



# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

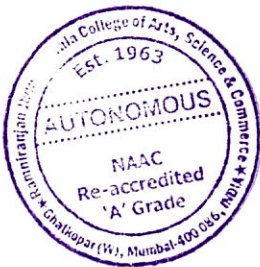
Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

## NOTICE DEGREE COLLEGE

Department of Statistics is organizing a Value Added Course in Data Analysis Using Python from 24<sup>th</sup> April 2023 onwards. Students must register for the course. The course will be of a minimum of 30 hours duration which is more practical based. Attendance and performance of practicals, assignments is compulsory for course completion certificate. The details of the contents can be obtained from the brochure available on college website.

  
HoD Statistics

  
Principal



  
PRINCIPAL  
RAMNIRANJAN JHUNJHUNWALA COLLEGE  
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)  
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

2019: Star College Status by DBT

2008: Best College by University of Mumbai 2010: IMC RBNQ Award 'Performance Excellence' for the year 2009

2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST 2014: DBT STAR College

2013 & 2014: 'Jagar Jaanivancha Award' by Govt. of Maharashtra 2016: ISO 14001:2015 2016: ISO 9001:2015 2017: ISO 27001:2013

2018: Autonomous Status by University Grants Commission (No. F. 22-1/2018(AC) - 28.05.2018) & by University of Mumbai (No.Aff./ICD/18-19/440 - 08.06.2018)





# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

## BROCHURE



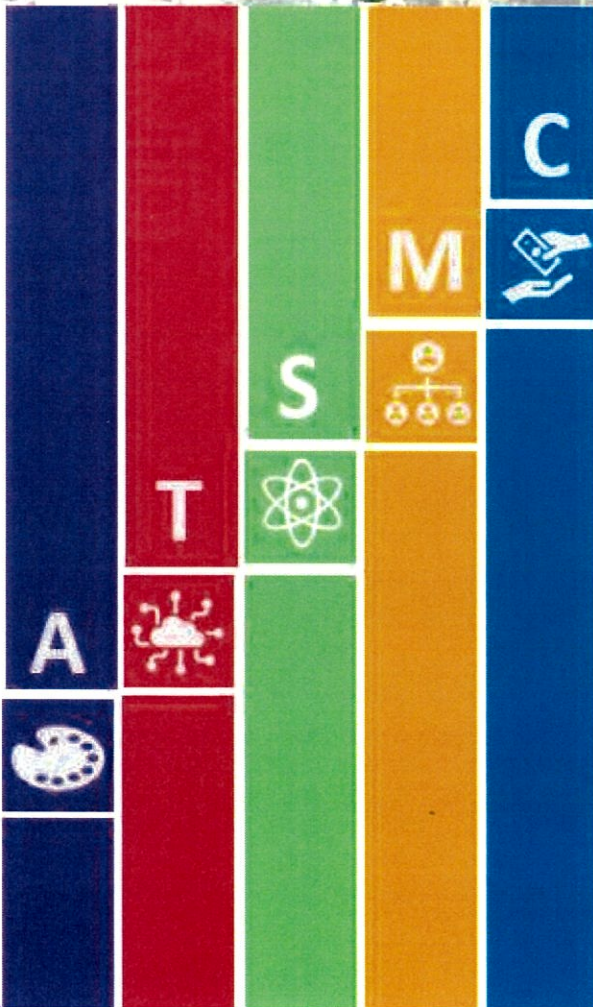
AY 2022-23

Hindi Vidya Prachar Samiti's  
**RAMNIRANJAN JHUNJHUNWALA COLLEGE (AUTONOMOUS)**

(Also known as R.J. College of Arts, Science & Commerce as per UGC Notification)

Affiliated to UNIVERSITY OF MUMBAI || Recognized by UGC under 2f & 12B  
NAAC Accredited 'A GRADE' with CGPA 3.50

# Knowledge is all Ambrosia



### CERTIFICATE COURSE IN

## DATA ANALYSIS USING PYTHON

[www.rjcollege.edu.in](http://www.rjcollege.edu.in)

[rjcollege@rjcollege.edu.in](mailto:rjcollege@rjcollege.edu.in)

+91 22 25151763

Opposite Railway Station, Ghatkopar (W),  
Mumbai 400 086, Maharashtra, INDIA.



