### tshingombe fiston <tshingombefiston@gmail.com>



RE: appeal application qualification occupation n diplomat award dr congo leaver 2016 submission and transcript certificate record supplementary .; rsa completed n diplomat studie engineering n4.,n3;n5 n6..; quality insurence body irregularities in pr...

verificationsletter < verificationsletter@saqa.org.za>

Tue, Apr 16, 2024 at 3:20 PM

To: tshingombe fiston <tshingombefiston@gmail.com>

Good day Thank you for your email.

Kindly contact Client Services: Contact Centre Support for assistance.

Foreign Qualifications Evaluation and Advisory Services

South African Qualifications Authority Tel: 012 431 5000 - Fax: 012 431 5146

Email:dfqeas@saqa.co.za

From: tshingombe fiston < tshingombefiston@gmail.com >

**Sent:** Tuesday, April 2, 2024 7:46 AM

**To:** Transcript Requests < <a href="mailto:transcripts@uct.ac.za">transcripts@uct.ac.za</a>; <a href="mailto:thaga.d@qcto.org.za">Thaga.d@qcto.org.za</a>

<Thaga.d@qcto.org.za>; mabunda.l.l@qcto.org.za <mabunda.l.l@qcto.org.za>; Central Office <centraloffice@qcto.org.za>; SAQAInfo <saqainfo@saqa.org.za>; QCTO Verification

<verification@gcto.org.za>; SAQA Verifications <verifications@saga.co.za>; verificationsletter < verificationsletter@saqa.org.za>; SAQA Verifications

Subject: Re: appeal application qualification occupation n diplomat award dr congo leaver 2016 submission and transcript certificate record supplementary .; rsa completed n diplomat studie engineering n4.,n3;n5 n6..; quality insurence body irregularities in pr...

Project commencement .completion step.step

-you appoint eskom approved service contractor supplier typically register soutg africs council. Step you submit the finak project design .in linevwith contract requirements to eskom step you start build .step eskom conduct quality assessment.

- -explanation: customer care cs online ..home help how to contact .registration need ..
- -account numbet :eskom account .password ..

Pre -paid meter numbet .pre paid number .

- 2 tarrifs and charged .eskom critical peak pricing tariff pilot phase .pricing document tarrif princip related information generator .retail tariff plan .reseller contact links 2023 /2024increase national energy regulator has determined followed tarrif increase to alplier to eskom direct -customer category local authority tariff charge affordability homeligth 20A..
- -affordability charge ..eskon submitted proposed change to its tarrif to be updated cost of supply study and strucfural charge excepted introduction:

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Integrity: comprehensive approach to energy management business .advisory

service provide information financiak assitance government grant incentive tax rebate operationel

- my application..position contactràct .managèment me ..engineering assist..

On Mon, 01 Apr 2024, 21:01 tshingombe fiston, <a href="mailto:tshingombefiston@gmail.com">tshingombefiston@gmail.com</a> wrote: Explain:G rèport supply stàtut apply to connected your generation to electricity newtork new energy technologie solution in rsa provide role in the electricity value installation building own electricity. A self build connection project enable national grid .switch on a power new self project are design ... -a customer saqa undertaking one self project are designed.undertaking multiple customers -flow checklist to ensure .small scale embede generation .scale connection.your to grid integrited electricity system anew energy consumer generating and distributing own energy installation . -explain generator licensing registration generator neteork .eskom initial configuration cater off grid connection assist .embed embedded generation tarrif charge we have a selected charge that scale Explain .application process trained small sure your generator .

- -nersa size licensing and is utilised as back up source electricity during power interruption that is not grid no point of connector to irrespective is of size ..more100 kw ..but not point of connector irre.generator has a maximums capacity of .100 kw but 100mw..has ppint connection you are export grid maximum period of 36 month size mentioned was exempl.licensing prior generator network Selection generator network config your product regulation ...
- -An off the grid system off the grid stand alone system does not have a point of connection that tje generator to the eskom electricitu distribution newtwork generator is there for completed..
- explain .phase encompassess primary plant connection work establish scada testing and commisioning plant ensuring compliance code standar relate ipps.
- -the project execution phase is executed according to the milestone schedules timelines construction completed.project is ready to grid connect.grid connected date gcd .commissioning and energetizing to achieve grid connection as stipulated in the milestone schedule time line.
- -test and synchronize .test is undertaking to ensure compliance and commisioning toword -commercial operation date cod project commer3 connected and ready for operation the ppa -operations phase . The role of gay post grid connection is to ensure that all activities necessary for the safe reliable and optimal operation of the ipp plant and eskom network are communicated and carred out in manner that ensure long term sustainable .value creation for both partie.
- -explain role of GAU is to ensure that forecasting date schedule unscheduled outage maintenance plans switch and isolating procedure and angoing compliance report are communicated between -explain conductor type allowance electrical
- ..a transformer static piecr .
- -explain IPP: connection process consultation and application phase the grid connection process address the need for consultation .with IPP developers consultant to advice on potential. Explain. It address the process requirements clarification as welk any briefing notebstandard. Explain .estimated project cost and the associated agreement ipp. submit aplication .the ipp develope completed or revise an application with requirements provision completed assurance of the rigth to de develop propose .developed submit on application .
- -review application and request additionak info.
- quotationn contacting phase issue .ipp cost evaluate accept decline desigb concept prelimine desigb.eskom arrages scope cleare..
- raise and pay commitmeny paybself building projects .business customer subject optionej allon ttiming of connection cost .
- explain apply the contractor appoint accredit ensure that correct equipment quality work adher to eskom stand no work allowed on upstream asset substation .
- -step document eskom responsability in regard saqa undertakinh self building electricity connection.responsability selected site rout of project .obtaining land rigth inclusive of statutory .doing environmental impact study and obtaininf doing final designand risk

assessments..project construction and control plant contractor managing all appointed stakeholder - explain eskom responsability.

Accepting the site route selection project ..standars and specification relating to site doing work -doing quality ckntrol and monktoring construct work .doing site inspecetor .

Step .htpp eskom equipment specification design and drawing eskom electrification

- -step 3 describ describes and motivate your project get a specialiste .
- -Name project :tshingombe tshitadi
- -background :expo science
- -reason bhilding .visiting career student experimental working shopping.

Electricity geographix mva.

ramp up schedule .....

-voltage requirements type of conductor used substation transformer and their size estimated project .conceptual level summary of the component of the electricity connection construction -step4.prepare ..

E1-E2=V1+R1.I1+V2+R2.I2+R3.I3

E2-E3=V1+R1.I1+V2+R2.I2+R3.I3

Network planning report or business casec report motivation .completed basic or preliminary design .infrasture in line with eskom standard design project risk assessments report.
-step gather the follow drawing copy id compagnybtax clearence .adress relever .applier large projectv quotation .appliervlarge project cost estimated supplier agreement
Step eskom authories the project ..initial the work eskom supplie appoint submitted final project
On Mon, 01 Apr 2024, 19:36 tshingombe fiston, <tshingombefiston@gmail.com> wrote:
Purpose: new building load shedding instage du to high demand or urgent maintenance being performed at certain power station directed municipality energies your monthly electricity bills good environment loadshedding ligth maintain .

Energy saving tips for kitch appliances .use geyser smartly energy tips for ligthing enrgy tips -data portal eskom ..the syspem operator ensure that stability of the national electricity grid is -transmission plan . at all time by balancing the supply of electricity demand side this done by changin home amount of electricity being customet second of the day. To importancr anticipate how much electrical generation oggt over rreduce customer demand side supply side ..usàge - explan and additional power supply ..apply for an electricity connection existing and customer to national power grid as quickly implemented long business .plans in thi case residential apply for an On Mon, 01 Apr 2024, 14:49 tshingombe fiston, <tshingombefiston@gmail.com> wrote: New.build loadsheding ge 2 in sòme area du to high demand or urgent maintaining being urgent maintaining being at certain power station direch customer On Mon, 01 Apr 2024, 14:27 tshingombe fiston, <<u>tshingombefiston@gmail.com</u>> wrote: -explain fire alert construction 2006 . 4 ×148 mw unite tank 1300 -1400 libre record 18 month can operate in synchrone condenser operation regulating the fluctuation in the network voltage similar station turbine is 9,45 and 4.1 m diameter combuspion chamberting 6 tone each generation weigth 323 tones the exhaust static is 30 m high diametre 10 m in diametre maximum temperature realise 560 degre fuel to ankerlige tanker fuel off loading rate between 300 .1400 litre min fuel storage tank 1.six 350 mw units .installed capacity 21000mw ..20001 capacity .1980 mg ..design effiçiency at ratèd turbine mcr ..%.35,60%.

-ramp last : 34,48 per hour .available over production ...3 years 9675Gwh...

Peaking power station .accord cohesive leard'ership change power to supplemental. Period morning domestic record industrial demand total storage pumpagev station gaz turbine nominal.turbine total On Mon, 01 Apr 2024, 14:02 tshingombe fiston, <tshingombefiston@gmail.com> wrote:

- explan: fact sheet co coal desaling fact sheet co coal power station C00002.electricty is producedvin coil firing building a coal fired c0003.c004 ash management cooling technique rev particulate emission control rev c00009 the of c000clean technologie environment technollgie environmental general intersted GS gaz Gx generation .Hy hydro:HY0001- pumped storage schem water transfer hydru palmie technical .hy0003 pumped storage ..dramnuclear aaRw renewable .TD -explain visitor expanding mandate eskom by promotion generation group support eskom daily during week days the general public industry ..

Subject to security ..25 km ...protection .installation are underground 4 reversible pump turbine situated..156 m level generater 10000MW ..4×250 MW ELECTRICIPY

On Mon, 01 Apr 2024, 13:47 tshingombe fiston, <<u>tshingombefiston@gmail.com</u>> wrote:

-explanation .to requesting information from eskom requests must relate eskom demed review the submitting a requested considered amount available please note information portal sponsor

sponsorship donation finding recruitment.

-Explain promotion of access to information.

Act effect to constititional rigth access state raporr latest delegislation air compliance with act 20 of 200 .

- \_media room publisher ..social ..eskom construction and activate alternative 132kv powervline for central kari 2024..power outage lasting .
- -explan electricity technologie solar power :photovoltaic solar modulev made up solar cell photo in serie cell are made purification silicon (si).
- p-n junction that utilise energy residence .residence project underway valuate sucessfuk sabs wind power .principal invalide generation is very much as what during the centure diff2 introduction move of air blade .biomass agricul.
- -technologie. Electricity tips electricity safety infographic .fact sheet power serie books -explain about electricity tips .need compagny educate encourage participative among businesses sector use electricitt is reduce usage is to switch off unecessart boim water number .
- explain power faillure sometime eskom or municipality equipment fails the result is
- -known where to locate box in yor home only affected tripped switch it back circuit fault should explain if you are ensure of wath do not electrician fix .
- -the problems caused by lightning storm a probe .powee lines your area or an accidental in the substation yoir power faillure problems main .
- -explain electricity technologie safety amounts plat .consucting important routine safety inspectes appliance repair replacement no doing result in accideb brakage can occure home ..electrical home can make inspectiin brakage wear deterioration sign of verheating missing parts screw covers switch faulty applancr control door smotgly adequately correctly labelling when loose fixfure . Pyschomtech pysychometrical ..technologie .
- explain eskom power series: it important to test equipment regularly switch and off look possible problems. Faulty plugs and electric socket .in the dat and plug an essential parr I air level electricity Plug safety tips are for use buying using plug ..look for sabs and use sabs approved ..don nkt overload plug sugn and only approved plug .dont not over load plug mother used an adaptor .switch the switch off ar the wall sicket before pullinf .do not connect electricL to ligth sicke.never put bare wirw Explanation educare care education trchnologie
- .if the babie in the house ensure wall sicker are coverd safety keeping safety the area safe for babje play in cords like plug are essential parr our environmental cord also represent safety hazard such the tips that follow should be used to minimise
- -do not used frayed cors replace worn and frayer cord on appliance immediately. Keel cord well away hot stovd athor do not run electrica cord under carpets .dont joint cord with tao.dont run renrwable energy .water conduction electricity general is thus water in around .
- -do not use electrical appliance in the bathroom .never tiuch electrical appliances with hand .never fill a kettle when it plugged ib never grassloev..never hold an electric apliancr touch metsl such as top -electricty and children are natural interest in plugs childreb plat loosng housr .teach children not play electricL sockrt babie ..

