

**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&652%1%-! - 04\*, \$!1)%!'4+1!#8# - %6\*8!1%#4!  
&'! ?10- ! =!!K#?04%!1&!8&652!A\*1)!1)\*+!4%70\*4%6%, 1! 6# !!4%+021!\* , !1)%!2&+&1&'!\*, #, 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= !

NON-DEG EE Eeking DEN

?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%! - %\$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+! 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 %%%1!1)%!54%E4%70\*+\*1%+!&'!8&04+%+!\* , !A) \*8)!1)%!A\*+)!1&!%, 4&22=!!  
N!6#P\*606!YT!)&04+1&'!84%- \*1!%#4, %- !#!+#!, &, E- %\$4%%!+10-%, ! 6# !! . %!#552%- !1&+#!+ ' ! !  
9?9 : ! - %\$4%%14%70\*4%6%, 1+!!?10-%, 1+! 60+!1%#4, !#!\$4# - %!&'!M!&4! . %!1%4H!#, - !1)%!8&04+%!  
60+! . %!+0\*1# . 2%!&'!&1!)%!54&\$4#6=!! ( )+!14#8/!&4!%, 1%4\*, \$!\$4# - 0#1!+10- ! ! )# +! . %%, !&O, - !  
%+5%8\*#2!1!)%25'02!1&+10-%, 1+!\* , !1)%!\* , - 0+14!1A)&+%%/!+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%- =!

COMPLE ION OF HE P OG AM

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# +!1!1)4%!!%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%51\*&, +!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%- ! - %'%, +% - #!% =!  
>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!**

!

! M%'&4%!\$4#-0#1\*,\$H!1)%!9?9:!A\*1)!)%+\*+!14#8/!+10-%,1+!60+!54%5#4#!#11)%+\*+!#,-!  
54%+%,!1\*!1!&11)!%!?05%43\*+&4!@&66\*11%=%!( )%!+10-%,1!60+!54%+%,1!#1!15%-!\* ,#2!  
-4#1!1!&11)!%!?05%43\*+&4!@&66\*11%=%!#,-!>4#-0#1!N-3\*+&4!&,%!A%/!.'&4%11)!%!  
\* ,#2!&4#2!%P#6\* ,#1\* & ,=!

!

! 9?9:!A\*1)&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%+!A\*2!54%3%,1!+10-%,1+!'4&6!\$4#-0#1\*,\$=!

!

! 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%11)!%!+10-%,1!\*+!'4+!1!#-6\*11%-!\* ,1&)\*+D)%4!54&\$4#6=!

!

**P .D. DEG EE!**

!

! ?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\* & ,!1&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+=!

!

! 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#!#1- \*++%41#1\* & ,!#,-!54%+%,1\*1!  
1&11)!%!?05%43\*+&4!@&66\*11%=%!( )%!+10-%,1!60+!54%+%,1!#1!15%-!\* ,#2!-4#1!1&11)!%!  
?05%43\*+&4!@&66\*11%=%!#,-!>4#-0#1!N-3\*+&4!1A&!A%/+!.'&4%11)!%!\* ,#2!&4#2!  
%P#6\* ,#1\* & ,=!

!

! 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%11)!%!+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+ '= % -0!!

!

J G BG , +14081&4!GGF! " )= ; =C! d\*4\$\* , \*#! (%8)H!ZRY\! J06# , EO& . &1!@&22# . &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\* , \$! , \$#22# , 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??GLf?!! ! ! ! ! Gf(:OfN(GLfN[!?:Od@:?!)