PRINCIPAL

RAMNIRANJAN JHUNJHUNWALA COLLEGE  
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)  
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

2019: Star College Status by DBT

2008: Best College by University of Mumbai 2010: IMC RBNQ Award 'Performance Excellence' for the year 2009

2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST 2014: DBT STAR College

2014: 'Jagar Jaanivancha Award' by Govt. of Maharashtra 2016: ISO 14001:2015 2016: ISO 9001:2015 2017: ISO 27001:2013

2018: Autonomous Status by University Grants Commission (No. F. 22-1/2018(AC) - 28.05.2018) & by University of Mumbai (No.Aff.ICD/18-19/440 - 08.06.2018)





# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

## CERTIFICATE COURSE IN DATA ANALYSIS USING PYTHON



Hindi Vidya Prachar Samiti was incepted on the auspicious day of Shri Krishna Janmashtami, 15th August 1938. A brain child of a visionary Late Shri Nandkishore Singh Jairamji, samiti was established with the objectives of catering to the educational needs of the Hindi speaking community. Ramniranjan Jhunjhunwala College came into existence in 1963, enabling a larger section of the society to take advantage of the facilities provided for higher education.

From 1999-2000 the College has added a number of self-financing courses like B.M.S., B.B.I., B.Sc. in Computer Science, Information Technology, Biotechnology, M.Sc. in Computer Science, Biotechnology and Information Technology as well as add on courses, which further hone the special skills of the students.

The college has been reaccruited with 'A' Grade by NAAC in 2014 with a CGPA 3.50 and received the Best College Award (2007-2008) of the University of Mumbai. The College has been bestowed with IMC "Ramkrishna Bajaj Performance Excellence Trophy", 2010.

The Former Principal of the college was awarded "Best Teacher" by Government of Maharashtra in 2011.

Government of Maharashtra conferred the college with "JAAGAR JAANIVANCHA" (First in Mumbai Suburban- in 2013 and Second in Mumbai Suburban- in 2014) for safety of girls.

Course Code: **RJSTATC03**

Duration: **30** hours

Credits : **02**

Registration link : <https://forms.gle/D8brqdrzgTft1FDc8>

Date : April 24 – April 29, 2023

ABOUT COURSE

- This Course will be introduced to enhance the students' skills of Using Python software.
- From this course students will come to know how to write a code ,
- understanding of how to create GUIs in Python



2019: Star College Status by DBT

2008: Best College by University of Mumbai 2010: IMC RBNQ Award 'Performance Excellence' for the year 2009

2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST 2014: DBT STAR College

2013 & 2014: 'Jagar Jaanivancha Award' by Govt, of Maharashtra 2016: ISO 14001:2015 2016: ISO 9001:2015 2017: ISO 27001:2013

2018: Autonomous Status by University Grants Commission (No. F. 22-1/2018(AC) - 28.05.2018) & by University of Mumbai (No.Aff./ICD/18-19/440 - 08.06.2018)

Principal  
RAMNIRANJAN JHUNJHUNWALA COLLEGE  
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)  
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA





# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

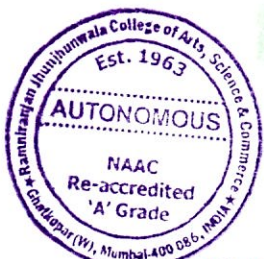
## CERTIFICATE COURSE IN DATA ANALYSIS USING PYTHON

### COURSE OBJECTIVE

Unit	Objectives	Suggested Activities	Duration	Mode of Assessment
I	Familiarize students with basic concepts and programming skills	Lectures Assignment Library work	9 hours	Quiz Assignment Practical Exam
II	Introduce essential logic concepts and programming	Lectures Assignment Library work	9 hours	Quiz Assignment Practical Exam
III	Advanced statistical concepts emphasized using python	Lectures Assignment Library work	9 hours	Quiz Assignment Practical Exam
IV	Data Analysis	Lectures Assignment Library work	3 hours	Practical Exam