Outside home over load plug cause a fire multu adopt will more safety..how to change a ligth bulb identify change .switch off the mains switch on the distribut2 board or electricity dispense switch off the ligth switch .lamps bulb changed remove failt type insert care switch main switch on db .wiring a plug .: central cutting the plastic insulator insertvtwister

On Mon, 01 Apr 2024, 08:30 tshingombe fiston, < <a href="mailto:tshingombefiston@gmail.com">tshingombefiston@gmail.com</a>> wrote:

- purpose : explain Eskom:transform input natural environments coal nuclear fuel diesel water and wind 90% istma system business continhr to legal .
- explan fundation business generation transmission distrib2 and sale of electricity suppllemented with the construction new power station infras2 Gx , Tx ,Dx division finance humsn resource procure2 information technologie telecommunications strate2 risk and sustainbilty legal
- explain stake holddr relation in s suppoe3 legal and compliancd relation in support electricity busine2 eskom ..industrie subsidiary performe turbine .repairs and provides specialised
- explain inputs finance: R18,9 billion 56 billion governed.
- -infrastructures: 46466 Mw nominal power station capacity 399546 km power line and cable...
- environments: 104,87Mt coal burnt 270736 ner..
- paralle 44772 employe R.820 mil traine ..
- -nuclear generator africa ..generate electricity form cool aptimal.
- -fossil fuel based generation ..

Primary energy iddntity soutce delivery primary.

- explain: system operator maintain the frequ3 of sysy5 at 50 hz to balance electricity supply and Transmission provide a reliable efficient transmi3 network and energy market servicd in rsa
- explain products 191852 Gwh elecity sales distributor industrial commer coal international . Distribution provide reliable energy and related seevice .
- -explain easte and products 30,84 MT ash produced 71,35 KT particulate.emission 206,8MT..Co2..
- -explain generation capacity: 30 power station, total nominal capacity

-Base load stations

Coal -fire station --- 38773MW.

Nuclear power 1860 Mw.

Mid merit and peaking station
Pumped storage 2724 Mw.
-hydro station 600 Mw
-OCGTs 2409 Mw

C If I: . . I :

Self dispatching energy ..

Transmission..

-transmission 33158 kw

-transforme capacitor 1545000MVA grids..

Distribution

Distribution lines 47809 km Recticulation line 310290 km

Cables 8288km

-----

Customer 6,7 million
Operating cluster 5
Zone 27
CNCS 308
Service hubs 101
Contact centre 8

Explain .Strategic intent statements

Intwnt statement.state entity implementation government polich and strategy the share holder intent statements (sis) outline

government's short to meduim long term objective for eskom to achieve to ensure that eskom remain a ritical contributor to government goal of ensuring .

-security of electricity supply to the country.

Conduct reporting in line witg model with profil ..

Submit annual strategic documents and report ..

-Provide reliable affordable electricity ..

Ensure and maintain financial.

-consolidated socio economic contributions .

PFMA: ..Minister public entreprise..

Boand of director: audit and risk oversing of internal invest3 and finance people and -executive management comite .capital information and technologi nuclear mana3

On Sun, 31 Mar 2024, 19:59 tshingombe fiston, <tshingombefiston@gmail.com> wrote:

Lms frameworks regulatory: explanation:

Information management .compagny :explanation

Eskom mandate from share holder ..

Assis the businesses africa growth providing stability of electricity supply throug provide in efficient efficiency sustainability maner will achieve an electricity newtwork .generation.transmission and distribution whist ensuring that is ..

Purposr statement .powe growth syst ..vision sustaina3 power better futhure .

-delivery : missioj statement turn around existing business and resculable eskom oper2 financial sustainability create a sustainability eskom serice economie ...

-Explanation stragic objectivs : purpose financiak operationel sustainability facilitator a competive future energy industry modernise our power ...

Explanation eskom .organizations structure eskom holding cooporate

functions .generation .transmission distribution eskom industrial roteck.

Explanation. Leadership eskom board executive executives.committed chairperson acting chief finanxiaj .non executive .independence eskom conduct annual .effective. ..

Explanation .investor integrated interime result ..

Gover2 guarented government rsa recognise eskom critical role in the economy and remains ensuring eskom finananciaj stability oon 28 october 2011 gov annluced would extend its Explain eskom bonds financiak years funding reayi2 necessite insurance of deb in the domestic and internationaj deb capital ...compare .

- \_explain sustanability developments sustainably developments overview assessment.EIA transmission.EIS generation. Archive d project eskom invegrited sustainability developments issue into decission ..make long term .provids energy service
- -safety health environmental quality policy 32-727
- -safety healtg environmental quality poster 32.

Eskom RTs research direction repoet ..

Dual 132kv switch station transmission masa ..substation 400kv line to 132 kv .

- supplementary demande response programme load provide tha response noticd period of 30 minute to six hours to restor reserv replace capacitor maximum duration agreed witg the supplier .
- -Explanation commerciaj and residential demand response responsabilitie..pilote eskom is piloting national demand responsability programe successful pilote test among other the appropriate Explain csi .compagny information:

Leadership susidiary about electricity sustainability.developments cooporation contact generation cool procurement process primairy energy eskom own and variouse coak Demande response define measured changev in electricity customer or load Explain .typical reduction activitie resucing electricity power poweredtoto production equipment .turning of air conditioning unit shutting ligths . Esko system is responsible forreliability and securitt rsa grid by monitoring operationel.

-power stàtion security so with mutch neèd .flexibìlity and reliability and to maintaining adequate daily operationel operationel margin cater circumstance stability factor system conraits cauße

Ρ

On Sun, 31 Mar 2024, 19:16 tshingombe fiston, <tshingombefiston@gmail.com> wrote:

 $Purpose \ : orienation \ industrial \ \ , organisation \ planing supervision \ management \ supervision \ ..$ 

- ..management system information data portal student .
- -data portal student eskom :

Claim Id .rdkqdn2udun4uze.

Claim passcode : wb nxmkjh5izpqg

Date of drop - off: 2024 -o3-08...10:31:05

-sender .name eskom automa2..organization eskom ..

Email adress noreply portsl @ eskom .co.za .

- -files name eskom k87w.cvs description 5y data reauested size .12.7mb
- zend to trying drop off some file servic name: tshingombe engineering st peace college.

Email:tshingombe fiston @ gmail.com

Drop off same files for .

Process ..https zsnd to eskom .<u>co.za</u> droo off.auth=9a2334e836a4f1b1afc6dec30d1fadc6 dec 30 d1fi50 copyright2023 ..21 days zev retrieview

On Sun, 31 Mar 2024, 12:17 tshingombe fiston, <<u>tshingombefiston@gmail.com</u>> wrote: Enquiry: re qualification..

. ID: saqa explanatiry return refund ID 201911130002; id 202211165055; 202207085055; ID 22071250145; ID202303115021;

2022-11-16.45

26 mars application .

26 mars .

Enquiry 26 15:06 SAQA (NQF)act 67 2008 mandates saaa to provide qualification evaluation and advisory services which it does in accordance with saga nqf as amende march 2017 section a of thr policy criteria stupilate that foreigb award institution meet for qualification to be recognise. -leaver school dr congo ..statement leave statement n1,n2n3 . Leaver statement .. -final award graduation certificate .; completed transcript .mark sheet academic record ; translate -application does not meet requirements not. -Cvs currilum saga Person mr tshingombe tshitadi id number :TIRCOG000910610. Race afric ..vacance 2023 /434 ict 18 april call institution is not registered under Dhet check college QCTO ..10167... Officer lindiwe grace mahlangy Reoul i have copied ou QA unit ..mahlangu .lqcto..org.za .. (LMI) Dhet research ..survey B..sept 2023 methode evidence base methode .. -director system monitor labour market intelligences dhet ..khuvule m @dhet.gov.za ..response on career student meeting goal, skill planing:. On Sat, 30 Mar 2024, 21:26 tshingombe fiston, <tshingombefiston@gmail.com> wrote: Statement of work instruction n diploma engineering studie .saqa qualification n diploma enginering stuie saga learning programe Id: 67043 national n diploma ngf level 6 360 Scope work experience .: date sign .statement of work experience logbook .learner detail :sur. Employer detas compagny name adress :st peace college .engineering 84 president topics and career ./ career external candidat compagny city power ; compagny eskom, compagny. Compagny .sarb..dtic portal -learner name:.. Supervisor name: lecture senior .trainer engineering . Work telephone: 011330171 -employer .perform manuel soldering desoldering for installation and fabrication installation . Date :02/03/2023 / sign tsh .. Undertaking material .reading and interperting routin information on written specification Topics industrial electronic explanation .experimental lab electronics workshop assessment critical welding drawing Code w2 .iterpret technical draw looking evidence .confirm skill Checking drawing job requirements relate explanation .electrical trade theory electrotechnology find falut explanation make labelled circuit balb switch wiring way .and serie laralle curcuit ...labsl W- confirming drawing inccordance operation ... where appropriat obataining current version ... W. Reading inverpreting informatiob thr drawing procedure ...checking clarifying task related informatiob ...where appropriate apply lubrifiysbr accordance where appropriate applying packing inspecting the finak assemvle where appropriate .. Topics engineering science ...and physic engineering practical strent matter solod liquid gaz ...chemical engineering topics ..linearisation fundamel mass ..mxacceleration kg ...

- diagnosr and repairvequipment obtain following circuit specification

schematics record supplie ..locating obtaining error code interpretation equipment status indicated assembly compnent connection by buily conecting ..removing replace repair ..recording result of test undertaken on electronicd isolating adjust calibratiin returning service isolation assembly from the power suply recommissioning electronics .maint control -Topics . Electronics industrisl trade theory electric mait care electrotechnology part ac dc machine topics construction machine component relate constitution step .. engineering

-work experimental viste web site portal eskom

Data portal information topic student drop off:

Cvs tendered close

-expo science eskom particpe experimental information web facebook on line vacance .job -City power on line information data visited experimental career on line facebook strike ..77 point .. linked cv indeed city power email

Tendered ...experimental dabase vacance job .complain board city power supplies. Municipality metering

Meeting zoom experimental.video ..databse .

Eaton electrical: cv portal tendered assessment test experimental

Data portal ups engineering electrical

..schenalder electrical experimental data compagny electrical test ..completed record transcript years fiscality .experimental theoretical ..

Test job comparative memo explanation to workplace test compare meeting answer in job .

On Sat, 30 Mar 2024, 17:17 tshingombe fiston, <tshingombefiston@gmail.com> wrote:

- Enquiry: quality council for trade occupation gcto .engineering n studie

Skills programme evaluatiin checklist template in line with qqsf.

Policy 2021 qualification.

-requirements :qualification

Qualification parts skills programme: ebgineering electrical n studie trade.

