

Date:02/03/2023

To,
The Principal
K. K. Wagh College of Agriculture,
Nashik

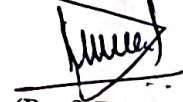
Subject Regarding permission for Certificate Course.....

Respected Sir,

On behalf of the Department of Computer Science and Statistics, we humbly request permission to initiate a Certificate course titled "Statistical Quality Control". This course is scheduled from to and will involve approximately 40 second year students. It is anticipated that this course will greatly benefit our students will acquire a range of valuable skills and knowledge that are essential for quality management and improvement in various industries. We kindly ask for your approval for the implementation of this course.

Thanking You,

Yours faithfully,


(Prof. R.M. Raundal)
Course Coordinator

Permissions granted


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K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ☒ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>

Certificate course in
'Statistical Quality Control'
Academic Year 2022-23
Syllabus Committee

Sr no	Name of teacher	Designation	Department	Role in course
1	Miss. . R. M. Raundal	Assistant Professor	Agril.Statistics	Course coordinator
2	Miss. S. D. Kale	Assistant Professor	Agril. Economics	Committee member
3	Mr.. S.S. Nikam	Assistant Professor	Computer Science	Committee member

Course Coordinator

Principal

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Date: 04/03/2023

Academic Year 2022-23
Department of Computer Science & Statistics
Minutes of the Board of Studies Meeting for the Short-Term Certificate Course

A meeting of the Board of Studies for the Short-term Certificate Course in "Statistical Quality Control" was convened on 4 March 2023, at 12:00 PM in the Department of Computer Science & Statistics. The meeting was attended by the following Syllabus Design Committee members:

Sr no	Name of the expert	Designation	Sign
1	Dr. S. M. Hadole	Principal	
2	Ms.. R. M. Raundal	Course Coordinator	
3	Ms. S.D. Kale	Member	
	Mr. S.S. Nikam	Member	

Minutes of Meeting

The Board of Studies convened a meeting on 4 March 2023, at 12:00 PM in the Department of Computer Science & Statistics to address various aspects concerning the Short-Term Certificate Course in ' Statistical Quality Control '. The meeting focused on the following key points:

1. Syllabus Formation: Members deliberated on developing a syllabus that emphasizes on relevant knowledge and skills Analysis.
2. Dissemination of Work: Strategies for effectively teaching Basic concepts in statistics were discussed to aid students in the course.
3. Encouragement of Students: The meeting stressed the importance of offering guidance and motivation to students. SQC is an excellent program to learn and begin your analysis journey. You can start with zero prior experience in data analysis
4. Examination of Short-Term Course: The examination structure and assessment methods for the short-term course were reviewed. The board explored ways to ensure fair and comprehensive evaluations that accurately assess students'

The meeting concluded with a commitment to refine the course and its delivery methods to better meet the needs of students enrolled in the Certificate Course in 'Statistical Quality

Control '

Course coordinator

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Department of Computer Science & Statistics
Certificate course in
'Statistical Quality Control'
Academic 2022-23

Syllabus Outcomes:

1. Demonstrate a clear understanding of quality definitions, principles, and the importance of quality control in various industries.
2. Understanding Quality Control Principles
3. Calculate and interpret key descriptive statistics such as mean, median, mode, variance, and standard deviation.
4. Make informed decisions based on control chart analysis, including identifying and addressing sources of variation.

Sr no	Topic	Description	No of Lectures
Day 1	Introduction to Statistical Quality Control	Introduction to Quality Control and Assurance-Definitions and importance, Historical perspective and evolution, Key quality control principles and terminology	(4 hours)
Day 2	Descriptive Statistics for Quality Control	<ul style="list-style-type: none">• Measures of Central Tendency (Mean, Median, Mode)• Measures of Dispersion (Range, Variance, Standard Deviation)• Data Visualization: Histograms, Box Plots, Pareto Charts	(4 hours)
Day 3	Control Charts for Variables	<ul style="list-style-type: none">• Concept of Control Charts• Control Limits and Zones• Types of Control Charts: X-bar, R, S	(4 hours)
Day 4	Implementing Variable Control Charts	<ul style="list-style-type: none">• Constructing and Interpreting X-bar and R Charts	(4 hours)
Day 5	Attribute Control Charts	<ul style="list-style-type: none">• Types of Attribute Control Charts: p, np, c, u Charts• Constructing and Interpreting Attribute Control Charts	(4 hours)
Day 6	Advanced Control Charts	<ul style="list-style-type: none">• Moving Average and Exponentially Weighted Moving Average (EWMA) Charts	(4 hours)