### COURSE CONTENT

Unit I	Introduction to Python Programming : Introduction, Operators and Expressions. Functions: Decision Statements, Loop Control Statements, Functions Strings , Lists, Operations on Vectors, Implementation of vector class, Linear Combination and average face value.
Unit II	Tuples and Dictionaries : Tuples, Dictionaries Flow Control: if-else, for and while loop, continue and break statement , pass try catch Modules and Packages :Module, Package
Unit III	Scientific Python, Introduction to Pandas and dataframe : NumPy Basics: Arrays and Vectorized, Computation, Getting Started with pandas Data Analysis using Python : Data Loading, Storage, and File Formats Data Wrangling: Clean, Transform, Merge, Reshape Plotting and Visualization
	Text References: 1 Think Python by Allen Downey 2 Think Stats Probability and Statistics for Programmers Version 1.6.0 by Allen B. Downey, Green Tea Press, Needham, Massachusetts Web References: 1 <a href="https://www.online-python.com/">https://www.online-python.com/</a> for online Practical implementation



PRINCIPAL  
RAMNIRANJAN JHUNJHUNWALA COLLEGE  
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)  
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

2019: Star College Status by DBT

2008: Best College by University of Mumbai 2010: IMC RBNQ Award 'Performance Excellence' for the year 2009

2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST 2014: DBT STAR College

2013 & 2014: 'Jagar Jaanivancha Award' by Govt. of Maharashtra 2016: ISO 14001:2015 2016: ISO 9001:2015 2017: ISO 27001:2013

2018: Autonomous Status by University Grants Commission (No. F. 22-1/2018(AC) - 28.05.2018) & by University of Mumbai (No. Aff./ICD/18-19/440 - 08.06.2018)





# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

## CERTIFICATE COURSE IN DATA ANALYSIS USING PYTHON

EVALUATION

Evaluation Criteria	Maximum Marks	Minimum Marks to be Scored
Quiz	20	08
Assignment	10	04
Practical Exam	20	08
Total	50	20

MEDIUM OF INSTRUCTION English

50 MARKS



PASSING 20

WHO SHOULD DO IT?

ANY UG



PRINCIPAL  
RAMNIRANJAN JHUNJHUNWALA COLLEGE  
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)  
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

2019: Star College Status by DBT

2008: Best College by University of Mumbai 2010: IMC RBNQ Award 'Performance Excellence' for the year 2009

2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST 2014: DBT STAR College

2013 & 2014: 'Jagar Jaanivancha Award' by Govt, of Maharashtra 2016: ISO 14001:2015 2017: ISO 27001:2013

2018: Autonomous Status by University Grants Commission (No. F. 22-1/2018(AC) - 28.05.2018) & by University of Mumbai (No.Aff./ICD/18-19/440 - 08.06.2018)





# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

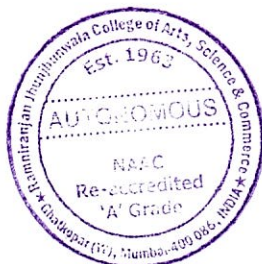
Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

## REPORT

The Department of Statistics organized a value added course in 'Data Analysis Using Python' from April 24 to 29, 2023. Mr. Suraj Singh from the Department of Statistics was a resource person for this course. The duration of this course was 30 hours. Quizzes, Assignments and Practical Exams were taken for evaluation of students. Suraj sir explained very well how to write different codes using Python software and also discussed various problems in Statistics. In all 25, SYBSC benefited from this course.

**No. of registered students = 26**

**No. of participants benefited = 25**



  
PRINCIPAL  
RAMNIRANJAN JHUNJHUNWALA COLLEGE  
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)  
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

2019: Star College Status by DBT

2008: Best College by University of Mumbai 2010: IMC RBNQ Award 'Performance Excellence' for the year 2009

2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST 2014: DBT STAR College

2013 & 2014: 'Jagar Jaanivancha Award' by Govt, of Maharashtra 2016: ISO 14001:2015 2016: ISO 9001:2015 2017: ISO 27001:2013

2018: Autonomous Status by University Grants Commission (No. F. 22-1/2018(AC) - 28.05.2018) & by University of Mumbai (No.Aff./ICD/18-19/440 - 08.06.2018)





# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

## PHOTOGRAPHS OF THE VALUE ADDED COURSE IN DATA ANALYSIS USING PYTHON PROGRAMMING



  
PRINCIPAL  
RAMNIRANJAN JHUNJHUNWALA COLLEGE  
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)  
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

2019: Star College Status by DBT

2008: Best College by University of Mumbai 2010: IMC RBNQ Award 'Performance Excellence' for the year 2009