-type nomenclature :

-title description : engineering electrical n studie engineering .national trade examination .and n diploma saqa transcript engineering developments

Trade panel wiring chieta.

-ngf level 5,6,7

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Section b :qualification development quality team detail

- -Name surname :tshingombe tshitadi
- -Details of quality .partener
- -name surname and contact of QP

Official assigned to :grace.

- -name and contact details of subject matter expert assigned to facilitate quality: grace
- -name of Qcto project manager assigne

:

- section record of feedback evaluation and moderation process and details of evaluators and moderators assigned to improved quality
- item : date receive Qp from sme post development:
- response .:y
- -item: date returned to sme by .
- \_returnef.
- -date received by qcto central office /qcto project manage ..

Date of feed back by central project .

- sme self evaluation date: 10/11/2023 date feedback: 03/03
- QP.:evaluation date: 10/11/: total number Qp model names (s) moderation.- QP peer moderation:

Qcto: evaluation date:10/11/2023:total number of qcto

- Qcto peer moderation :
- -name of qcto commited for approval
- date of feeback the outcome
- -section d quality of appearance qualification part qualification skill:. programme document Comment engineering:
- -section D qualification appearence qualification part skill programme document .

Criteria : sme Qp qcto response

D11.q sectiin a,b,c is completed ;yes;yes;yes

D.112 current qcto template.

D.1.13 document is editing .yes

D.1.14 document ..

- \_1.2.1.qualification part qualification skilk programme detail document sarisfies policy requirements in each of the follo .
- occupational sub frameworks type nomenclarure .
- skills programme subfield .qcto curculum codd replacement qualification.
- -rationel documentation satisfy policy requirements:
- \_1.2.3 purpose: the document satisfie policy requirements. Yes
- 1.2.4 entry requirements: the documentation specifie all relevant yes practical possibilitie.
- for entry into the qualify: recognition rpl document stardard .for awarding satisfaction .:yes .

- rules of combina2 :document contain .policy requirements.
1.2.7 soft skill included: the document :yes
1.2.8fundationel learning satisfy policy : yes .
Associated assessment criteria:
12.integrated assessments: the documentation contain Qcto sta2 provide in the :yes
2.2.2 curriculum information:yes
Document contain ciriculum informatioj
2.2.3 curriculum structure .
2.2.4 entry requirement satisfie requement document standard yes .
2.2.6 qualifity partner for assessment is indicates in table all detail .
List qualify skill program relate circulum .
-section 2.occupation/specialisation .
Part qualification skills .
Programm profile
2.2.8 purpose .
Include .
2.2.9 task linked to task
Doccument task
2.2.10 occupatione task details
Section 3 curriculum component specification :
2.2.11Knowledge module specification :
2.2.12 practical skill module
2.2.13 work experience module .
2.2.14 possible sewuencing and integrariin
Section 4 statements of work experience: doc satisfie.  Role :1subject matter expert sme,2 quality partner representative .3 Qcto project manager .4 qcto
Qcto.:qualification document report template .
Qcto approved application
Qualification developments based .
2.qualification document for follow
4.skill programe document for following skills programme.
5.details of subject matter expert who will facilitator the development of qualification
-QCTO : SCOPING REPOT TEMPLATE :
10:working days after scoping meering : .qcto : approved application details
-1.Occupation :engineering electrical
-OF code
N 671102 .
-specialisation : engineering.
2.scoping meeting details :
Date :2/01/2024 ; venue
; time
3. Preliminary details of qualification indended for development.
4. Preliminair detail of part qualificarion intended for
- qualification engineeringelectrical /360
5.prelimairy detaul skills programe intendeo for development:
6.analysis of stakeholder consulted for the scoping
Classification: workplace practition ,professionel body ,regulatory,employee association .
-number of participant where :4,4,4,
-number of participant attended 4,4,4,4
-Qcto .working groyp nomination form qualification development reviewers .
-1.1 nommination for the apointment as working member
Nomination detail
-full names :tshingombe .
-institution:st peace college /saqa institut forening .
-business adress : markad streer .

Cell no: 072529845 Email:tshingombe fiston@gmail.com 1.2 nomination for the appointmentas working member - subject matter expert from the following: staholder grouo; yes assessmebt expert yes: practitioner industrie ;yes; employment irganisation yes ; regulatory bodie yes ; professional body Accepting nommination participate as working groupev qualification development review. Declaration by accepted nomminee i hereby ceetify compagny ...checklist confirm motivatev yes ..certifie valid service experimental. -attandance register .date No/name surname tshingombe /organisation st peace college /tel number / email .signature tshingombe Expert group nommination :linked -1. Enquiry and requirement pratical work experiences: portal Engineering council sa:registerinf cvs portal self service: CRM 0041308 Profile number is ECSA:\_00125662 Candidat en○■■■■■■■■■■■■■■■■3 -2.enquiry portal DTIC: industrie and competition ... Invoice: compagny:tshingombe engineering Invoicd number /status/submitted/order/action R0169241870.. Supplied.. -2.1technology and humain resource industrie programme (thirp mileston auditb.. 2.3Project information as per agreement between dtic applicant ..name tshingombeb project -project description: implatation framework st peace college engineering electrical .gov system assessment policr trade in job city power ..eskom . Sector .jhb.project . Project stie: jhb Projet owner leader .bee status .levek 4. Date of audit :12/12/2023 Original aproved. Share holder compagny group compagny structure member /incorporate share hold .racr gender Section B project humain resource research students and graduate involvement information. Researchers involved in th project please provide breadow of researchers :applied research activtu .use student incentivr .research invole contractual deviation .progress on 3.cds central supplie .tendered profil tshingombe tshitadi Portal: RO 169241870 treassure. -4.R&d. tax incentive :tshingombe outcome -tshingombe:application for research and development for research and deve2 the income tax act 1962 act no 52 of 1962.. Registration n: 2013/034490/07 please compagnie project linking ..annual progress report . Tshingombe status compagny date creation .30 /11/2023... 1.department science .research and developments tax ..purpose technologie programme ammend 11 income tax act 1962 act n 58 of 1962 ..name compagny tax ref tax years .project technology programme.objective method researc fund .. 5.CIPIC: portal training director ..engineering electrical st peace college career cvs property cvs Grade clcul weigthg range feedback contributing .module1.2.3.4.5.6.7.8 Seta Ims admnistrator edit portal Used id:127952 User name:TIRGOG0009106

-telephone:no 072529846

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Issue 18/10/2023
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On Sat, 30 Mar 2024, 14:20 tshingombe fiston, < <a href="mailto:tshingombefiston@gmail.com">tshingombefiston@gmail.com</a>> wrote:
-Purpose: constant acceleration, conservation ting unit mechanics; dampes harmonic ascillator,

damped harmonic oscillator, direct impact and newtob low of restitution, elastic energy strigs and springs; force as vector; newtons low of gravitation; newton second low; newton third low; powwe priblem involving relative velocity; projectiles.pulley; relative motion resolving force rigid bodies in

equilibruing tension in string .the trajectory of a projectil; varisble oscillation; work done by a -applje test stability and dynamic stabilirt .use math

- explanation stabilty theory and principles.tools requirws to analyse and predict the behaviour of various objects system under different.
- theoretical framework of stability: the framework of stability consist of several underlying approaches to evaluate an object or system stability under specif specid circumstance
- equilibria stationary print or a system where all force and dynsmic are balance equilibria can be classified as stable .unstable depend to equlibruim or moves away subject pertubation .
- explanation linear and non linear system . or neutrral system complex require linearization or other tobassess stability.
- disturbance and pertubation influancr that move a system away from equilbruim the reaction to a disturbance help determine stabilitt lyapun method ..
- explanation stability theoretical frameworks can vary across discipline control theory and dynamical system study material.
- constructing stsbility model : indentify the system kr object in question cant variable transfere differences. Determine equilibruim points or state where system dynamic are -perform linear stability analyse around equilibrium n la place linearization for non linear system under various condition.
- .-explain mobklity anf stability ability to maitain posturaj.
- poatulate of relativity state low momentum.
- -Statements of newtom second low motion change in moment varistion is given by deltt p = deltat -"ifbmass of the system constant then so that for constant [delta (m×v)=m×deltat .V ]
- Delta .p ..m×delta v .. fnet = m×a ..calxul force recorrr stragy involves only delts =delta =m×Delta ×V =m×(vf-vi)..velocity impact change in time ..F×change p .. Solution ..
- explanation linear moment and collission .introductiin to lineare momentum and collision , lineare momentum and force impulse conservation momentum.

Elastic collision in one dimension, inelastic collission in one dimension collision of point masses in 

- career accessible licensinf university college physic . linear moment .

Moving object grater mass ..P=m×v ..

Momentum is directly to the object mass and velocity grater mass also momentum ..

- -stabilty magnetostriction transformer vibration analyse .
- -Explain magnetostriction is phenomen core in normal operation mode create model evaluating deformation magnetic vibration manetic intensitive vibration order magnetostruction .
- \_case study of magnetostruction legger 200 MVA powwr transforme witg the rated voltage of 13,8/137KV is conducted based on which comparetive analysis of vibration level and elastiscity ....displacement . 20mms ..10m/s .s acceleration
- -ferromanetic material .power transform ..function ..L=f(B) elasticity deformation winding. Case study .5 legger power transformer with primary 13.8 Kv .. secondairy rated power 137 kv rated power 200 MVA vibration result value 20mm/s ..2,2times ..6 instantaneouse ..

		1000000

On Fri, 29 Mar 2024, 20:50 tshingombe fiston, <tshingombefiston@gmail.com> wrote: Purpose ..university college . Faculty engineering university college enginering college business .research topics

Workbase university workshop workplace topic university institution college .physic college .college .fundamental engineering.process engineering control fabric ..

Research assessment critical and learning lecture critical workplace base framework: construction engineering veotechnical ..subject engineeringscience bjilding engineering electricalm geotechnjcal mining new approach ..stabilty analyse embarment present result anLyse base interpre .prosoe empiric geotech reseaech councik ..shear strenth result normalized with respect consolidation stress -Explanation examiner variation function five ratios of strengtg ..

topics stability of embakment constructed kf soil treat soil cement colum geotechnology objectivy investigate the effectivness of soil cement sc settlment factor of safety at variouse time Embarkment construction sequence.

-lafinite element discretation quadrllateral and trisngular element with degree variation of ecess transportation infrascture.

Variatiob post construction

-explanation topics static coursmm physic static analyse objext and structure with respect motion deformation and faillure in additional learning.

Explanation introduction to static overview of statics introduction units and problem solving ..

- force and other vector :position vector equilibruim of particle inyroductiob to equilibrium .moment and static equivalence . The rotationel tendency of force simplificatiib moment interconnectiih of gravity and importe geometric properties.
- -centroid and centre of gravity importe ..internal force rigid bodie ..

Frictiin equilibrium of bodies subject ..moment of inertis an important property of geometric shapes used in many application.

Explain: static move to solid sheae and moment frames ffundamentak of static friction and -explain static knowledge in solide includ stress ans material properr ans torsiob.

Explain static knowledge in dynamic the concept . Sum of the force sum force =sum mass ×acc is

- explaib newton low motion .stability analyse system disturbutence ..accuracy theory comprehnensiib theoreticak framework of stabilitu re

## Reliability..

- explanation stability math mechanic

 $\label{lem:coefficien} \mbox{Acceleration and time ; angular speed ; assimption : kimematic , coefficien}$ 

friction ,connected particles .conservation of mechanical energy ; constant acceleratiin .constsnt acceleration equation .; conv

On Fri, 29 Mar 2024, 16:29 tshingombe fiston, <  $\frac{\text{tshingombefiston@gmail.com}}{\text{csplanations:}}$  wrote: Explanations: y axes points Q2,(0,004;,0,03;0,02;0,01)..Q1.x axes.(0,01;0 02..)