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		• Multivariate Control Charts	
Day 7	Process Capability Analysis	• Concept of Process Capability • Calculating Process Capability Indices (Cp, Cpk) • Analyzing Process Performance	(4 hours)
Day 8	Process Improvement Techniques	Root Cause Analysis and Corrective Actions	(4 hours)
		Total	32 (Hours)

Course Coordinator

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Certificate course in Statistical Quality Control
Academic Year 2022-23

Examination Methodology

Sr no	Nature of exam	Marks
1	Written	30
2	Practical	20
3	Total	50

Text and Reference books:

Textbooks: "Introduction to Statistical Quality Control" by Douglas C. Montgomery
Elementary Statistical Methods
Fundamentals of Statistics

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Date: 04/03/2023

Student Notice

All the students of B. Sc. (Hons.) Agriculture final year are informed that for the academic year 2023-24 the Certificate Course on 'Statistical Quality Control' is starting from 13/03/2023 to 20/03/2023. For this certificate course students should submit their names to the Certificate Course Coordinator Assistant Prof. R.M.Raundal up to 08/03/2023.

Duration: 32 Hrs. 13/03/2023 to 20/03/2023
Time: Morning Session: 07.00 am to 10.00 am
Evening session: 5.30pm to 08.30 pm

Note: This course is free of cost to all students.

Course Coordinator



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STUDENT REGISTRATION FORM

Academic Year: 2022-23

(Department of Computer Science & Statistics)

CERTIFICATE COURSE

' Statistical Quality Control '



For Department Use Only

Registration No.: AKN-2022/074

Student ID: 0622021301

Name of the Student: Parekh, Prayush, Sunilbhai

Mother's Name: Sweeta, Sunil, Parekh

Father's Name: Sunil, Jagmohan, Parekh Year: 1st / 2nd / 3rd / 4th

E-Mail ID: prayush.parekh.04@gmail.com

Address: Omkareshwar hostel, Omkareshwar colony, mane nagar, Nashik

State: Maharashtra PIN Code: 422003

Mobile No: 9152252772 Alternate contact number: 9892462540

Gender: Male Female Other Religion: Hindu

Date of Birth: 15/09/2004

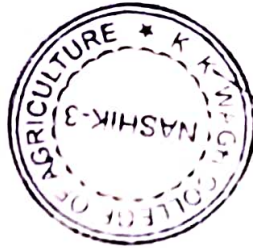
Educational Qualification (at the time of admission):

HSC Other

Parekh
Signature of Student

Place: Nashik

Date: 5/08/2024





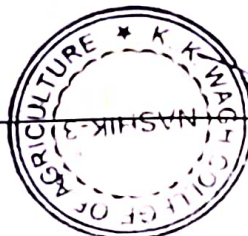
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Department of Computer Science & Statistics
Certificate course in
'Statistical Quality Control'
Academic Year 2022-23

Enrolled Student List

SR NO	REGISTRATION NO	NAME OF STUDENT
1	AKN-2022/001	Avhad Gayatri Popat
2	AKN-2022/002	Avhad Om Subhash
3	AKN-2022/006	Barbade Kaveri Pralhad
4	AKN-2022/013	Bodke Rohit Ganesh
5	AKN-2022/016	Chakor Atharva Balasaheb
6	AKN-2022/018	Chavan Mokshada Pravin
7	AKN-2022/019	Chavan Rudrakshi Gokul
8	AKN-2022/024	Datir Harshada Dattatray
9	AKN-2022/030	Ganore Sarthak Babu
10	AKN-2022/031	Gawali Adinath Baban
11	AKN-2022/034	Gumbade Harsh Subhash
12	AKN-2022/035	Hyalij Mahesh Vijay
13	AKN-2022/037	Ingle Soham Udaysing
14	AKN-2022/042	Jadhav Srushti Subhash
15	AKN-2022/045	Jagtap Janhavi Gangadhar
16	AKN-2022/046	Jagtap Pradnesh Raju
17	AKN-2022/047	Jeughale Ishwari Ravindra
18	AKN-2022/051	Kapse Sanskruti Balasaheb
19	AKN-2022/052	Kathe Tanvi Chandrakant
20	AKN-2022/057	Khedkar Sarthak Jalindar
21	AKN-2022/058	Kothavade Anuja Yogesh





