

**MECHANICAL ENGINEERING
GRADUATE PROGRAM
HANDBOOK**

P O G A M O F D

MA E ! DEG EE :! ()%! -%5#416%,

MAJO P OFE O ANO PE IO COMMI EE O

C

!!@&, +%70%, 12IH#22!\$4# - 0#1!+10-%, 1+!, %%- !&!6 %%%1!)% !'#8021IH! - %1%46*, %1!)%*4!
'*%2- +! &!*, 1%4%+1H! #, - !+ %2%8!&, %! '#8021! 6%6 . %4! #+! #! 6#&4! 54&'%++&4! #, - !# - -*1&, #2!
'#8021! #+! +05%43*+&4! !8&6 6*11%!! 6%6 . %4+=! ! ()% ! 8&6 6*11%!! 60+! ! .% ! #554&3%- ! #, - !
#55&*, 1%- ! . !1!)% ! >4# - 0#1% ! " 4&\$4# 6! ; *4%8!&4=!! K&4! 1)% ! 9# +1%4!+! - %\$4%!! A*1) ! #! 1)% +*+!
&5!*&, H!#! 6#&4!54&'%++&4!#, - !1A&!8&6 6*11%!! 6%6 . %4+!#4%!4%70*4%- =!!K&4!#! ") = ; =! - %\$4%#H!
#! 6#&4!54&'%++&4!#, - !#! 6*, * 606!&'!&04!# - -*1&, #2! 6%6 . %4+!#4%!4%70*4%- H!&, %!&'!A) *8) !
60+! . %! '4&6! #! - '*!%4%, 1! %, \$*, %%4*, \$! - %5#416%, 1! #, - !&, %! '4&6! #, &1)%4! 8&22%\$%=! ()% !
'&46#1*&, !&'!1) %!+05%43*+&4! !8&6 6*11%!! 60+! . %!8&6 52%1% - ! - 04*, \$!1) %! '*4+1!#8# - %6*8!1%#4!
&'! ?10- ! =!!K#?04%!1&!8&6 52!A*1) !1) *+!4%70*4%6%, 1! 6# ! !4%+021!*, !1) %!2&+!&'!*, #, 8*#2!#* - =!
?10-%, 1+! 6# ! !6# /%18) #, \$%+!1&1) %!+05%43*+&4! !8&6 6*11%!! 05!0, 1*2!1) %!+%6%+1%4! . %'&4%!
1) %!\$4# - 0#1*&, !+%6%+1%4= !

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?10-%, 1+!A) &!#4%!70#2**% - !1&!%, 4&22!*, !+5%8**8!\$4# - 0#1%18&04+%+! . 0!A) &! - &!, &1!*, 1%, - !1&!
A&4/!1A#4 - !#!\$4# - 0#1%1- %\$4%!! 6# ! !%, 4&22!#+!, &, E- %\$4%!!+%/ / *, \$!+10-%, 1+ =!! f &, E- %\$4%!
+10-%, 1+! 6# ! !%, 1%4! 82#++%+! &, !#! +5#8%E#3#*2# . 2% ! . #+*+! - 04*, \$!1) %! '*4+1! A% / ! &'! #8) !
+%6%+1%4! . ! ! & . 1#*, *, \$!1) %! 8&, +%, 1! &'! 1) %! 8&04+%! *, +14081&4! #, - ! >4# - 0#1% ! " 4&\$4# 6!
; *4%8!&4=!! ?10-%, 1+! 60+! 6% %11) %!54%E4%70*+*1%+!&'!8&04+%+!* , !A) *8) !1) %! !A*+) !1&!%, 4&22=!!
N!6#P*606!YT!)&04+!&'!84% - *1!%#4, % - !#!+#!, &, E- %\$4%!!+10-%, ! 6# ! ! . %!#552% - !1&+#!*+ ' ! !
9?9 : ! - %\$4%!!4%70*4%6%, 1+ =! ?10-%, 1+! 60+!1%#4, !#!\$4# - %!&'!M!&4! . %!1%4H!#, - !1) %!8&04+%!
60+! . %!+0*1# . 2%!'&4!1) %!54&\$4# 6 =!! () *+!14#8/!&4!%, 1%4*, \$!\$4# - 0#1%+10- ! !) #+! . %%, !'&O, - !
%+5%8*#22! !) %25'02!1&+10-%, 1+!* , !1) %!*, - 0+14! !A) &!+%/ / !+5%8*#2*b% - !14#*, *, \$!*, !+5%8**% - !
#4%#+!&'!\$4# - 0#1%!* , +14081* &, ! . 0!#4%!0, 8%4!#*, !#!+1&!504+0*, \$!#! - %\$4% =!! ?10-%, 1+!A) &!
6*+!1) %! - %# - 2*, %! '&4!# - 6*+* &, !1&!1) %! >4# - 0#1% ! " 4&\$4# 6! 6# ! !#2+&!1# /%18&04+%+!#+!#!
, &, E- %\$4%!!+%/ / *, \$!+10-%, !A) *2%!1) %*4! # - 6*+* &, !1&!1) %! >4# - 0#1% ! " 4&\$4# 6! *+! . %*, \$!
%3#20#1% - =!

