



## DEPARTMENT OF MATHEMATICS

### UNIVERSITY OF NORTH BENGAL

P.O. North Bengal University, Raja Rammohunpur, Dist. Darjeeling, West Bengal, India, PIN - 734013


Tel: 91 - 353 - 2776383, Fax: 91 - 353 - 2776383

---

### CERTIFICATE

I certified that Koushik Sarkar has prepared the thesis entitled “**Topology of Different Metric Spaces and Fixed Point Theories**” for the award of Ph. D. degree of the University of North Bengal, under my guidance. He has carried out the work at the Department of Mathematics, University of North Bengal.

January, 2021

  
**Prof. Manoranjan Singha**  
Professor  
Department of Mathematics  
University of North Bengal  
P.O. North Bengal University  
Raja Rammohunpur  
P.S. Matigara  
Dist. Darjeeling  
West Bengal, 734013  
India

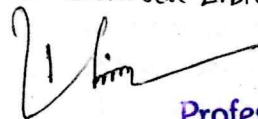
## Urkund Analysis Result

Analysed Document: Koushik Sarkar\_Mathematics.pdf (D89636901)  
 Submitted: 12/16/2020 11:56:00 AM  
 Submitted By: nbuplg@nbu.ac.in  
 Significance: 9 %

### Sources included in the report:

9fc2c269-a484-47bf-ac6d-96f975fba86e  
<https://www.spartoo.hu/Cassis-Cote-d-Azur-IBIBI-x11088071.php>  
<https://www.isr-publications.com/jnsa/1911/download-common-fixed-point-theorems-for-non-compatible-self-maps-in-b-metric-spaces>  
<https://core.ac.uk/download/pdf/145046549.pdf>  
[https://www.emis.de/journals/TJNSA/includes/files/articles/Vol9\\_Iss10\\_5661--5671\\_Some\\_coupled\\_fixed\\_point\\_results\\_on.pdf](https://www.emis.de/journals/TJNSA/includes/files/articles/Vol9_Iss10_5661--5671_Some_coupled_fixed_point_results_on.pdf)  
[https://www.emis.de/journals/TJNSA/includes/files/articles/Vol9\\_Iss6\\_3655--3671\\_Common\\_fixed\\_point\\_theorems\\_for\\_fou.pdf](https://www.emis.de/journals/TJNSA/includes/files/articles/Vol9_Iss6_3655--3671_Common_fixed_point_theorems_for_fou.pdf)  
<https://www.isr-publications.com/jnsa/1875/download-unique-common-fixed-point-theorems-on-partial-metric-spaces>  
<https://link.springer.com/content/pdf/10.1186%2F1029-242X-2013-486.pdf>  
[https://www.emis.de/journals/TJNSA/includes/files/articles/Vol9\\_Iss6\\_3527--3544\\_Some\\_common\\_coupled\\_fixed\\_point\\_res.pdf](https://www.emis.de/journals/TJNSA/includes/files/articles/Vol9_Iss6_3527--3544_Some_common_coupled_fixed_point_res.pdf)  
<https://www.math.mcgill.ca/jakobson/courses/ma354/notes-dec9.pdf>  
[https://www.emis.de/journals/TJNSA/includes/files/articles/Vol9\\_Iss3\\_1129--1142\\_Fixed\\_points\\_and\\_functional\\_equatio.pdf](https://www.emis.de/journals/TJNSA/includes/files/articles/Vol9_Iss3_1129--1142_Fixed_points_and_functional_equatio.pdf)  
[https://www.emis.de/journals/TJNSA/includes/files/articles/user\\_articles/20151116142505\\_8434\\_Mr..pdf](https://www.emis.de/journals/TJNSA/includes/files/articles/user_articles/20151116142505_8434_Mr..pdf)  
<https://core.ac.uk/download/pdf/185406894.pdf>  
<https://www.emis.de/journals/AMEN/2019/AMEN-180517.pdf>  
<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1071.8165&rep=rep1&type=pdf>  
[http://scma.maragheh.ac.ir/article\\_25889\\_18a209b89b02b6b39db270e94994f630.pdf](http://scma.maragheh.ac.ir/article_25889_18a209b89b02b6b39db270e94994f630.pdf)  
<https://users.math.msu.edu/users/yanb/849full-note.pdf>  
[https://pjm.ppu.edu/sites/default/files/papers/PJM\\_October\\_2017\\_12.pdf](https://pjm.ppu.edu/sites/default/files/papers/PJM_October_2017_12.pdf)  
[https://www.emis.de/journals/TJNSA/includes/files/articles/Vol9\\_Iss1\\_22--33\\_Fixed\\_point\\_theorems\\_for\\_\(alpha,bet\).pdf](https://www.emis.de/journals/TJNSA/includes/files/articles/Vol9_Iss1_22--33_Fixed_point_theorems_for_(alpha,bet).pdf)  
<https://www.sid.ir/FileServer/JE/55003620170228>

This is obtained from  
 Central Library, NBU.



Professor  
 Department of Mathematics  
 University of North Bengal

Instances where selected sources appear:

60

S. Ghosal  
 28/01/2021.

HEAD

Department of Mathematics  
 University of North Bengal

Koushik Sarkar