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22	AKN-2022/068	Nalawade Sahil Vitthal
23	AKN-2022/070	Nayak Pushendra Ambalal
24	AKN-2022/073	Pardeshi Priyanka Gopalsing
25	AKN-2022/074	Parekh Prayush Sunilbhai
26	AKN-2022/078	Patil Mayur Anil
27	AKN-2022/082	Patil Yash Dnyaneshwar
28	AKN-2022/090	Salunke Rushikesh Sanjay
29	AKN-2022/093	Sandhan Omkar Sanjay
30	AKN-2022/099	Shinde Diksha Rajendra
31	AKN-2022/100	Shinde Pooja Arun
32	AKN-2022/101	Shinde Pratik Vilas
33	AKN-2022/102	Shinde Samadhan Arun
34	AKN-2022/104	Shinde Snehal Madhukar
35	AKN-2022/105	Shinde Tanmay Vijay
36	AKN-2022/106	Shingote Avdhoot Sopan
37	AKN-2022/109	Take Shekhar Sachin
38	AKN-2022/110	Tambe Adesh Indrabhan
39	AKN-2022/116	Wagh Gaurav Ganesh
40	AKN-2022/123	Ruandal Ishwar Nitin

Course Coordinator

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Department of Computer Science & Statistics
Certificate course in
'Statistical Quality Control'
Academic Year 2022-23
Schedule of the course

Sr no	Topic	Description	Name of the teacher	Department
1	Introduction to Statistical Quality Control	Introduction to Quality Control and Assurance- Definitions and importance, Historical perspective and evolution, Key quality control principles and terminology	Ms. R M. Raundal	Department of Computer Science & Statistics
2	Descriptive Statistics for Quality Control	<ul style="list-style-type: none">• Measures of Central Tendency (Mean, Median, Mode)• Measures of Dispersion (Range, Variance, Standard Deviation)• Data Visualization: Histograms, Box Plots, Pareto Charts	Ms. R M. Raundal	Department of Computer Science & Statistics
3	Control Charts for Variables	<ul style="list-style-type: none">• Concept of Control Charts• Control Limits and Zones• Types of Control Charts: X-bar, R, S .	Ms. R M. Raundal	Department of Computer Science & Statistics
	Implementing Variable Control Charts	<ul style="list-style-type: none">• Constructing and Interpreting X-bar and R Charts	Mr. S.S. Nikam	Department of Computer Science & Statistics
4	Process Capability Analysis	Process Capability Analysis <ul style="list-style-type: none">• Concept of Process Capability	Ms. S.D.Kale	Department of Agricultural Economics
5	Attribute Control Charts	<ul style="list-style-type: none">• Types of Attribute Control Charts: p, np, c, u Charts• Constructing and	Ms.. S.D.Kale	Department of Agricultural Economics






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		Interpreting Attribute Control Charts		
6	Advanced Control Charts	<ul style="list-style-type: none">• Moving Average and Exponentially Weighted Moving Average (EWMA) Charts• Multivariate Control Charts	Mr.. S.S. Nikam	Department of Computer Science & Statistics
7	Process Capability Analysis	<ul style="list-style-type: none">• Concept of Process Capability, Process Capability Indices (Cp, Cpk)• Analyzing Process Performance	Ms. . R M. Raundal	Department of Computer Science & Statistics
8	Process Improvement Techniques	Root Cause Analysis and Corrective Actions	Ms. R M. Raundal	Department of Computer Science & Statistics


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Department of Computer Science & Statistics