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N22! - %\$4%!!E+%/ / *, \$!\$4# - 0#1%+10-%, 1+H!%P820-*, \$!+10-%, 1+!# - 6*11% - !1&!8#, - * - #8IH! 60+!
. %!%, 4&22% - !*, !#!2%#+!&, %!1%46!BK#22H! ?54*, \$H! ?06 6%4F! - 04*, \$!1) %!54%3*0+!YZ! 6 &, 1) +=!!
?10-%, 1+!A) &!) #3%!, &1!%, 4&22% - !*, !#, !!&'!1) %!2#+11) 4%!!1%46+!A*22! . %! - 4&55% - !'4&6!1) %*4!
- %\$4%!! 54&\$4# 6! #, - !8) #, \$% - !1&!*, #8!3% =!! ?10-%, 1+! 6# ! !4%#552!1&!1) %!W, *3%4+*1! ! . ! !
+0 . 6*11*, \$!#!, %A!#552*8#1*&, =!!N552*8#, 1+!A*22! . %!+0 . %81!1&!1) %!# - 6*+* &, !84*1%4*#!*, !%'%8!
#1!1) #1!1* 6% =!! ?10-%, 1+! 6# ! !4%70%+1!%P8%5!*&, +!1&!1) *+!5&2*8IH! '&4!2%\$*1* 6#1%! #, - !3#2* - !
4%#+&, +H!1) 4&0\$) !1) %*4! ; %5#416%, 1H! @&22%\$%H! #, - ! >4# - 0#1% ! ?8) &&2=!!G! *+!1) %!+10-%, 1+!
4%+5&, +* . 2*1!1&!#552!1'&4!\$4# - 0#1*&, !1) 4&0\$) !1) %!9#8) #, *8#2! : , \$*, %%4*, \$! ; %5#416%, 1! . ! !
1) %! 5&+1% - ! @&22%\$%! &'! : , \$*, %%4*, \$! - %# - 2*, % =!! ?10-%, 1+! 60+! #2+&! +0 . 6*1! #! - %'%, +%!
#, , &O, 8%6%, 1!1&!1) %! - %5#416%, 1!#1!2%#+!1!A&!A% / +! . %'&4%1) %!+8) % - 02% - ! - %'%, +% - #1% =!
>4# - 0#1%+10-%, 1+! 60+! . %!4%\$*+1%4% - ! '&4! #! 6*, * 606!&'!1A&!) &04+1) %!+ %6%+1%4!1) %! !
\$4# - 0#1% =!!

MA E DEG EE!

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! M%'&4%!\$4#-0#1*,\$H!1)%!9?9:!(A*)!)%+*!14#8/!+10-%,1+!60+!54%5#4!#11)%+*!#,-!
54%+%,!1*!1!&11)%! ?05%43*+&4!@&6 6*11%=%!()%!+10-%,1!60+!54%+%,1!#1!15%-!* ,#2!
-4#1!1!&11)%! ?05%43*+&4!@&6 6*11%=%!#,-!>4#-0#1%!N-3*+&4!&,%!A%/!.'&4%11)%!
!* ,#2!&4#2!%P#6* ,#1*& ,=!

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! 9?9:!(A*)&0!11)%+*!14#8/!+10-%,1+!60+!+0.6*1!1A&54&<%8!14%5&4!+!8&652%1%-!#+!
5#4!&!11)%!:9[!8&04+%A&4/!4%70*4%6%,1!&11)%!>4#-0#1%! "4&\$4#6! ; *4%8!&4!-04*,\$!
1)%!+%6%+1%4!&!'\$4#-0#1*& ,!'&4!%3#20#1*& ,!#,-!#++%++6%,1=!K#?2*,\$!&4!%+5&,-!1&!#!
4%70%+!1A*2!54%3%,1!+10-%,1+!'4&6!\$4#-0#1*,\$=!

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! N2!A&4/!#552*8#.2%!1&11)%!9#+1%4!+!-%\$4%14%70*4%6%,1+!60+!1!.%8&652%1%-!A*1)*,!
*3%!1%#4+!'4&6!1)%!1*6%!1)%!+10-%,1!*+!'4+!1!#-6*11%-!* ,1&)*+D)%4!54&\$4#6=!

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P .D. DEG EE!

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! ?10-%,1+!60+!1.-%!#-6*11%-!1&8#,-*-#8!1.-%&4%11)%!4%\$+1%4!'&4!- *++%41#1*& ,!)&04+=!
?%#11)%!W?K!>4#-0#1%!@#1#2&\$!'&4!4%70*4%6%,1+!'&4!#-6*++*& ,!1&8#,-*-#8!1=!