Q1=+10exp 6; Q2=+10 exp -6 and Q2 location charge Q1=+10 exp -6, Q2=10exp -6 and [x,y,z] [0,03;0,9],[0,0,004,0], and [0,02;0;0] metre force and Q1 os rappelled by Q2 ans attacted by Q3 it clear that two force act a lonf difference direction the electric field ppsir2 of Q1 due to charge ..

-Eq,×=2,16×10x.6a -2,88×10 exp y^ .newtos per coulomb..

E1, 3 =3,6×10 EXP 6 .X

E1,2+E1,2...(totak)=1,44×10 exp 6  $^{-2}$ ,88 ×10 .6 cartersien x and y F1(total )=1,44x $^{-2}$ ,88y $^{^{0}}$  E=vb-vz÷d; Q÷A..

Vb-va=Qd÷€.oA=Q÷€..capac2 parallels plate cPacitoe equal to €o A/d faraday equivalent energy On Thu, 28 Mar 2024, 22:12 tshingombe fiston, <<u>tshingombefiston@gmail.com</u>> wrote:

- -state explain displacement node point wave particle ..double antinode excited quartz chancd photo acoustic spectrophone differing the fundamental flexure movs .
- explanation; antinodes oscillating in counter phase excite resonance antinode points simultaneously two laser beam if their phase shift.

-make labell spectrophone schema DAEand explainbeam dector split monor□□□ beam
□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

- explain laser emmitting 1,37 um H2o absorptionbline located at 7306,75 cm with a line .intensity of  $1.8 \times 10$  exp -20 cm /mol phasw compensation adjust the phase beteen two laser beam passing m rs
- explain what are require the accoustic resonance an occure explain ...

Their spacing is equal is equal to an number of half wave lengths in thes condution antinode maximum of the surface with one ..labal node ..N=node .

- wath mean expression formulae

|><| node anti node

- ..velocity of sound and n = q,2,3 frequence resonance  $f=n\times c\div 2zI$ ..
- solve given solution taking 1 a 5 m the resonant frequences are 34,68  $\pm$  : 102 hz can result in a boa mine extrem case .spacing say 1=40m ..

 $f=C\div2[(P\div1)(P\div1)+(q\div w)\div(q\div w)+(r\div n)(r\div n)\exp1\div2\times(8,20)$ 

- explanation low absorb using anti resonant make labell

 $[]>>>k>>> \square m \square>>>> \square m$ 

[K+K)-w.wM]x-ky=fo(w-kxt+[k-w.wM].y=0

-w1=; wo=sw; w2=wo+sw2w÷wo=wo=square root K÷M
[Alpha 2]exp T[square roor beeta.q ].[zlpha ]
xp(wo)÷x(wo)=1÷2((1÷sw÷wo)_1(sw÷wo-i)
-explain oscillation simple make labelled harmonics formulae pendul period
[S]; T=2pisq root L÷g
Mass spring period[s]T = 2pi .sq root $m \div k$ kg $\div kg/s$ .s
X=-A
-low period frequency ampli2 displacement and phase differences displacement amplitude period (T) frequence.
- Design : displacement of oscillating object specific time equilibrium
-maximum : displacement of the oscillations object .
-time take for
-number of time second f=1÷T.
-energy tramsfer wavecondition simple harmonic when body is from equilibrium there musr exist
a restaring force that want to pull the bodu back to equilib3.
- the magnitude of the restoring forcd must be proportional to the displacement of body
- a travelling wave .is a continuouse disturbance in meduim caractere a rope thar flicked uo and
down cintinously create a repeating distrurbance similar to shape of a sine
- calcule wave lengtg frequency periode abd wave speed propertie speed source 50Hz wave lengtg
600m , y = 50×600=3000m/s
Make label wave caracteris3.wave front a light rayplane wave
- explain amplitude intensity wave depend it depend on it energy wave is proportional to square of it
Explain constructive deconstruction wave constructive interferencd superposition where twi add 1+1 =xrigtg deconstruction superposition.
- polarizTion ligtg is a transverse wave polarzation only occur to transvers wave of lenth ref to
orientations.
- calculate refraction solution.
tan(¤)=n2÷n2=60÷39=2labelled refractoral polarise rare meduim denser meduim refraction.
-calculate polarize ligtg filtered in labelled
I=Io×cos.cos \$=4 cos .cos 60=
- explain wave reflection and refraction plan labelle angle incideangle of reflection incoming rf
- explain low snell a formulaen1÷n2=sin x2÷sib1normal angle of incidencdangle of
change direction wave transmit .
-explain define electrostaticselectrostatic is the theory of the electric field in condition which it
- explain particle for mulae chargeF=RFo×q1.q2÷R.R
C.C÷F/m.m=C.C/F.m=C.C/C/V=C.V/m=j/mnewtow
F=q2.E1 electric field intensity Eq.ossociated F=q1.×q2/4×1. 14×€×R
○○>F
- explain combining result : E1=R^.q1/4×1,14×€×R×Rvector begining the particle€=€or=
1E(r)=r^(1,44kv/m) Large engineerinf electron is nkt readly apparente istancr eayal positive
-explain distribution of chargeqn = pi ( rn ) .AEr ()= 1/4×1,14€×sum n=1×r-nr÷r-rn)×pL(r×n).delt.L
Calcul electric field a long r'=^pr'=p.a
r_r' = sqr a.a×z.z polar field
- explain low gauses : field associateintegral 1.14 to tetaintegral 2 ×1,14 to tetaD ( r.r×sin teta
Using implet symetry argyment D.can depend r the charge particle
r.rD(r).integrall .1,14 to teta = Ointegral 2×1.14 d = sin d.dteta.dteta.=a vectorD=r^q÷4×1,14
- explain force the force experience by a particle at location bearing charged q.in electric field
intensity Eis Fe=q.E(r)f f space potential energy energy the loss quantifie using delta .w =delta

W.sum .n ..to n=1.Delta w..w..q sum N.n=2... W=q.integral E.(r).^i(r).dl... W=q integral..E.dl...dl=idl.. Work done by transversing variation delta =w÷q, =- .integral .E×dl - explain integral = .E×dl..curve at point and at point 2 be indentifie vector rq, r2 .. V.2.2=integral r2 to r1..E× dl W.2.1..=q.×V2.I Explain kirchof: W2.1=w2-wq....V2.1=integrall - explain low poisson and la place equation electrical potential field (v(r)computer .. V2.I=V.(r2)-(r1)..and abilty fiels gradie5 ..integration.. V^×E=V÷e... Operation posson cartesian matrice  $V'.v=[derive partial d \div dz.x^xd \div dy.y^+d \div dz.z]$ Explain flux density Dn ..integral countour .d×ds=integral tot D.ds .i +integral side.ds+integral Explain coaxial: rot =a and rot =b..cylinder.. - explain capacitor determine capacitor ..C=Q+V .. is the charge on the positivelt charge conductor v is potential rot.l=Q÷ V=-integral a to e = (p.^.rot.l÷2×1 14×€×sp)x(^rot dp)...  $CA=Q+V=ROT\times L\times L+(ROTL/2\times 1,14)ln(b/a)...$ C'=2×1,14€×s÷ln(b÷a) Capacitance of RG-59;a=0,292m - explanation low faraday low of electromagnetic the E.m.f produced around a loop of conductor is proportional to the rate of change of the magnetic flux alpha the area A of the loop thos loop this €=-N.variation flux ÷vation time ..flux =B×A..is streng ..solve the problem .e.... N.bf.Acos(TETA)-B/ACOS(TETA)÷VARIATION TIME ...  $=4\times(1,14(0,03)\times(0,03)\times\cos(35)\times(3,4-0,4)=1,03\times10 \exp -3V...$ Equivalent enrgy ..w=1/2.×€o.×E.×E Ad..quantie area plate time .. Torque ..T=B×E×sin tets.. Dipole moment in the direction of E potential energy alogn the dipole .moment p in the direction of Tiel energy Ue=-p.E.cos teta in vector notation u e = -p.E.. Explanation state faradat low motion €=B×l×v.. If conductor does not move at rigth angle 90° to the magnetic field then. Angle tets added low lenz .....€=-B×.l.×v.×sin teta -explain magnetic flux faraday low electromagnetic ..flux = B×A×cos field the magnetics flux ..tets angle between the magnetic field .. A the area of loop .B the magnet On Thu, 28 Mar 2024, 16:17 tshingombe fiston, <<u>tshingombefiston@gmail.com</u>> wrote: -1.Enquiry : qcto certificate accreditation -and assessments ocupation trade , n studies engineering electrical in trade trade test accrediation engineering electrical occupations ,scope nommination re-check rerwiten Qualification n diploma trade n1,n2n3,n4,n5,n6,n studie -nated dhet: id Panel control and wiring electrical level 1,2,3,engineering electrical infrastructure pratical Id number: merseta ,chieta seta sasseta ceta -1.1.Requirement:qualification gcto tools assessment and evaluation accreditaion trade and re accreditation trade test and scope in diploma engineering electrical certificate and assessments occupation. 1.1 requirements: qualification trade n diploma award certificate 1th ,2th,3th,4th saga qualification dr congo Originator: Leaver assessment .diplome d 'etat technical industriel electrical,

New Section 1 Page 15

- pedagogie technique ; doplome attestation frequentation; prepo graduat electromechanic, electrotechnic ,electronic industrial
- inpp: service motorise
- -unikin faculty science department math information

Technical industrial

- and certificate award 1th,2th,3th,4th Qualification china

ld:

Originator :St peace college africa institut police faculty engineering .saqa institu foreingn :frameworksqualification nqf policy cat ..research nlrd

dhet institution : policy dhet dbe policy examinationpaper sylabus .qcto from sabs .. Originator :Scotiss ;

- -sqa uk level 5,6 assessment evaluations reasoning ,india qualification level 5 practical institut ; -usa qualification engineering std nema standard defense scope trade theory pratical .
- canada trade occupation pratical license the trade license pratical trade test criterion occupation assessment ;australia trade career
- -French qualification: professionel.art metier; technical engineering: bac laureat .en
- -Belguim qualification : professionel art metier polytech cbec eic lausane

-dr congo qualification :esu epsp

Purpose: applier science engineering,

physic e assessments

-explanation criterion refraction V1 and V2 speed respective meduim lambda 1,lambda 2,wave length changing calculate :

Outcome:evidence low sinx1÷sinx2=n2÷n1=lamb1÷lamb2=V1÷V2:

refraction V1 and V2 speed respective meduim lamb 1,lamba 2,wave length .reflectiin Sin¤=1÷50.

-explanation: thermodynamics compressor fundamental isothermal process: is the temperatures is kept constant unchanged at the pressure increase during compression cooler process polytropic.
-explanation .compression process constant the work input the compress3 procedd foot found pound mass in general head .

Outcome: isotermal H isot = RT1LnR, R=100÷200×10 Ln100÷200.

-explanation compressible fluid adiab..integratic isothermal process explain state or true..equation PV= constat; pv constat specifie volume ..

P÷eLogP base e+(V×V)÷2g+Z= constant

Low..

-Explain fugacity: is the change temperature consider isothermal solid liquid or gaz .pressure and fugacity is converter gaz at very pressure isentropic

Integral uto u du =R×T integral .Inf to Inf .

Explanation math second order transition phase .P..V÷Vo..