**Certificate course in
'Introduction to C Programming'
Academic Year 2022-23**

Time Table

Sr no	Date	Time		Topic
1	13/03/2023	7.00-10.00	5.30-8.30	Introduction to Statistical Quality Control
2	14/03/2023	7.00-10.00	5.30-8.30	Descriptive Statistics for Quality Control
3	15/03/2023	7.00-10.00	5.30-8.30	Control Charts for Variables
4	16/03/2023	7.00-10.00	5.30-8.30	Implementing Variable Control Charts
5	17/03/2023	7.00-10.00	5.30-8.30	Process Capability Analysis
6	18/03/2023	7.00-10.00	5.30-8.30	Advanced Control Charts
7	19/03/2023	7.00-10.00	5.30-8.30	Process Capability Analysis
8	20/03/2023	7.00-10.00	5.30-8.30	Process Improvement Techniques

Course Coordinator

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Saraswatinagar, Panchavati, Nashik



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K K WAGH COLLEGE OF AGRICULTURE, NASHIK
 Department of Computer Science & Statistics
 Certificate course in Statistical Quality Control
 Academic Year 2022-23

Sr No	Registration no	Name of students	Date:	13/03/2023		14/03/2023		15/03/2023		16/03/2023	
				Time: 7.00-10.00	5.30-8.30	7.00-10.00	5.30-8.30	7.00-10.00	5.30-8.30	7.00-10.00	05.00-08.30
1	AKN-2022/001	Avhad Gayatri Popat		Gayatri	Gayatri	Gayatri	Gayatri	Gayatri	Gayatri	Gayatri	Gayatri
2	AKN-2022/002	Avhad Om Subhash		Avhad	Avhad	Avhad	Avhad	Avhad	Avhad	Avhad	Avhad
3	AKN-2022/006	Barbade Kaveri Pralhad		KPR	KPR	KPR	KPR	KPR	KPR	KPR	KPR
4	AKN-2022/013	Bodke Rohit Ganesh		Rodke	Rodke	Rodke	Rodke	Rodke	Rodke	Rodke	Rodke
5	AKN-2022/016	Chakor Atharva Balasaheb		Chakor	Chakor	Chakor	Chakor	Chakor	Chakor	Chakor	Chakor
6	AKN-2022/018	Chavan Mokshada Pravin		Chav	Chav	Chav	Chav	Chav	Chav	Chav	Chav
7	AKN-2022/019	Chavan Rudrakshi Gokul		Rosh	Rosh	Rosh	Rosh	Rosh	Rosh	Rosh	Rosh
8	AKN-2022/024	Datir Harshada Dattatray		Hdahir	Hdahir	Hdahir	Hdahir	Hdahir	Hdahir	Hdahir	Hdahir
9	AKN-2022/030	Ganore Sarthak Bapu		Sry	Sry	Sry	Sry	Sry	Sry	Sry	Sry
10	AKN-2022/031	Gawali Adinath Baban		Gawal	Gawal	Gawal	Gawal	Gawal	Gawal	Gawal	Gawal
11	AKN-2022/034	Gumbade Harsh Subhash		Hese	Hese	Hese	Hese	Hese	Hese	Hese	Hese
12	AKN-2022/035	Hyalij Mahesh Vijay		Mhali	Mhali	Mhali	Mhali	Mhali	Mhali	Mhali	Mhali
13	AKN-2022/037	Ingle Soham Udaysing		S.I. Ingle	S.I. Ingle	S.I. Ingle	S.I. Ingle	S.I. Ingle	S.I. Ingle	S.I. Ingle	S.I. Ingle
14	AKN-2022/042	Jadhav Srushti Subhash		Srushti	Srushti	Srushti	Srushti	Srushti	Srushti	Srushti	Srushti
15	AKN-2022/045	Jagtap Janhavi Gangadhar		Jes	Jes	Jes	Jes	Jes	Jes	Jes	Jes
16	AKN-2022/046	Jagtap Pradnesh Raju		Jagtap	Jagtap	Jagtap	Jagtap	Jagtap	Jagtap	Jagtap	Jagtap
17	AKN-2022/047	Jeughale Ishwari Ravindra		Ishwari	Ishwari	Ishwari	Ishwari	Ishwari	Ishwari	Ishwari	Ishwari
18	AKN-2022/051	Kapse Sanskruti Balasaheb		Sks	Sks	Sks	Sks	Sks	Sks	Sks	Sks
19	AKN-2022/052	Kathe Tanvi Chandrakant		Ka	Ka	Ka	Ka	Ka	Ka	Ka	Ka
20	AKN-2022/057	Khedkar Sarthak Jalindar		Sarthak	Sarthak	Sarthak	Sarthak	Sarthak	Sarthak	Sarthak	Sarthak



