

DEPARTMENT OF EDUCATION
REPUBLIC OF SOUTH AFRICA
NATIONAL CERTIFICATE
ELECTROTECHNICS N5
TIME: 3 HOURS
MARKS: 100

QUESTION 1

1.1 By reversing either the field $\checkmark$ or armature connections. $\checkmark$ (2)

1.2 They are placed in slots in the pole shoes. $\checkmark$ They are connected in series with the armature windings. $\checkmark$ (2)

1.3 $V = 550 \text{ V}$ $P = 44 \text{ kW}$ $N = 1500 \text{ rpm}$ $\eta = 85\% = 0.85$
 $R_a = 0.32$ $I_f = 1.8 \text{ A}$ $I_a R_b = 3.5 \text{ V}$

1.3.1 $\text{Input} = \frac{\text{Output}}{\eta} = 44 / 0.85 = 51.765 \text{ kW} \checkmark$

$I_L = P / V = 51765 / 550 \checkmark = 94.12 \text{ A} \checkmark$ (3)

1.3.2 $\text{Output} = \frac{2 \pi N T}{60}$

$44000 = \frac{2 \pi 1500 T}{60} \checkmark$

$T = \frac{44000 \times 60}{2 \pi 1500} \checkmark$

$= 280.25 \text{ Nm} \checkmark$ (3)

1.3.3 $\text{Starting current} = 1.75 \text{ (full load)} = 1.75 \times 94.12 = 164.7 \text{ A} \checkmark$

$I_a = I - I_f = 164.7 - 1.8 = 162.9 \text{ A} \checkmark$

$V = E + V_b + V_a \text{ (at start)} \quad E = 0 \quad V_a = I_a (R_a + x)$

$550 = 0 + 3.5 + 162.9 (0.32 + x) \checkmark$

$x = \frac{550 - 55.63}{16.9}$

$= 2.035 \text{ ohms} \checkmark$

(4)

Electrotechnics Question Papers

LL Leslie



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B. Sc Electronics question paper Jayachandran.s,2015-03-31 This publication contains question papers of B Sc electronics circuits second semester question papers **Subject List of Works on Electricity, Magnetism, and Electro-technics**
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Vrinda Singh,2020-01-02 Pooja was a girl but also the wildest of all animals and was very precious to her mother Her mistakes were kept in check by her father who taught her the tough lessons of life in just 5 minutes She was born with glitter in her veins which would attract anyone in 5 minutes Her innocence was killing her beauty was enchanting and her brains were bewitching still she was hated and ignored Digging in the dirt she got trapped in love with a man 18 years elder to her Meetings of 5 minutes cost her decades of life This book is a short journey of the most independent most adventurous and most responsible girl of the 21st century struggling with the old beliefs of Indian society and her commitments to be an ideal daughter an ideal lover and an ideal friend It contains the most thrilling and adrenaline pumping narrative based on true events **Oswal - Gurukul 10 Years Solved Papers : ICSE Class 10 for 2023 Exam** Oswal - Gurukul,2022-06-10
Wavelet Analysis And Active Media Technology (In 3 Volumes) - Proceedings Of The 6th International Progress Stephane Jaffard,Ching Yee Suen,John Daugman,Victor Wickerhauser,Bruno Torresani,John Yen,Ning Zhong,Sankar Kumar Pal,2005-07-06 Wavelet analysis and its applications have been one of the fastest growing research areas in the past several years Wavelet theory has been employed in numerous fields and applications such as signal and image processing communication systems biomedical imaging radar air acoustics and many other areas Active media technology is concerned with the development of autonomous computational or physical entities capable of perceiving reasoning adapting learning cooperating and delegating in a dynamic environment This book captures the essence of the current state of the art in wavelet analysis and active media technology It includes nine invited papers by distinguished researchers P Zhang T D Bui and C Y Suen from Concordia University Canada N A Strelkov and V L Dol nikov from Yaroslavl State University Russia Chin Chen Chang and Ching Yun Chang from Taiwan S S Pandey from R D University India and I L Bloshanskii from Moscow State Regional University Russia The proceedings have been selected for coverage in *Physical Review* ,1894 Vols for 1903 include Proceedings of the American Physical Society *The Electronics Journal* ,1914 **The physical review : a journal of experimental and theoretical physics** ,1894 **Archives of Radiology and Electrotherapy** ,1921

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