- -Define: specific heat at constst similar that constant volume .
- -defined : as the rate of change of specificenthalpy at costsnt pressure with

temperatures..cp =(dh÷d)T×p...14÷7=2..\$Q÷dt ×p

The volume of cp obtained continues ..

- -Statements constant temperature process constant temperature process are reffer isothermal true.
- -explanation boiling and condensing process occure at constant tempera2 and are accompagny by a change phase the work fluide ..

Slow explansiin and compression process in equilibrium withconstant .

- -isothermal procesd requirements heat or work transfer to or form the surrounding they are not -constsnt internal energy procesd du=0
- heat and transfer are equal and apposite so that SQ-Sw=0
- calxulating thermodynamic fundamental molar .idea gas obey ..PV=R.T,PV=const boyles low isothermal expensionvolume .

W=integral .pdv ] v1to v1,, RT ..v2÷v1

.- statement are trur ..An atom is the smallest unit of ordinary matter that form a chemical element -explanation an illustration of the helium atom depicting nucleus pin and the electron cloud distribution black the nucleus upper rigth..

```
heluim is reality spherofical symmetric closed resemble the electron cloud alth for more
-the classification smallest recognized division of each chemical element ..
-the properties: mass range 1,67×10 exp -27 to 4,52×10×1 exp _25 electric chargr zero neutral or
ion charge diameter range 62 pm (He) to 520 in data page.
- component electron and compact nucleus of protons and neutrons..
Statements sound and isothetmal.
- Velocity of sound process equation velocity of sound iso thermal process ..
Pv=m.R.T.....P=m.R.T÷T= 10×30×20×÷60=10..
-velocity of sound wave a fluid anf we above C=dp÷de. Sq root
.velocity isothermal procesd ...c=...velocity isothermal pro9cess
-state explain displacement nodr paint wave particle ..
Double antinode excited quartz ehance photo accoustic spectrophonr diffdring th
On Wed, 27 Mar 2024, 18:07 tshingombe fiston, <a href="mailto:tshingombefiston@gmail.com">tshingombefiston@gmail.com</a>> wrote:
Purposes:
-Vab=Vbc=Vca=VL, Ib=Ic=Ia.
Za=Zb=Zc=Zp=Zangle q.
-wa=Vab\times Ia[cos(30'+q)]
Wc=Vab×Ic.[30°-q]
Wa+wc=Va.la[cos(30+q)]+Vcblx[cos(30^{\circ}-q)]
-wa+wc=VL×.IL×(cos30°×cosq-sin3030.sing)+(cos30°)×cosq+sin30°.sin
P3$='O'×3×V×I×(cosq)=°0°×3×V×I(sinq)=°O°×3×V×I×sinx
S3$=°0°×3×V×I..=P3.
Real power
P3$=°O°×3×V×I×(Cosq)=°O°×3×V×Ixfp
.Q3=0\times3\timesV\timesI=\times[P.3\times$+Q\times\times$]
-start delta loop a,c,d.
ZS+Zb=(zab)\times(Zca+zbc)\div(zab)+(zca+zca+zbc)
-Za+zcc=(zca)×(zab+zbc)÷(zsc)+(zab+zca)
-Zb=Zab×zbc+zab+zbc+za
Zab=zab+Zbc+zc×za÷zc.
Zb=Zab×zbc÷÷zab+zbc+zca
Zab=zab+zbzc+zcza+zc..
Zbc=zazb+zb.zc+zc.za÷za..
Standard cabling interconcte point charge inductive resisitive 1+2j betwen l1 -
Neutral ..2-1j betwen capacitive resistive | 12 -|3..; 3 L1.L3, 2-1j L31 | 11..3+3j..1+2j,3+3j | 11.l4
ддддддд[]□
Star balanced connection parallele
Generator; connection start synchrone G1
Generator; connection delta synchrone line to line
30Kw@0,8 phasing back;15kw 0,8 r
797 volt back phasor
-start a(64+16j),,(0,80+10j ohm
1,4+1,6j ohm / 0,80+1,0j
G1 start g2 deltat ..30kw@0,8 baxk ..15kw line to line..if back = G2=(1500+1250).V2=546,3
V1=721.G1..(-30732-52352j)
Befor g2=(-15000-11250i), v2=6559..
G2=(-24452-22675j)
```

```
Va=v@o
Vb=V@-120°
Vc=V@-240
Va=Vab=V@30°,
Vb=Vbc=V@-90°
Bc=Vca=v@-210..
VAn=V/°O°3@O°
VBn=v/°O°3@-120°
Van=V/°3@-240°
Connection delta va,vc,vb generation and z1 start charge diagram fresnel
VAB=Va vb
VBC=Vb-Vc
VCA=Vc-Va.
Connection va.vb.vc deltata to line z.z.z delta ..va = vab = v@ 30°
Vb=vbc=v@-90°
Vc=vc=v@-210°
IAB=VAB÷Zab=1@(30°-a)
IBc=VBC÷ZAB=1@(90°-a)
ICA=VCA÷ZCa=100(=
la=°0°3@-3@-30°IAB
Ib=°O°3
Vab+Zs.Ib=vab+zs.Ia
Vbc+zs.ic=vbc+zsib
Vca+zsla=vca+za
Kapp..
Increase decrease voltage..
V2..v20-v2=Rs.I2.cos$+xsI2.sin $..
VZ1=VZ2=Vz3 simple valve ,II,I=Z,I=V÷z
VL=VPH÷1,73
IA=VI\div Z=(vph\div Z=(vph\div 1,73)\div Z
IA=vph\div Z\times \times 1,73=vph\times 1,73\div 3\times z
I.start =vl\div z=vph\div 1,73/z=I start = vph\div z\times 1,73=vph\times 1,73\div 3\times z.
Power start = vph×i start ×1,73×cos @..
Power start=v.ph v.ph .×1,73×cos÷z×1,73
Pstar=vph×vph@cos$÷z
-delta conection z1,z2,z3,.L1,L2,L3.
J current reception. IL=IA;j=÷Z.j=I÷1,73...
J=vph÷z; j=IA÷1 ,73
Vph+Z=1A+1,73,,
IAZ=vph×1, 73
IA=vph×1,73÷z
Vph÷z=Ua÷1,73
laz=vph×1,73÷z
Power delta =vph×la×1,73×cos$
P = v \times (v \times 1,73 \div z) \times 1,73 \times cos
P=3×vph×vph×cos+z
Installation substation 70% max 70% ...
Worplace manufacture .ligthing .kw ;turninf non 10 hp comlressor ,pump incendie .15hp after
examiner customer ligthning turning 5 min pump ..factor factor interval of demNd x diversitt
excecutuin 15 minute ×1,0.loading ligthning 5 kw ,factor of output demNd of .diversitt time of
execution of 15 minute xo,xx+500wattxo,1=2,25 .5 min,current =15x1500wxo,1=2,25kw
5 min ×1,10=0,30
-load turn machinery =10cv×736×33=2,46
Compressor =20cv×7,36×5=7,46kw
Load charge demand =15cv×7,36×0,0=00kw
```

Zb=Zb=Zc=Za@a°

..la+lb+lc..

Purose: Qualification lab workshop practical Engineering electricL power system: Electrical workshop tools on precaution workshop pratical in discipline design equipment. -Task la is concerne to design domestic explanation low: Plug bulb fan motor -assignment domestic load calculation. Appliance unity power rating daily usage energy consumprion: fridge 100 400watt 16hour 400×16= 6400wh;tv 27 unit 75 watt 12 h 75 x12 =900w;fan 36 unity 50 w 24 h 50 x24 =1200w;tube ligth 12.6 unity 35 watt full 12 h 35 ×12 =4200w; (:energy stove 9 unit ; 25 2h 2000×2=4000w ;(Motor pump 420 unit 2000wath 2... Oven 480 unit ×3000w .2h ..3000×5=15000..) energy watt unit 30 •••••• -list of experiment topicd lab safety .electrical wiring; domestic load calculation and solar system design; introduction to sketch .introduct 3 print .introduct to cnc machine process .pcb milling process introduction to solder2 processfinal.. - the chance or probaility experience hazard descript schoox physicologie can respira poor wiring -Lab electrical wiring standard size of wiring 18Awto 1Aw..; Gauge service entrance 3 /0,200Amp..1/0,,1/4 15 Amp - sold bar copper wire: AwG 10to40; nominal diameter 2,6to 0,079 /0,005 ●●●○○○□○○○○ -assessments:wath gauge of wire used for 3/24(10AwG) Power dissipation power= p=V×I ..p=235×10=2350w. Provide brief conparison copper conductivity Safety a workplace measurent instrument. : fundamental safety safe usage of lab equipment. Tools: tester, voltmeter ammeter multimeter oscilloscoo signal generation dc power supply... -Linear circuit lab : Dc power supplies ; function generator .digital and analogi voltage and ammeter prototyping -channels number of input signal acillocop :vertical ,horizontal base ,trigger of the oscilloscopes trigger level to stabilise ..

Assessments select device switable ..description ..device ..measure of time interval oscilloscop determine live neutral current consumer .measure of cPacitance wire ..

Used dc variable power to obtain 5 vdc obtain the output wave form on oscilloscope chanei ..use function generation to obtain 5 khz sin wave signal amplitude ..plat out vac of your oscullator calcuk

- rated 10 uf to 220 uf  $\,$  ; empirical 10.89 uf ..absolue 110-10,88 uf to 220-2299uf=99uf ..relative error FA-FM.VI/Fx  $\times$  100%=8,9%

2200-2299÷2200×100%=4,5

Color code co-0-r-g code value 3,3kohm to 75 to 2000ohm to 820..empirical vLue 3,31 kto 76t929,230ti ..absolute error 117-76=1,1=200\_2000=230..820-824=4ohm..relative..1 ohm1 $\div$  1×100% -20,00-20239 $\div$ 2000×10=1,15% 820-829 $\div$ 820×100%=0,48

On Tue, 26 Mar 2024, 20:50 tshingombe fiston, < <a href="mailto:tshingombefiston@gmail.com">tshingombefiston@gmail.com</a>> wrote: Fundamental input output

```
-y=t.t+1; y..p(x)=2X; Q(x)=2x.x.x
Dx/dx=dy/dx+v.du/dx.
Dy/dx+2x.y=2x.x.x
Du/dx+2x.u=o
Vs=pi.integral (b) to (a).(y1.y1)-(y2_y2)
Am-y=integral (b) to (a)rdA...
dp/dt=2dx/dt-100/x.x\times dx/d
f=1÷2pi×l.c ..
Vave=Vmax÷pi×cos$...
Idc=vdc/r.l...vdc=vm-idc÷4fc...vm =vdc+idc÷4.f.c..
Np/ns=vp/vz....
B=u.o.i/2.r..
Construction diagram network va vb
|1=|1'+|1"+|1"
12=12'+12"+12"
13=13'+13"+13""
IT=I1+I2+I3
Vab=va-vb
Va=Rt÷R1+R3×10..
IT=V.T÷Z.T.
IL=V×I÷j×l
Phasege disphase angular vector diagrame
I1=j12-j31
I2=j23-j12
13=j31-j23
11+12+13=0
Construction component start delta banced
J.2.3= U/Z.2.3; S3.1=U/Z.3.q..
I=Sq.\times3\timesj.../Sq.2=U/Z1.2..
Condesator start delta
C=Q÷U; Q=U×.U.×C×w
Delta =Q=3×U×.U.×C×w
Q=3×V×V×C×w
C start = 3×Cdeltar..
-Wiring diagram: 1 motor and 3 bulb 3 phase on line
QL1=vL1×IL×sin=230×2×96=276
QL2= vl2×UL2×sin alp 2=230×3×0
QL3=vL3×Iph3×sinalph=230×2,3=575va
Qt=Ql+QL2+QL3=,, 276+0-575=299va
L1 resistor |2 restor |3 neutral in delta
L1 =v1.i1.cos1=230×2×0,8=368w
L2=v2.i2.cos2=230×3×1=690w
L3=v3.i3.cos3=230×2,5×0=0w
P=pl1+pl2+pl3=360+690+0=1060w.
Motor eat U:230v/400..i=5,45/9,43,p=5kw.cos=0,8 terminal 9,43 conne2 networking 400V..
V ph=vl÷1.73=400÷1,73=230V, lph =P/V.1,73×cos=2850/400×1,73×0,85=4,76
Voltage resistor vph=u÷1,73=230
Iph=P=vphx1.73×1..
R=Z=VPH/IPH=230=130
WA=|Vb| \times |Ia| \cos (30'+0), wc =|vcb| \times (30' aph)
Vab = vbc =vca vl; Ib=Ic=Ia...zazb=zc=zp..angle
Wa= vab×la
```