Sr No	Registration no	Name of students	Date:	17/03/2023		18/03/2023		19/03/2023		20/3/2023	
				Time:	7:00-10:00	5:30-8:30	7:00-10:00	5:30-8:30	7:00-10:00	5:30-8:30	7:00-10:00
21	AKN-2022/058	Kothavade Anuja Yogesh		Kothavade	Kothavade	Kothavade	Kothavade	Kothavade	Kothavade	Kothavade	Kothavade
22	AKN-2022/068	Nalawade Sahil Vitthal		Sahil	Sahil	Sahil	Sahil	Sahil	Sahil	Sahil	Sahil
23	AKN-2022/070	Nayak Pushpendra Ambalal		Nayak	Nayak	Nayak	Nayak	Nayak	P.A. Nayak	P.A. Nayak	P.A. Nayak
24	AKN-2022/073	Pardeshi Priyanka Gopalsing		P.P. Gopal	P.P. Gopal	P.P. Gopal	P.P. Gopal	P.P. Gopal	P.P. Gopal	P.P. Gopal	P.P. Gopal
25	AKN-2022/074	Parekh Prayush Sunilbhai		Prayush	Prayush	Prayush	Prayush	Prayush	Prayush	Prayush	Prayush
26	AKN-2022/078	Patil Mayur Anil		Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
27	AKN-2022/082	Patil Yash Dnyaneshwar		Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
28	AKN-2022/090	Salunke Rushikesh Sanjay		Salunke	Salunke	Salunke	Salunke	Salunke	Salunke	Salunke	Salunke
29	AKN-2022/093	Sandhan Omkar Sanjay		Sandhan	Sandhan	Sandhan	Sandhan	Sandhan	Sandhan	Sandhan	Sandhan
30	AKN-2022/099	Shinde Diksha Rajendra		Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
31	AKN-2022/100	Shinde Pooja Arun		Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
32	AKN-2022/101	Shinde Pratik Vilas		PVS	PVS	PVS	PVS	PVS	PVS	PVS	PVS
33	AKN-2022/102	Shinde Samadhan Arun		Samadhan	Samadhan	Samadhan	Samadhan	Samadhan	Samadhan	Samadhan	Samadhan
34	AKN-2022/104	Shinde Snehal Madhukar		Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
35	AKN-2022/105	Shinde Tanmay Vijay		Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
36	AKN-2022/106	Shingote Avdhoot Sopan		Avdhoot	Avdhoot	Avdhoot	Avdhoot	Avdhoot	Avdhoot	Avdhoot	Avdhoot
37	AKN-2022/109	Take Shekhar Sachin		Take	Take	Take	Take	Take	Take	Take	Take
38	AKN-2022/110	Tambe Adesh Indrabhan		A.J. Tambe	A.J. Tambe	A.J. Tambe	A.J. Tambe	A.J. Tambe	A.J. Tambe	A.J. Tambe	A.J. Tambe
39	AKN-2022/116	Wagh Gaurav Ganesh		Wagh	Wagh	Wagh	Wagh	Wagh	Wagh	Wagh	Wagh
40	AKN-2022/123	Ruandal Ishwar Nitin		Ruandal	Ruandal	Ruandal	Ruandal	Ruandal	Ruandal	Ruandal	Ruandal

Course Coordinator



Principal P.A.L.
K.K. Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik

K K WAGH COLLEGE OF AGRICULTURE, NASHIK
 Department of Computer Science & Statistics
 Certificate course in Statistical Quality Control
 Academic Year 2022-23

