \{B/C/D\}$ $BC \rightarrow P$ |
| ani. | BC+ =12 By CID, A3 a CD -> ATO SYLEON |
| | ·29 draintho proside |
| 11 7 3 10 | the closure of BC+ also contains all attributes |
| | ZA1Bici Digionisa in ida ad an |
| | CD+ = 2 C, D3 |
| | CD+= 2C,D,A3 CD->A |
| | THE SAME OF THE SA |
| c | losure of CD is not a super key! |
| | hus AB+ and BC+ are having all attributes |
| | relation so AB and BC are candidate |
| V a - i | KIT College Of Engineering, Kolhapur. |
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| | |

| , all | le: |
|--|---|
| | keys while any of them can be primary key. |
| , | 214014170 13 |
| 27 | $R = ABCD$ $F = {A \rightarrow BCD, C \rightarrow A}$ |
| N 18 - | O S NORD DE BAR EL ODAA |
| | CINCURE OF SETTIATIOS |
| | A+ - 5A3 11 8A +32 10 2507 |
| \$8£- | IA IAT = ASA BINC, DB A SBCD |
| | YE HA COLALATERIA |
| | closure of A contains entire relation schema |
| | on a la super Key day Allas and a |
| | Closure of Set Cristonian & ETGA |
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| | Q ← ⊃ ⊗ |
| | closure of calso contains all relation |
| | ashana attainules. |
| | 13.1 A & C both are candidate keys any of them |
| | can be chosen primary keys. As |
| | ran ve choser porter y |
| ুন | R= ABCD F = (1) FALCION = TIT |
| 31 | |
| | F= 3 A > 00 / C |
| -> | Given: MR - ABCDE 21 (1) 10 STHOOL |
| 13/1 | iclosure not set A is 1 m |
| | HAIA to= EAG IN LINE SIA ON MILLION WOLLDON |
| | KIT College Of Engineering, Kolhapur. |

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No.: 7 Date:

At= EA/B/EZ A -> BE Closure OF set C A+= &A/B/E/D3 B>D 10 C+= &C3 AT- & A/B, E/D3 : Adding closure of C->A ACT = 2A/B/C/D/E3 As all attributes are not present in closure of set A it is not a candidate key. Therefore Act is primary Key. Closure of set Cils, the to Belloois ct = 2c3 C+ = 26, B, E3 9 C > BE C+= & C, B, E, D3 B→D C+= 2 C, B, ERD3 A = TA DA. set C closure does not contain all attributes So/ cis not candidate key. + 311 B -> D FORTHURIA SET FOR $B^{\dagger} = 2B3$ JUBITUE SEB, DB MILLIAM SUMME FOR AND AND 30 Buis not candidate key. . 1 and of white from 2 R = ABCDEF F= 3A -> B, B->D, C->D, 5->F3 Given: Closure set A is At = {A/B3 A->B A+ = 3 A/B/D3 B-3D

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AT = & ANBOD3 -18 -- A AND AND A closure of set Buist, mande in the Bt = {B} B+= 20/B3 B->D Closure OF Set C ismiller in 11. C+ = 19 C7 10 +000 00 11 11 1000 Ct.= 2 C, D3 million C >DA Commen Closure of set Elis 192 an arm ETESEIFS FETT 9-9 HULBLER + AS AT = & A / B / D3 we add dosure of ct get in it, we get has subjument too single ACET = ZA 1B, DIEIFICE : we get entire relational schema in set ACE SO ACE is PElmary key & candidate key.

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| | 7 R= ABCDE |
|---------|--|
| | F= \(A \rightarrow C / E \rightarrow D / B \rightarrow C \) |
| | closure of set A, |
| | A + = 8A3 |
| Machine | At= &A,C3 A -> C |
| | |
| | closure of set E, |
| | ET - {E} |
| | $E^{\dagger} = \S E / D \S = \longrightarrow D$ |
| | |
| | closure of set B is, |
| | B+ = 8B3 |
| | B+= 3B,C3 B→C |
| | B+ = 2B,C3 |
| | |
| | Therefore, At, Bt, Et does not have all |
| | atteibutes so combining we take closuse |
| | OF A+, B+, E+. |
| | |
| | : A BE = { A , B, C, D, E } |
| | : ABE is candidate as well as primary |
| | key. |
| | |
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