On Tue, 26 Mar 2024, 18:22 tshingombe fiston, < <a href="mailto:tshingombefiston@gmail.com">tshingombefiston@gmail.com</a>> wrote:

-purpose: engineering practice 24,nqf 6,5,4.

month .code trade component

-Cabling joint ,frisge; wind armature ;plc; building ; dc convert ;installation; digital control ; design circuit ; installation ; measure knowledge substation; heavy

voltage; electrodynamics; electronics; speed; diode resistancr; generator; hand toolse use; induction systems plc; inverte; load magnetic; motor starte; panel wiring readung megger;

-7.qualification frameworks council .applie mathematics and science engineering for resolved

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### OUTCOME SUBJECT ENTRY

engineering trade occupation low .work permiy practical eic power system electric .

Design: linear circuit lab dc power supply function work low standar size. trade advancedd system integratiob

\_plant mathematics system .

Trade association ammandment.

Trade basic advance . x .ex(exlnx+e÷x)x=work exponential logic .

- -x work operationel factor emped2 x .em product ..e.x logorith activity x inconu add and divided work exponent x work facfor linearity .entry exhibitions motion low
- statistic analyse visa technique technologie rating minimum maximums variations x=v, variation x=dy+dx=d2y+d2.

Low:

-x work operation .x en producf e.x logarith activity ,x work factor linear

derivative ,integration testing low panel linear ,x operation ac .dc cirrent circuit ,assignments marks dy÷dx.working labor operator funda6 sys5 work2.work in time frame allocs5 work step x logic n -permit 24 month permit mark allocation time table 8 module ..

Statements:

-ln.Vab=va-vb;lnva=R2÷R1+R2+VT;dy÷dx=X.exp ex(e.x ln .x+e÷x).exp. x

 $Dy \div Dz = ; z = (R.(x.z.z).e \div R..e(RC \times Z2 \div RC + Z2) \times (RC + Z2 \div RC + Z2.ln.RC + Z2 \div RC + Z2) * (exp..e \div RC + z2 \div RC + Z2) * (exp..e \div RC + Z2) * (e$ 

 $2p\times(1-40\div360)\times\ln.I\times z\div2cp(1-40\div30)+e\divU\times z\div2c2p\times(1-40\div30).I.Z\div2c2p\times(1-40\div30)$ 

 $-dp \div dt = 2dx \div dt = 2.dx \div dt = 100 \div x.x.$ ; v.c $\div t.r = 2dx \div dt - 100 \div x.d.s$ 

V÷Z.T=2dx÷dt;100÷x,dx.dx;; V1=V2.t2÷T2;dy÷dx..v.vw.t2÷t linear .

Low suppliie..

Explanation mathematic:

-----

Limite rule

Deriver rule

Differential rules

Chain derive rules

Second deruve rules

Integral rules

\_explanation electrotechnic rules

Outcom eic symbole drawing

Labelling.

R.I×IT=R1.I2+R2.I2+R3.I3+R4.I4

Et1-E2=R1.I2+R2.I2+R3.I3+R4.I.4

E2.E3=R1.I2+R2.I2+I3.R3+R4.I4...

Rt = R1+R2+..Rn..

Rt //=1÷1÷R1+1/R2 +1/Rn

Explain low word leonard methodr speed control base factor dc motor speed applie voltage armature ..motor generator ;motor drivs la arma3 current la .v.t fiels curre2 if decrease motor la.. Explanation low of 4 list smooth speed control over the speed regenerative usinf over

Explanationlow of 4 list smooth speed control over ..the speed regenerative ..usinf over excitation synxhroneb draw back leonard

Dc serie motor working 3 characteristic curent vs armature current speee vs torque ..Tax flux .la ..equation Eb=p.flux.n.z/60 ..equation toraue flux armature current T=if x la .. Advantage serie vast staring torque easy assembly .protection easy ..

```
- peak value ac current and make labelled positive negative sine wave alterations..
Vp-p=2\times vp...vp=ac....vp-2 vp positive vp-p=2\times vp, vp-p=2\times 170v=340..vag
Power factor Q=E÷Q,C=1÷2pi×f×c..
ZtotL =zcc//(zL-IR)...; I.I×Z
Transfo
Zt=Rx.jx.l \div R+jx.l; I.Z=P.Z \div V.z
Rs=V+(max).v2 \div I.Z(max)..
e1=Em.sin.wt; e2=k2.Em.sin2wt...;e3=k3.em.sin3w.t
- industrial eectronics
Test trade
1-losses÷input; 1-I1.R1+W÷V1.I1.cos
Wiring design:load field serie parallele
Developing circuit serie parrallele start delta connection ..
R×.I×.I=3×.R.×I..; I=j.; I=j..3
.R \div 3. \times I. \times I
E=1/R1+1/R2\times j\times t start.
.delta I = j ... R. \times j \times j \times t...
I = j; =j.sq root 3.
P=R.(j.\times sqr.3 \text{ or } 1.73)
E=3\times R\times j\times j\times t
E=3\times(1/R1+1/R2)\times j\times j\times t
E=3\times(Rq+Rw)\times j\times j\times t...
XI/3; XC..
ZT=1/Z1+1/Z2+1/Z3
ZT=Z1+Z2+Z3
Gt =G1+G2+G3
..E1=1/Z1+1/Z2+1/Z3\times(J\times t)
E=3.(z1+z2+z3)\times(j\times t)
E2=1/z2.1+1/z2.2+1/z2.3\times(j\times t)
E3=1/z3.1+1/z3.2+1/z3.3
ET=E1+E2+E3..
ET = [1/z1+1/z21/3.(j.t)] \times [1/Z2.1+1/z2.2+1/z2.3\times(j\times t) + [1z3.1+1/z3.1+1/z3.2+1/z3.3(j\times t)]
Et serie = [z1+z2+z3(j\times t)]+[z2.1+z2.2+z3.3(j\times t)]+[z1.1+z2+z3.3(j\times t)]
ET = [1/z1+1/z2+1/z3(j,j\times t)] + [1z2.1+1/z2.2+1/3.2(j,j\times t)] + [1/z.3+1/z3.2+1/z3.3.(j,j\times t)]
[Z1+Z2+Z3(j.j\times t)]+[Z2.1+1z2.2+z2.3(.j.j\times t)]+[z3.1+z3.2+z3.3((j.j.t)]
Conductance ..impedance .suspectance load ..networks
On Mon, 25 Mar 2024, 21:29 tshingombe fiston, < <a href="mailto:tshingombefiston@gmail.com">tshingombefiston@gmail.com</a> wrote:
Purposes: saga qualification n diploma
engineering code trade component and
N diploma log n6.n diploma level theoretically basework skill and practical basework
pratical ..component trade manufacture explanation low based outcom low based .
"(Plc code trade manufacture design; ;renewables solar.hydro electrical plant power.; ligthing
system incadescence compact halogen..electronic component .appliance domestic washing
machine .dc machine motor generator ..ac synchronousebmeasure instrument"
-undertaking material streigth test material rop.("$")
package inspection. Check material design ("$")
material
-laballing sabs code pratical wirie size
```

marking off CODE CABLE PLASTIC POLYSTERE ..CODE MANUFACTURE

("\$")
w.gauge eic
-soldering ensemby ddiensemby component step
-interprete drawing circuit scaling ("\$")
- electrical wiring panel interpre("\$")controll programme ("\$)
-prephase select trade pratical theory
Trade test preparatory functionning marks process
••••••
-Phase final qualificatiom 1th2th3th4th
SCOTISH EVODENCE LOW

On Mon, 25 Mar 2024, 21:05 tshingombe fiston, < <a href="mailto:tshingombefiston@gmail.com">tshingombefiston@gmail.com</a>> wrote: Purpose:

- -Explantion :module peogrammable logic controller explanations wath a pkc is function a programme logic controller device component use languages for commande for industrial automatic -statements .the component of a plc . Used switch input output device . Relay controlled
- transistor thyristor ,diode
- -unity upc central computer .-display monitor control interface .
- -explanation what a plc is used :

outcom; for is use for compare information and compulate suply information relat contactor informer conductor for suply power

- Language used to peogramme plc used fortain q basuc visual .. Input outpur ..

Outcom is programe switch control input .output device read information circuit ..off and on relay control contactor switch transistor thyristor current programme.

- ligthting systems .explain with the aid of drawings the operation of the following.
- -outcome incadescent lamps: socket incadescent bulb is contracting by glass circular and close culot switch culot switch and cement and wire resistance high resistivity tungstens and powr of hg gaz input in side is operate by ohn current flow the wire in side enclose joule effect give colour and ...I=u÷r...E=R.I..
- -compact fluorence lamps: is working by glass tube cathodic have to side switch contact ...and side gaz of fluor chemical in side have a coil stander Nd condensator filter resonance for correct power factor in parallele with pole cathosic operationel when pples contact current flow cylinder bulb is react chemical hg fluore beam ..electrons acceleration..give effect.
- -halogen lamps: is construction or aorking by labeled and polyster and mercure ag pres5 gaz chemical by fire give explosion..
- metal halide lamps .is same IMpe fluorescent or the same white compact fluorence wire heat -..neon lamp icadescense .high intensity discharfe
- reneeeable energy: solar energy statements the advantage is no cost and working working current not dischage the cell .explain solar energy is conerted into electric by plaque semie conduxtoe photo
- emissions photonconduction P.N doppinf react and conduct electromotive force bonding covalent.. -explain how: direct current os converted into alternating is converted by follkw step energie solaire periodic floa movement bond p.b junction continue dc current and step dc to ac follow thyristor gate

On Mon, 25 Mar 2024, 18:53 tshingombe fiston, < <a href="mailto:tshingombefiston@gmail.com">tshingombefiston@gmail.com</a>> wrote: Purpose:

- -Explanation low .speed control of motors : mean outcome normal speed above normal speer increase back emf fall resistor resistor has been cut and the motor normaly .
- explanation low how shunt swries motor can be mode to run at three speeds fields coils of a series connected armature carry current no load and full load speedly load torque load..

- explanation dc machine testing name test to be performed on dc machine in order to assess its condition dc methode rope brake test couple sainburg method ..outcomes ; T=(W-S)×r.. Efficiency =V×I÷V×I+I"a×Ra+I.
- -Explain each of the test mentioned in above .air cooled .pulwy belt ropes scale , mass
- Emf .equation of generator.

Drawing the characteristic curvers of generator clearly showings the following..terminal full Outcom - open circhit terminal volyage agains field current .

- calculate the magnitude of the generated .e.mf accross the armature ..emf =V+IR..

Outcom cLcule the magnitude of neee for compound - wound generatoes ...