Sr No	Registration no	Name of students	Date:	13/03/2023		14/03/2023		15/03/2023		16/03/2023	
				Time: 7:00-10:00	5:30-8:30	7:00-10:00	5:30-8:30	7:00-10:00	5:30-8:30	7:00-10:00	05:00-08:30
21	AKN-2022/058	Kothavade Anuja Yogesh		Kothavade	Kothavade	Kothavade	Kothavade	Kothavade	Kothavade	Kothavade	Kothavade
22	AKN-2022/068	Nalawade Sahil Vitthal		Sahil	Sahil	Sahil	Sahil	Sahil	Sahil	Sahil	Sahil
23	AKN-2022/070	Nayak Pushpendra Ambalal		P.A. Nayak	P.A. Nayak	P.A. Nayak	P.A. Nayak	P.A. Nayak	P.A. Nayak	P.A. Nayak	P.A. Nayak
24	AKN-2022/073	Pardeshi Priyanka Gopalsing		P.P. Gopal	P.P. Gopal	P.P. Gopal	P.P. Gopal	P.P. Gopal	P.P. Gopal	P.P. Gopal	P.P. Gopal
25	AKN-2022/074	Parekh Prayush Sunilbhai		Prayush	Prayush	Prayush	Prayush	Prayush	Prayush	Prayush	Prayush
26	AKN-2022/078	Patil Mayur Anil		MS	MS	MS	MS	MS	MS	MS	MS
27	AKN-2022/082	Patil Yash Dnyaneshwar		Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
28	AKN-2022/090	Salunke Rushikesh Sanjay		R.S. Salunke	R.S. Salunke	R.S. Salunke	R.S. Salunke	R.S. Salunke	R.S. Salunke	R.S. Salunke	R.S. Salunke
29	AKN-2022/093	Sandhan Omkar Sanjay		Sandhan	Sandhan	Sandhan	Sandhan	Sandhan	Sandhan	Sandhan	Sandhan
30	AKN-2022/099	Shinde Diksha Rajendra		Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
31	AKN-2022/100	Shinde Pooja Arun		Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
32	AKN-2022/101	Shinde Pratik Vilas		PVS	PVS	PVS	PVS	PVS	PVS	PVS	PVS
33	AKN-2022/102	Shinde Samadhan Arun		Samadhan	Samadhan	Samadhan	Samadhan	Samadhan	Samadhan	Samadhan	Samadhan
34	AKN-2022/104	Shinde Snehal Madhukar		Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
35	AKN-2022/105	Shinde Tanmay Vijay		Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
36	AKN-2022/106	Shingote Avdhoot Sopan		Avdhoot	Avdhoot	Avdhoot	Avdhoot	Avdhoot	Avdhoot	Avdhoot	Avdhoot
37	AKN-2022/109	Take Shekhar Sachin		Take	Take	Take	Take	Take	Take	Take	Take
38	AKN-2022/110	Tambe Adesh Indrabhan		A.T. Tambe	A.T. Tambe	A.T. Tambe	A.T. Tambe	A.T. Tambe	A.T. Tambe	A.T. Tambe	A.T. Tambe
39	AKN-2022/116	Wagh Gaurav Ganesh		Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav	Gaurav
40	AKN-2022/123	Ruandal Ishwar Nitin		Ruandal	Ruandal	Ruandal	Ruandal	Ruandal	Ruandal	Ruandal	Ruandal



