#### **REPORT**

#### to occupy the academic position:

"Professor"	X
"Associate Professor"	
	one of the academic positions indicated shall be marked with the sign "X"

#### Candidates to occupy the position:

	Associate	PhD	Ivo	Vladimirov	Valchev	UCTM
1	professor					
Nº	academic	scientific	name	middle	last name	workplace
	position	degree		name		
2						
Nº	academic	scientific	name	middle	last name	workplace
	position	degree		name		
3						
Nº	academic	scientific	name	middle	last name	workplace
	position	degree		name		

#### Scientific area:

5	Technical science
code	name

#### Professional area:

5.10	Chemical technologies
code	name

## Scientific specialty:

02.13.03. Technology, mechanization and automation of pulp and paper industry

# The competition has been announced:

101	27.12.2019	Pulp, paper and Printing Arts	Chemical Technologies
in SG	date	for the needs of the Department	Faculty
issue			

#### The report was written by:

Professor	D. Sc.	Nikolay	Asenov	Yosifov	LTU - Sofia
			Asenov		
academic	scientific	name	middle	last name	workplace
position	degree		name		

#### 1. Report for the candidate:

Associate professor	PhD	Ivo	Vladimirov	Valchev
academic position	scientific degree	name	middle name	last name

## 1.1. Meeting the minimum requirements under the Regulations:

A) The candidate meets the minimum requirements	20 points	X
B) The candidate doesn't meet the minimum requirements	0 points	
		one of the
		answers given
		is marked with
		the sign "X"

It must be filled in if answer B is marked. The publication activity of the candidate is analyzed. The response of the results achieved (quoted) is analyzed.

## 1.2. Relevance of scientific and / or applied research:

A) The research is relevant. Part of the research is pioneering (no results are known on the topic by other authors)	8 points	
B) Research is relevant. Results from other authors are known for each of the topics and / or applications studied.	6 points	Х
C) Most of the research is relevant, but also some results are presented that have no scientific and / or applied value	4 points	
D) The smaller part of the research is relevant	2 points	

E) Research is not relevant	0 points	
		one of the
		answers given
		is marked with
		the sign "X"

The evaluation of the relevance of the research must be substantiated.

The research are conductive to improving of the qualitative indices and expand the assortments of the pulp and paper production in our country.

#### 1.3. Objectives of the research:

A) Realistic and of scientific and / or applied interest	8 points	Х
B) Realistic, but not of scientific and / or applied interest	4 points	
C) Unattainable (unrealistic)	0 points	
		one of the answers given
		is marked with
		the sign "X"

Objectives must be specified. The type of the set objectives must be justified

The basic candidate research contribution are: Theoretical and experimental validation of the methods for high-quality of pulp and paper production.

#### 1.4. Candidate research contributions:

A) With lasting scientific and / or applied response, they form the basis for new research and applications	20 points	
B) They are of significant scientific and / or applied interest, complete and / or summarize previous research	16 points	Х
C) They are of scientific and / or applied interest	12 points	
D) Lack of significant contributions	8 points	
E) Lack of contributions	0 points	
		one of the
		answers given

	is marked with
	the sign "X"

Contributions must be specified. The type of results achieved must be justified.

The scientific contributions are above 6. A dependence of the degree of delignification which takes into account the effect of all factors on the process and for obtaining maximum effect in the bleaching process with the use of xylanasic enzyme products has been derived for the first time; a new kinetic model for enzymatic hydrolysis has been created for the first time; it has been established for the first time that the chlorine dioxide in the second D1 stage has main bleaching action; A generalized dependence between the brightness and the degree of polymerization of pulp has been derived for the first time; It has been proven for the first time that the use of minimum amount of hydrogen peroxide ensures the production of pulp with high brightness.

Applied scientific contributions are above 8. It has been established that: the bleached microcrystalline pulp has low pentonsan content; bleaching process takes place most efficiently during use of laccase mediator LMS; high-quality bleached pulp with may be produced during cooking and bleaching of the annual technical crop kenaf. The optimum values for bleaching of sulphate pulp with peracetic acid and TAED.

#### 1.5. Participation of the candidate in the achievement of the presented results:

A) The candidate has at least an equal participation in the submitted papers	8 points	Х
B) The candidate has at least an equal participation in most of the submitted papers	7 points	
C) The candidate has a secondary participation in most of the submitted papers	4 points	
D) The candidate participation is unnoticeable	0 points	
		one of the answers given is marked with the sign "X"

Critical notes must be provided if one of the items C or D is marked.

The published scientific results of the applicant are as follows: 70 publications in reviewed and indexed journals; a chapter comprising 47 pages in a collective monograph; 16 inventor's certificates; a patent application. All publications are in the professional area 5.10. Chemical technologies.

# 1.6 Pedagogical activity:

A) The candidate has effective and sufficient pedagogical activity at the university. The textbooks issued are modern and useful (they meet the requirements of the Regulations). The work with undergraduate and doctoral students is at a high professional level.	8 points	
B) The candidate has sufficient pedagogical activity at the university. The textbooks issued satisfy the requirements of the Regulations.	6 points	X
C) The pedagogical activity and / or textbooks issued are insufficient (do not meet the requirements of the Regulations)	0 points	
		one of the answers given is marked with the sign "X"

Critical notes must be provided if one of the items B or C is marked.	

## 1.7. Critical notes:

A) Lack of critical notes	8 points	х
B) Critical notes of a technical nature	7 points	
C) Critical notes that would partially improve the results achieved in a small part of the research	5 points	
D) Critical notes that would partially improve the results achieved in most of the research	3 points	
E) Significant critical notes	0 points	
		one of the answers given is marked with the sign "X"

Critical notes must be provided if one of the answers C, D or E is marked.

## 1.8. Conclusion

A) The evaluation of the candidate's activity is <b>POSITIVE</b>	This evaluation is assigned to a total number of at least 50 points	Х
B) The evaluation of the candidate's activity is <b>NEGATIVE</b>	This evaluation is assigned to a total number below 50 points	
		one of the answers given is marked with the sign "X"

To be filled in if requested by the member of the scientific jury				

## 2. Report for the candidate:

Associate	PhD	Ivo	Vladimirov	Valchev
professor				
academic	scientific	name	middle name	last name
position	degree			

The structure of the report under the previous point 1 shall be respected.

## 3. Report for the candidate:

academic	scientific	name	middle name	last name
position	degree			

The structure of the report under the previous point 1 shall be respected.

# Candidate ranking (in case of more than one candidate who has received a positive evaluation to occupy the academic position):

Based on the assigned points, the candidates who have received a **positive** evaluation are ranked as follows:

	Associate	PhD	Ivo	Vladimirov	Valchev	72
1	professor					
place	academic	scientific	name	middle name	last name	points
	position	degree				
2						
place	academic	scientific	name	middle name	last name	points
	position	degree				
3						
place	academic	scientific	name	middle name	last name	points
	position	degree				

11.05.2020		
	The report was written	
	by:	
date	Prof. D.Sc. Nikolay Yosifov	signature