-efficiency testing of dc machine all constant and variables losses that occur in dc machines ...efficiency =ourpur power ÷input power ×100..

Outcome : armature loss = I"a×Ra..watt

Windage loss iron loss in the core bearing friction loss commutator ..

- explanation: why the iron part of dc machines are laminated for direct man.

Name all constant and variables losses that occur in dc machine ..

- iron part machine are lamited .outcom reduce losses magnetostriction
- caxulate the efficiency of dc machines using method ..outcomes directmethod methode summation losses ..regenerative methode back to back trsr ..V.I-(la.Ra+ls.v+C)÷V.I ×100; 2pi.nt/60.. =2pi.n(w-s)×r÷60 ; input =V.I..
- =V.I÷V.I+Ia.Ra+I3.V.Ia ×100
- -starting of thre phase induction mktor ..explain slip with regard to three phase induction motors similar to that of a three phase rorque maner order..
- -Explanation calxulate following slip: synchronous speed actual speed .. outcome .s=N- nr÷N...s per unit slip .N = synchronization speed of fiels revolution minimum ..nr = actual speed of the rotor ..explanations with aid of circuit diagram how three phase induction motor are started using .the following methode outcom direct on line starring ..reduced voltage starting .motor resistance starting ..small motor torque of fan is proportional to the square ..Vph=VL÷3
- synchronkuse alternator compare the construction of a synchronous alternator with synchronous
- explanation with aid of circuit diagram how two single phase alternator are synxhronised a common busbar system .- synchronous motor low .outcome a synchronous motors is wound magnetic field stator and rotor coul is in the same level speee fiels nr is equal to na actial .slip rotatinf flux slip -explanations how this motor can uaed to improves the overalk power factor of a plant in the case of shunt motoe the movement the armature short circuit outcome; no volt coik and it energise in the case of a serie motor switch ofu exceed predetermie.
- explanation transformer: cooling of transformer ..explain the need for cooling of transformer losses air coolinf small transformateur ..oil cooling ..tfo ib oil tank minerak ..
- explanatort need for cooling of transformer ans : losses in transformation ...
- -Explanation the differences methode used to cool a transformer methode aur coil is use Oil tabk the heat is transferred the windinf oil conductive
- N1.N2..I1÷I2..V1..V2.....m..
- protection of transformers explain moisture form overloads short circuit .lossses in a transformer .distinguish losses transformer self induction using transfo ..auto trabsfo ..for step using cooling of transfo earthing transfo discobbectiob hr..
- explanation earthing system; outcome: equipment power statuob.shield conductor diagran IT
- explanation: w supply neutral conductor suppliers consuctor must determination consequences of protection earth poinr tank supporr structure earth continuity conductor...
- explanation power management: outcome; domestic and industrial consumer billing system energy charge of domestic consumer the two porr tarrif that large consumer are charged prepaid metering
- maximum demand time swirch time of use ripple relay radio conyrok tarrif mcb consumer -renewablw enwrgy salon energy state advantage solarw dc converted ,ups ..uniterrupted power Explanation programmable logic controller plx ..comment used language is plc

On Mon, 25 Mar 2024, 17:33 tshingombe fiston, < <a href="mailto:tshingombefiston@gmail.com">tshingombefiston@gmail.com</a>> wrote: Purose :learner examination completed

Applies skill electrical trade theory, electrotechnology; electrotechnic, control logic .logic system to resolve engineering electrical .science engineering outcom design analyse qualification framework low exhibitions value examination evidence

- appliance explain wath is an appliance the two classe of appliances three cateforie of

appluance; evidence outcom fixed appliance tools portable appliances stationnairy -explanarion low assessments: the basic principle of operarion of an induction .cooker operation of the following.

- three theat stove switch .cooking appliance include built stoves oven hobs an like
- -simmerstat switches
- -rhrouht fixe winning isolate earth stove 16A rating ,socket 0,5m. 2,2mm.
- oven thermostat switch ..
- -explanation evidence low .the principle of operation the following type of space heaters.; of space; outcome heater, convection heater, infared heater, radiant heater, ceramic fan force -smerstar energy regulator tje bending of alimentaire strip which opens and close a set of contact a heating element whic supplie heat..

\_water heater : explanation the principle of operation of the following types of water heater , tank less water tank less water .heat pump water heater solar power heater condensinf water heater -washing machine type available. Explanation. The principle of operation of the following washing machine outcome low semie automatic fully automatic.. low speed meduim speed high speed -explanation of type of ligthing : 3 type basic of ligthing ; outcome ambient ligthing general ligthing .task ligthing accent ligthning..lamp incadescence lambe mercure vapour .

- -explanation emf equation of motor dc ..outcom calculation magnitude of the back emf induced in \_explanation and design drawing the characteristc curvers of motor ..outcom flux agains field current ;speed against armature current ; torque against armaturw current ;calculate the torque
- explanation: non sinusoidal waves dc determine the form factor of non sinusoidal wave.voltage .max min time
- single-phase circuit component have on the current in ac circuit :outcom
- -explanation different betwen algebraic and vector facto quantity .outcom fresnel
- -explainatiinnthe conceptual impedance and alsi calculate the impedance and a calculate the impedance of the following loads . Square root /Z''=R''+(XL''-XC'')
- -resistance Z=R,
- -inductor Z"=R"+XL"
- -Capacitor Z"=R"+XC"
- -explanation draw waveformand vector phasir diagrams for following circuit.. restance vector

Inductive | >

-explanation resonance and effect in serie outcom X L=2×.f×.l ×pi

Outcom low statement and determinent effects power poor factor and show by means of simple diagrams how ican correct outcom P=V×.I.×cos ...Q=V.I.sin..

\_\_\_\_|----

- explanation.three phase balanced load: IL4=IL2-IL3 ..ip .×cos.×30"

Outcom statement the advantage of three phase system over single phase system .three supply is more versatile machine deliver high sam size..

- -explanation drawing the wave forms and vector diagrams the voltage distribution..
- three phase system : statements the relationships between phase balanced load type of load :

P=(Vp×lp×cos@)+(vp2×.lpe×.cos@+Vp3.×ip3.×cos@)

V=3×.VL×.IL.×cos@×n

- -explaining low three phase unalanced ..explain difference between.and unbalanced load
- balanced system three pine current are equal having start neutral zero current diffente IL1+IL2+IL3
- draw vector diagram of three phase ubalanced load is calculated .

On Mon, 25 Mar 2024, 16:30 tshingombe fiston, <<u>tshingombefiston@gmail.com</u>> wrote:

5. Purpose: entry criteria minimums. Trade qualification occupation test trade Industrial orientations.

- -5.1.knowledge:recall and understand application industrial orientations:design analyse investigate engineering studie learning base vocationel means evaluation :didactic module focuse -Standard in trade .industrial council
- -development service close cooporation compagny educationel
- \_supervisor function control task subordination teach workness
- -unsafe working iso 1900 financement new project business venture.
- -purpose independent capital business conduct unsafe condition.
- planing work advantage policy training. Meetings new employee control exercise main power .
- 5.2. Knowledge recall and understand .applications. plant operation : Chemistry : and chemical process good examp cellulose wood rubber .C.H8.

-organix solve acetan catalyse react .original main purpose. -react gaz N(0g)+O2(g)=NO2(g), NO2(g)+Co(g)+Co(g)=(Co2g)C+O2=Co2..70% combustion, H2..H2+1/2.02=H2O Convection radiation conduction compression mettall hydrogen oxygen present steam boilem .. hsu=hf+(xhfg)\_[(tsu\_ts)] 5.3 knowledge recall understand application electrotechnology: Dc machine protection: poles shoes, shifting 4 factor average vLue.sin define..tree singles transformer, decimal number necessaire step serie motor application. 5.4 knowledge: recall and understand, application electrical trade theory ..appliance electrique washing machine domestic appluance type machine maintenamce installation..illumination, ac, dc current machine transformer instrument measure material -Exam trimester learner 2 formal class module 100 mark duration minimu pass mark promotion mark 40 +60.assessment. On Sun, 24 Mar 2024, 21:06 tshingombe fiston, <<u>tshingombefiston@gmail.com</u>> wrote:

Purpose: re-agreement distance university years occupation semmester pass examination college university degree research topics skill development university rsa -qualification equivalente

|Id saga :96856 |NQFlev6| 3 years of experience: technical tvet university 1 college subject exempted subject -communication n3, |communication |N4,n5,n6 ,nqf7. | skill:1,2,3, **English business** Orientation industri Supervision manag Communic at skill adm -computer n3 N4,n5,n6,nqf7 |computer skill | 1,2,3, Info manag syst introduct ims Information manag | Info process -mathematic n3 | mathematics 1,2,3| N4,N5,N6.nqf7 Industrial electronics | electronics 1,2,3 N3,n4,n5,n6 ngf7 Electrical trade theory | power elect1,2,3 Electrotechnology | machine elect Electrotechnic Control logic |control electri1,2,3 Logic syst Digital electronics Radio television Radar missile

engineering science | chemical 1,2,3

New Section 1 Page 26

N3,n4,n5,n6 | physics 1,2,3
Plant operation |
Power machine |
Science buildings |
Carpentery |
Wood work |
Bricline |
Civil
Diesel
Mechanotechnical
Turning fitting

On Sun, 24 Mar 2024, 09:29 tshingombe fiston, <<u>tshingombefiston@gmail.com</u>> wrote:

Theoretical framework base Experimental experience outcome: engineering electrical

Fundamental basic electrical trade

construction trade

Opwrationel trade low rules applied trade skill to resolve trade skill or science engineering. -applie sabs code of pratice wiring premise .trade

Construction component structural theoretical ... operation safety trade tools safet i rules narse plat machine building .. sign fire smoke ;injuries fire hazard cut space save damage of good is prevented.

- cell advantagr distange of component .construction single high efficiency at full load silent oper2.
- transfo little core and maintenance .open aire cooling coding transformer assumef..secondairy cell advantage great capaci2 thsn primary cell deally emergency application life ..disavatage more than primary cell regular maintenance period traditionallt less suited for ..code collour sketch eic .carbon resistor potention variable capacitor zener diode p p transistor battery cells .polarization carbon -Dc machine theoretical applie .component yoke poles shoes bushes back wand motor moving brushes in generation poles field series .number of pairs of used .strength magnetic field .radte
- -generator ward leanard motor generator system .shunt generator used where constant voltage is Series generatir a booster on dc line transmission line ..

Flux armature ..

-trade applie skill to resolve skill: domestic aappliance ..washing machine imersion water heater protection steel conduct pipe earth

-ac machines measuring instrument electronic.

Material used in the manufacture of semie conductor

magnetic flux cut the moving conductor number field.

- special characteristics: special arc funace transformer power require..
- control system like componentation electrical network allowed for process to monitorred regulated environ control system or overall electrical.

Static control .analogie conversion .

- -electrotechnic principal. Nuclease positive low directly proportional type algebraic sum emf principal change in flux linking with circuit .
- movement of conductor in a magnetic field .increasw decrease curent circuit .carbon brushed .graphite copper graphite.efficiency load 97.moving silence magnetic circuit winding tank
- connecting electrical .machine pratical tips for connecting.
- make sure rigth joint .check size of lags .make sure crimping tools that .fit .

Purose of joint: installation core inslection of equipment locating of the rigth tools for jobs.