Sr No	Registration no	Name of students	Date:	17/03/2023		18/03/2023		19/03/2023		20/3/2023	
				Time: 7:00-10:00	5:30-8:30	7:00-10:00	5:30-8:30	7:00-10:00	5:30-8:30	7:00-10:00	05:00-08:30
1	AKN-2022/001	Avhad Gayatri Popat		Gayatri	Gayatri	Gayatri	Gayatri	Gayatri	Gayatri	Gayatri	Gayatri
2	AKN-2022/002	Avhad Om Subhash		Avhad	Avhad	Avhad	Avhad	Avhad	Avhad	Avhad	Avhad
3	AKN-2022/006	Barbade Kaveri Pralhad		KPR	KPR	KPR	KPR	KPR	KPR	KPR	KPR
4	AKN-2022/013	Bodke Rohit Ganesh		Rbodke	Rbodke	Rbodke	Rbodke	Rbodke	Rbodke	Rbodke	Rbodke
5	AKN-2022/016	Chakor Atharva Balasaheb		Chakor	Chakor	Chakor	Chakor	Chakor	Chakor	Chakor	Chakor
6	AKN-2022/018	Chavan Mokshada Pravin		Chavan	Chavan	Chavan	Chavan	Chavan	Chavan	Chavan	Chavan
7	AKN-2022/019	Chavan Rudrakshi Gokul		RChavan	RChavan	RChavan	RChavan	RChavan	RChavan	RChavan	RChavan
8	AKN-2022/024	Datir Harshada Dattatray		HDatir	HDatir	HDatir	HDatir	HDatir	HDatir	HDatir	HDatir
9	AKN-2022/030	Ganore Sarthak Babu		Sganore	Sganore	Sganore	Sganore	Sganore	Sganore	Sganore	Sganore
10	AKN-2022/031	Gawali Adinath Baban		Gawali	Gawali	Gawali	Gawali	Gawali	Gawali	Gawali	Gawali
11	AKN-2022/034	Gumbade Harsh Subhash		HGumbade	HGumbade	HGumbade	HGumbade	HGumbade	HGumbade	HGumbade	HGumbade
12	AKN-2022/035	Hyalij Mahesh Vijay		MHyalij	MHyalij	MHyalij	MHyalij	MHyalij	MHyalij	MHyalij	MHyalij
13	AKN-2022/037	Ingle Soham Udaysing		SIngle	SIngle	SIngle	SIngle	SIngle	SIngle	SIngle	SIngle
14	AKN-2022/042	Jadhav Srushti Subhash		SJadhav	SJadhav	SJadhav	SJadhav	SJadhav	SJadhav	SJadhav	SJadhav
15	AKN-2022/045	Jagtap Janhavi Gangadhar		JJagtap	JJagtap	JJagtap	JJagtap	JJagtap	JJagtap	JJagtap	JJagtap
16	AKN-2022/046	Jagtap Pradnesh Raju		PJagtap	PJagtap	PJagtap	PJagtap	PJagtap	PJagtap	PJagtap	PJagtap
17	AKN-2022/047	Jeughale Ishwari Ravindra		IJeughale	IJeughale	IJeughale	IJeughale	IJeughale	IJeughale	IJeughale	IJeughale
18	AKN-2022/051	Kapse Sanskruti Balasaheb		SKapse	SKapse	SKapse	SKapse	SKapse	SKapse	SKapse	SKapse
19	AKN-2022/052	Kathe Tanvi Chandrakant		TKathe	TKathe	TKathe	TKathe	TKathe	TKathe	TKathe	TKathe
20	AKN-2022/057	Khedkar Sarthak Jalindar		KSarthak	KSarthak	KSarthak	KSarthak	KSarthak	KSarthak	KSarthak	KSarthak


Course Coordinator




Principal
K.K. Wagh College of Agriculture, Nashik
Saraswatinagar, Panchavati, Nashik



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003, Maharashtra
College Code:11135 AISHE Code: C-50690

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Department of Computer Science & Statistics

Certificate course in
Statistical Quality Control Academic Year 2022-23

Exam Time Table

All enrolled students of the Certificate Course are hereby informed that for the academic year 2019-20, the Certificate Course on Statistical Quality Control has been completed. The examination for this certificate course is scheduled to be conducted on 23/03/2023. Therefore, all students are required to be present without exception.

Note: Time Table is as follow

Sr no	Date	Time	Certificate course subject
1	23/03/2020	08:00 to 09:00 am	Theory exam: Statistical Quality Control
2		09:00 to 10:00 am	Practical Exam: Statistical Quality Control

Course Coordinator

Exam Incharge

Principal
PRINCIPAL
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik





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Department of Computer Science & Statistics
Certificate course in ' Statistical Quality Control '
Academic Year 2022-23
Exam Block Report