!

! ()%!+10-%,1!60+!18&,-08!# ,!* ,3%+1*\$#1*& ,!4%+021*,\$!* ,!# ,!&4*\$* ,#2!#,-!+*\$* ,**8# ,1!
8& ,14*.01*& ,!&11)%!/ ,&A2%-\$%* ,!1)%!8)&+%,!'*%2-!&'14%+%#48)=!!?10-%,1+!* ,!1)%!")= ; =!
54&\$4#6!60+!1!#/#!#!6* ,*606!&'!ZR!)&04+!&'!-&8!&4#2!- *++%41#1*& ,!84%-*1+=!

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! L ,8%!#-6*11%-!1&8#,-*-#8!H!+10-%,1+!60+!1%,4&22!'&4!#!6* ,*606!&'!Z!84%-*1!)&04+!
%#8)!+,%6%+1%4!&'!1)%!#8#-%6*8!1%#4!0 ,1*2!8&652%1*& ,!&'!1)%!54&\$4#6=!

!

! M%'&4%!\$4#-0#1*,\$H!1)%!")= ; =!+10-%,1+!60+!54%5#4!#11)- *++%41#1*& ,!#,-!54%+%,1!*!
1&11)%! ?05%43*+&4!@&6 6*11%=%!()%!+10-%,1!60+!54%+%,1!#1!15%-!* ,#2!-4#1!1!&11)%!
?05%43*+&4!@&6 6*11%=%!#,-!>4#-0#1%!N-3*+&4!1A&!A%/+!.'&4%11)%!!* ,#2!&4#2!
%P#6* ,#1*& ,=!

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! N2!A&4/!#552*8#.2%!1&11)%!")= ; =!4%70*4%6%,1+!60+!1!.%8&652%1%-!A*1)* ,!+3% ,!
1%#4+!'4&6!1)%!1*6%!1)%!+10-%,1!*+!'4+!1!#-6*11%-!* ,1&)*+D)%4!54&\$4#6=!

MECHANICAL ENGINEERING FACULTY AND AREA OF SPECIALIZATION

D !B " 4&'%++&4D@) #*4F! ")= ; =C!@2% 6+&, !W, *3%4+*1IH!Y] `X\!O%)# . *2*1#1*&, !O& . &1*8+!\ " 4&+1) %1*8+!@, -!L41) &1*8+!\!@I, #6*8! ? I+1% 6+!#, -!@&, 14&2+!\ -0. % I h 0+ '= % -0!

!

N D -E !BN++*+1#, ! " 4&'%++&4F! ")= ; =C! W, *3%4+*1I! &! @#2* &4, *#H! M%4/%2% IH! ZRYQ! 9#, 0'#8!04*, \$H! ? 6#4! #, -! ?0+1#*, #.2% ! ? I+1% 6+H! ; #1#E ; 4*3%, ! 9&-%2, \$!\ , #, 8I -Y h 0+ '= % @!!

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J G BG, +14081&4!GGF! ")= ; =C! d*4\$, *#! (%8)H!ZRY\! J06#, EO& . &1!@&2# . &4#1*3% ! ? I+1% 6+H! @&EO& . &1*8+! (%8), &2&\$! !' &4! f &, E(4#- *1*&, #2! " &502#1*&, +H! ? (: 9! : -08#1*&, H! ?%, +&4! "%48%51*&, \!\$#* , @ < h 0+ '= % -0=!

!

N G !BN++&8*#1%! " 4&'%++&4F! ")= ; =C! >%&4\$*#! G, +1*101% ! &! (%8), &2&\$! H! ZRRS\! M* & @#1%4*#2+!# @ -! @ - @ %! : , \$*, %%4*, \$!\ , #2#, 1 h 0+ '= % -0!

!

M G !BG, +14081&4!GF! ")= ; =C! M&+1&, !W, *3%4+*1IH!ZRY ` \! f #, &+ @ #2%! J%# @ (4#, + @ ! #, -! ? &2* -! 9%8) #, *8+!\ 6\$&, *4& -4*\$ & h 0+ '= % -0!

!

G !BN++&8*#1%! " 4&'%++&4D>4#-0#1%! " 4&\$4#6! ; *4%81&4F! ")= ; =C! >%&4\$*#! G, +1*101% ! &! (%8), &2&\$! H! ZRR ` \! 9*84&'20* -*8+H! N8&0+1*8+H! : , \$*, %%4*, \$!\ : -08#1*&, \! \$02-*/@, h 0+ '= % -0@

!

D P. H !B " 4&'%++&4F! ")= ; =C!

O

F P , III! BG, +14081&4!

"#\$% 9 & ' 10

IMPO AN CON AC FO G AD A E DEN

!
>ON;WN(:!N;9G??GL f?!! ! ! ! ! Gf(:OfN(GL fN[!?:Od@:?!)