Make sure tha yo know tools box organised store tour tools safe

Fundamental low skill formuler:

Explanation caculuation valut size ..coulom.newron joule ..theorem

- engin2 drawing .welding pc drauting joint meyal ..screwthred arc welding resistance lab joint corner join butt join sc first angle orthographic projection coupling projection machining On Sat, 23 Mar 2024, 17:19 tshingombe fiston, <tshingombefiston@gmail.com> wrote:

2.purpose: criteria entry trade

theoretical and pratical examination in diploma subject loccupation council trade and qualification trade engineering studie field

Subject: electrotechnologie, trade theory electrical, orientation industrial, plant operationel..industriel electronics .engineering science .engineering

- -Outcome subject: trade orientation and industrial sector growth in developing countries sadc.
- -industry orientation exporting and productivity manufacture way engineering electrical system
- -econometric methodologie: trade requirements operationel task step
- -estimation : depended variable is log labour productivity skill development chieta merseta training authoritu saqa

#### X freq:

-Acknowledged: scaling module task subject trade industriel requirements logic methodic ..energetical supplie saling buying commissioner. Metering installation building db box lab workshop electrotechnologie undertaking material redesign.

-classification of manufacturing:

Model industrie sector primary mining mineral electrical engineering secondairy industriel production component .and industriel production energy or municipalitu revenue commissioner customer: according sabs. Act hortoring eic..coding industriel trading.

- labour intensive industrie: industrial vulcanisation .
- -manufacture :joule
- -labour intensive industrie: industrie scale manufacture
- -specialised supplie industrie: compagny trading.

Solar panel manufacturing ;transformer manufacturing ;business ; cctv camera manufacturing unity .television .display device :robotics mechatronics industriel

- -single double door refrigeration industrie washing machine repair ;phase AC motor panel industrial;water puri2 repaire
- -introduct to electruc trade job opportunity: safety precaution and typist .tools equipment
- -how 2 way switch electrical board work wath stones bridge key:
- industry orientation:training job market emplyment are looking candidat industriel tools team build assessment. Understanding market orientations and how it works wath is market orientations custome market orientation vs other strategies real work market pratical trading
- -| |star ratinf |min dep|stock trade|perc||

Load min

-amen trase

Interact

Tasty trade

\_\_\_\_\_

- 3. Purpose: pratical trade national frameworks qualification
- Relate theoretical framework based vocationel
- -requirement:
- 3.1tools instrumental
- trainee tool kit no 1
- scribe 100mm; hacsaw frame withblade 300mm ..no: 2
- -Hsc drill bit 6 mm .3 mm
- round nose plier 150 m. Grimping tools ..- instrument equipment
- 3.2Digital multimeter; megger 500v -.contactor 4 poles; 16A; 240V; 2 no; timer
- 3.3 material:
- -Push button green /red..
- -indicator lamp with holder
- overload relay 0-15A;415v
- -race ways 2-mwter.
- -1,5 sqm copper cable as to 650V
- terminal connectoe 0 .
- \_ wirie ferule ,connector ;cable blinding shapes; shaps button ,nylon cable assort size

\_design
|Logic input| output logic pin no|
A/|B |3 |6 |8 |11 |
|0 | 0 | |gate 1|2|3|4
Condition gate ic

resistor design

Serie numbe sketch ref type of   symbo □□□□□□□□□□□□■■■■■■■■■■■■■■■■■■■■■■■■■
-Pcb track design:
-Construct power control circuit scr: PREPARE -Halfwave: 240v,50; 24vvdc □□□□ ■■■[ -Ac supply 415dc control supplt .driver .dc motor ,dc generator 200v load200w Serie number  load armature voltage
Load volt  current motor speed in rpm
SW1 S 3u v w 240v  Comparison of dc driver  The panel board used fix panel meter and indicator front  1. identify and selec prepare range  _make size   rate main   rate power kw  Switch mcb ,4n ,500w,

On Sat, 23 Mar 2024, 09:40 tshingombe fiston, <<u>tshingombefiston@gmail.com</u>> wrote:

Application :

Ref: letter number :2024/0322 -Saqa id ref:201911130002 - Saq enquiry: 9370;

-Dhet: 2100002023812; 2004007064381

Enquiry No:.

-Name of institution: st peace college -Date of application:01/03/2024 -Date of start :19/10/2019

Assessor moderator	ia .awaruru congo
Assessor moderator Subject electrotechnology.	
-2.qualification title :title engineering n diploma.	
Student electrical engineering	
_3 qualification title : skill trade panel waring i	
ChietaC0700410101099 pratica seta electrical	•
_ start qualification award institution	15 decreasely abical car are small, as sistentials
Saqa work day 15 . Graduate criteria decission	15 day evaluation on pre workregistration
Policy Ie099	
Qual  qualification  level nqf  min   repla	-
Id   title     cred	
id   title     tred	
20420 national cert   lev 4   120	-
electrical eng	
Ciccuitcui Ciig	
20418 national cert   lev2  120	-
electrical eng	
1 2.22	48475 national cert  lev 6  120
electrical eng	
15 555 55 51	
80160   national diplom   lev   360   I,II,III	-
electrical eng	
90674 nationa n diplomat studie eng	-
Nqf level 6	
67043   n diplomat   purpose	
	_ld 67491
N3 to ;n1n2subject pass	
Electrotechnology. Orientation industrial	
	N4   electrical engineering irregularities
subject recertification in progress marking quali	ty councils insurence body dhet electrical trade
	transcript record NLRD: saqa national record
Saqa ID 66881 transcript bachelor	
15 days work topics	
in nated pratical theoretical framework: .av	vard saqa
Ref:, Dhet: topic career subject	
-businesses english : topic cvs. cover letter com	pagny
-orientation industrial :	
-supervision: planing	
management supervisor	
Hr communication .	
	underpine poa poes learner:toic pratical coverage
textbook explanation last papper	
vs compagny trade challege viste trade practica	l irregularity subject
Material irregularity for pratical class room space	e rental location accommodate spacetheoretical
compagny trade	
-city power eskom vs trade seta psira ref city po	wer work metering generetor
transmitter ligthing can not support practical vi	sited vs dtic industrial manufacture mining
illegal manufacture component vs topics challer	ge class rental insurence workplace
_1Purpose: operate electrical .wiring and contro	ol wiring and control switch
Explanation topics research n1.2.35.6 final rese	arch topics
Award police cat meeting requirements	

On Tue, 27 Feb 2024, 09:59 tshingombe fiston, <<u>tshingombefiston@gmail.com</u>> wrote:

Application

Ref: Applications letter number: 2023/1226

ADRESS: PRIVATE BAG X 174, PRETORIA 0001 123 FRANCIS BAARD STREET PRETORIA

TEL: 0123235618

**ENQUIRY NUMBER:** 

DHET:

**DOCKET NUMBER: 2023/1226** 

INFORMATION MANAGEMENT SYSTEM

- INSTITUT COLLEGE NAME: ST PEACE COLLEGE
- -ID: NUMBER: TIRC0G000910610
- -REGISTRATION NUMBER: STUDENT -C070040101099
- -SARS VAT NUMBER: 923228238 -MERSETA: 17\_QA/ACC/1311/17
- -SAOA REGISTRAR STUDENT NUMBER: 210020223812, 2004007064382.
- -email address: tshingombekb@gmail.com
- -Alternate email address: tshingombefiston@gmail.com

APPEAL DECISSION RESULT RELEASE:

# APPLICATION NUMBER:

Saga: institute foreign .saga transcription meeting 71638 dry Congo requirements graduate award diploma knife .high certificate no meeting .leave school .expended assessments .exam d teat diploma .certificate professional .certificate informatics mathematic vs. offices ; result outcome primary status registration saga asset 09121 .saqa institute  $30\_39$  no assess policy.IE099 ,saqa id 67q0 certificate .n diplomat

- -Qualification title national N diplomat engineering.
- -naf level:6.
- -date submitted to dhet:1105/2023
- -date process.

DHET

-Timetable /50111002

- -N1: engineering studies
- -ID: 2004007064381
- -ID: 2100002023812

Dear .mar minister of education duet and deputy member of duet .vet college examination directorate and authority competencies. Government's president

I' mar tshingombe tshitadi ;acknowledge student st peace college candidate examination career student follow course in duty of nated in rsa 2019 to 2024, i 'm appear to your department goverment institution for allegation view no result of statement id candidat engineering n1.,n2,n3,n4, n3 and n Examination national examination was not delivery in the time external assessments committed irregularities.

1.my motivation and disciplinary assessment submitted my portfolio on line portal duet release resultant statement and finalized award diplomat by examination committed irregularity November invalided subject n3 trade theory electricakbtranscript the result of assessment was note release reason irregularity n3.subject n4 .subject fail druip result February 2022 .directorate assessment transcript material .statement affidavit submitted sty peace college registrar shalom technical and agric institute college no result outcome .after 15 days was result scaling n1.n2.n3but statement didn't come out not print out by registrations resentment inconvenient. Arbitrary irregularity on February I submitted topics saga

 $2. \ I \ received \ to \ duet \ committed \ assessment \ examinations \ irregularities \ the \ retain$ 

, invalided subject 23 February 2022 the time table of n3 subject administration exam with those subject trade. electrical trade theory .4 subject November 2023 examination rhea result statement for last examination was not print outcome n1.n2 submitted n3 last time table exam only last n4 exam statement print outcome and not time table for n6.,n5 received in examinations November suspension is 11 month for irregularity .follow vet guideline assessment. Exam over the date insurance body frameworks qualification and labor department if could claim no outcome in career portal was outcome 3.allegation result statement retain duet .;saga n diploma n diplomat application for n4.6 diplomat final was no granted n4.level 4 diploma ices years college in my portfolio submitted on line marked exam n5.n6.subject additional assessment information by institution is at ices.

 $16\,Jan\,2023\,on\,line\,maraschino\,massage\,send\,submission\,number\,foreign\,institute\,inquiries\,9370.$  Foreign institutions inquiries\,6594

Section 29(a) policy criteria saga knife amended march 2017 institute ...framework nqf foreign award must Saqa accepted only qualifications official examination body country...external examination based, 26 July 4. Allegation to qcto retain on; saturday22 January 2022.; With regard n certificate direction dhet education training (for n4\_n6 n diploma or umlauts n3 can not assist with qcto issued Sat ..10 march 203 l .certificate@qcto.org.za answer soc please note that the qcto does not issue any of results

-lindiwe grace  $28\,\text{may}\,2023$  inquire to national and assessment college .i have copied our QA unit they will be able to rspond to accordingly regards

Qcto khuluvhe labour market intelligences lmi esteemed stakeholder 21 aug 2023 was not grante

- i receiving Allegation to saqa retain on.10 march 2023 procedure for evaluatiin pro forma invoice .copy id passport.copy final award graduation certificate. Copy of completed transcript mark sheet academic record.proof payment if not meetings requirements can resubmitted again.non compliant; 27 july 2021 Final award school diploma degre certificate in 48h.
- -that my requested letter to the authority minister for my result statement certificat over the date review n diploma 24 month.18 month nated examination to resolve problem after examination irregularities materiel that final result n4 and new re certificate body insurence investigation result center assessment outcome years icass total tvet for my institute st peace college institu and externsl certificate n1.n3 afric training institute and shalom technical collection print out was not in my application for

- Your sincerely.
Sign :Tshingombe Tshitadi

An.n3 .in the relevant specialization area communication nqf level 4 in language teaching ...theoretical knowl2 and practical skills required and learning of institution offering. To be award the award qualification learners are to choose complete .business studies 0.5 years business studies. .N4 o.5 year's duration 60 cresits ...n5 (0.5 year duration) 60 credit .n6. 0.5 y E-mail Disclaimer: This email and any attachments thereto may contain confidential and propriet information and is intended for the recipient only. If you are not the intended recipient, kindly defined to the recipient only.

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