2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST 2014: DBT STAR College

2013 & 2014: 'Jagar Jaanivancha Award' by Govt. of Maharashtra 2016: ISO 14001:2015 2016: ISO 9001:2015 2017: ISO 27001:2013

2018: Autonomous Status by University Grants Commission (No. F. 22-1/2018(AC) - 28.05.2018) & by University of Mumbai (No. Aff./ICD/18-19/440 - 08.06.2018)





# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

## LIST OF STUDENTS WHO SUCESSFULLY COMPLETED THE VALUE-ADDED COURSE

Sr No	Roll No.	Name of Student
1	301	Mangesh Patel
2	302	Swayam Dineshchandra Jaiswal
3	303	Sneha Sheshnath Maurya
4	305	Yadav Tripti Santosh
5	306	Kirti Hanumant Kadam
6	307	Karan Singh Rathod
7	308	Singh Aman Santosh Kiran
8	309	Akash Kallu Patel
9	310	Raj Virendra Yadav
10	311	Sakshi Tushar Indulkar
11	312	Himanshu Jitendra Pandey
12	313	Rani Mukeshchandra Upadhyay
13	314	Divya Deepchandra Jain
14	315	Akhilesh Shivshankar Yadav
15	316	Chirag Vishwakarma
16	317	Shailesh Rajesh Singh
17	318	Suraj Avadhesh Prajapati
18	319	Shruthi Ramesh Thootey
19	321	Gupta Amit Dinesh
20	322	Anjali Shiva Shankar Patel
21	325	Bagish Surjeet Dubey
22	327	Tabassum Khan
23	329	Rahul Hirdesh Prajapati
24	330	Sneha Divakar Yadav
25	332	Shajra Azizurrehman Khan



PRINCIPAL  
RAMNIRANJAN JHUNJHUNWALA COLLEGE  
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)  
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

2019: Star College Status by DBT

2008: Best College by University of Mumbai 2010: IMC RBNQ Award 'Performance Excellence' for the year 2009

2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST 2014: DBT STAR College

2013 & 2014: 'Jagar Jaanivancha Award' by Govt, of Maharashtra 2016: ISO 14001:2015 2016: ISO 9001:2015 2017: ISO 27001:2013

2018: Autonomous Status by University Grants Commission (No. F. 22-1/2018(AC) - 28.05.2018) & by University of Mumbai (No.Aff./ICD/18-19/440 - 08.06.2018)





# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

## CERTIFICATES



Hindi Vidya Prachar Samiti's  
RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science &  
Commerce (AUTONOMOUS)



### Certificate of Completion

This is to certify that

*Mangesh Patel*

Of SYBSC and Roll No 301

has successfully completed the Value-Added Course in **Data Analytics Using Python** organized by  
**Department of Statistics** from 24<sup>th</sup> April 2023 to 29<sup>th</sup> April 2023.

Course Code  
RJSTATC03

Issue Date: 29 April, 2023



*[Signature]*  
Dr. Himanshu Dawda  
Principal



Hindi Vidya Prachar Samiti's  
RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science &  
Commerce (AUTONOMOUS)



### Certificate of Completion

This is to certify that

*Kirti Kadam*

Of SYBSC and Roll No 306

has successfully completed the Value-Added Course in **Data Analytics Using Python** organized by  
**Department of Statistics** from 24<sup>th</sup> April 2023 to 29<sup>th</sup> April 2023.

Course Code  
RJSTATC03

Issue Date: 29 April, 2023



*[Signature]*  
Dr. Himanshu Dawda  
Principal



*[Signature]*  
PRINCIPAL  
RAMNIRANJAN JHUNJHUNWALA COLLEGE  
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)  
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

2019: Star College Status by DBT

2008: Best College by University of Mumbai 2010: IMC RBNQ Award 'Performance Excellence' for the year 2009

2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST 2014: DBT STAR College

2013 & 2014: 'Jagar Jaanivancha Award' by Govt, of Maharashtra 2016: ISO 14001:2015 2016: ISO 9001:2015 2017: ISO 27001:2013

2018: Autonomous Status by University Grants Commission (No. F. 22-1/2018(AC) - 28.05.2018) & by University of Mumbai (No.Aff./ICD/18-19/440 - 08.06.2018)