Sensor guidelines for exam in TMA4120 Calculus 4K 2024h

1. The exam has 8 problems, each with a max score of 10 points.

2. The problems are scored individually based on the guidelines below.

3. The scoring is based on the judgement of the senor.

4. Every answer should be well justified/explained, and the score reduced if not.

5. Correct computations following an initial error (følgefeil), can be given some credit, but the score must be reduced according to how much the problem is changed/simplified.

6. The total score (the sum) is multiplied by 10/8 (giving max score 100), and then converted into grades using the following table:

Points	0-40.9	41-52.9	53-64.9	65-76.9	77-88.9	89-100
Grade	F	E	D	С	В	А
Problem 1:	Correctly transformed equation in (i): Correct Laplacetransform Y(s) in (i): Correct inverse Laplacetranform y(t) in (i): Correct inverse transform (ii):					3 points 2 points 2 points 3 points
Problem 2:	Correctly figure and explanation (i): Correct sum (ii): Correct pf of conv (iii):					3 points 3 points 4 points
Problem 3a:	Correct 2^{nd} order eq'n and boundary cond'ns: Correct solutions for F (all cases checked): Correct solutions for G (when F \neq 0) Correct final answer u_n=F_nG_n					2 points 4 points 3 points 1 points
Problem 3b:	 Correct series solution with explanation of why this series is a solution of (1) and (2). (superposition of solutions for linear homogeneous problems) -2 p if no explanations. Correct derivation coefficients to satisfy also (3): Correct solution of (1) – (3): 					4 points 4 points 2 points
Problem 4:	Correct explanation for f: Correct explanation for g: -1p if do not discuss 0 where CR-eq'ns hold for g					6 points 4 points
Problem 5:	Correct identification of annulus of conv. for series: Correct conclusions for z_1, z_2, z_3:					4 points 6 points
Problem 6a:	Correct estimate of $ e^{\{iz\}} $ along C_R: Correct estimate of $ f(z) $ along C_R: Correct use of ML-inequality: Correct conclusion:					2 points 3 points 3 points 2 points
Problem 6b:	Correct setup of I as principal value integral and integration along C_R in complex plane: Correct computation of C_R-integral (sing/Res/Residue thm):					3 points 5 points
	-1p if do not explain z=2i is 2 nd order pole Correct conclusion:					2 points