Class- Final Year

Date- 23/03/2023

Subject: Theory Paper of Statistical Quality Control

Block no: 02

SR NO	REGISTRATION NO	NAME OF STUDENT	SIGN
1	AKN-2022/001	Avhad Gayatri Popat	Avhad
2	AKN-2022/002	Avhad Om Subhash	Avhad
3	AKN-2022/006	Barbade Kaveri Pralhad	Barbade
4	AKN-2022/013	Bodke Rohit Ganesh	Rodke
5	AKN-2022/016	Chakor Atharva Balasaheb	Chakor
6	AKN-2022/018	Chavan Mokshada Pravin	Chavan
7	AKN-2022/019	Chavan Rudrakshi Gokul	Chavan
8	AKN-2022/024	Datir Harshada Dattatray	Datir
9	AKN-2022/030	Ganore Sarthak Bapu	Ganore
10	AKN-2022/031	Gawali Adinath Baban	Gawali
11	AKN-2022/034	Gumbade Harsh Subhash	Gumbade
12	AKN-2022/035	Hyalij Mahesh Vijay	Hyalij
13	AKN-2022/037	Ingle Soham Udaysing	SI. Ingle
14	AKN-2022/042	Jadhav Srushti Subhash	Srushti
15	AKN-2022/045	Jagtap Janhavi Gangadhar	Jagtap
16	AKN-2022/046	Jagtap Pradnesh Raju	Jagtap
17	AKN-2022/047	Jeughale Ishwari Ravindra	Jeughale
18	AKN-2022/051	Kapse Sanskruti Balasaheb	S.K. Kapse
19	AKN-2022/052	Kathe Tanvi Chandrakant	Kathe
20	AKN-2022/057	Khedkar Sarthak Jalindar	Khedkar
21	AKN-2022/058	Kothavade Anuja Yogesh	Kothavade
22	AKN-2022/068	Nalawade Sahil Vitthal	Sahil
23	AKN-2022/070	Nayak Pushpendra Ambalal	PANAYAK





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SR NO	REGISTRATION NO	NAME OF STUDENT	SIGN
24	AKN-2022/073	Pardeshi Priyanka Gopalsing	<u>P.P. Gopal</u>
25	AKN-2022/074	Parekh Prayush Sunilbhai	<u>Prayush</u>
26	AKN-2022/078	Patil Mayur Anil	<u>Mayur</u>
27	AKN-2022/082	Patil Yash Dnyaneshwar	<u>Yash</u>
28	AKN-2022/090	Salunke Rushikesh Sanjay	<u>Rushikesh</u>
29	AKN-2022/093	Sandhan Omkar Sanjay	<u>Sandhan</u>
30	AKN-2022/099	Shinde Diksha Rajendra	<u>Shinde</u>
31	AKN-2022/100	Shinde Pooja Arun	<u>Shinde.</u>
32	AKN-2022/101	Shinde Pratik Vilas	<u>PVS</u>
33	AKN-2022/102	Shinde Samadhan Arun	<u>Samadhan</u>
34	AKN-2022/104	Shinde Snehal Madhukar	<u>Shinde</u>
35	AKN-2022/105	Shinde Tanmay Vijay	<u>Tanmay</u>
36	AKN-2022/106	Shingote Avdhoot Sopan	<u>Avdhoot</u>
37	AKN-2022/109	Take Shekhar Sachin	<u>Take</u>
38	AKN-2022/110	Tambe Adesh Indrabhan	<u>A.J. Tambe</u>
39	AKN-2022/116	Wagh Gaurav Ganesh	<u>Gaurav</u>
40	AKN-2022/123	Ruandal Ishwar Nitin	<u>Ruandal</u>

Total no of student:

No of student present:

No of students absent:

[Signature]
Name and Sign of Jr. Supervisor

[Signature]
Name and Sign of Sr. Supervisor





K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
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Department of Computer Science & Statistics

Certificate course in
Statistical Quality Control '
Academic Year 2022-23

Student Result

Sr. No.	Registration no	Name of the students	Theory marks (30)	Practical Marks (20)	Mark Out of Total 50
1	AKN-2022/001	Avhad Gayatri Popat	25	16	41
2	AKN-2022/002	Avhad Om Subhash	24	15	39
3	AKN-2022/006	Barbade Kaveri Pralhad	27	18	45
4	AKN-2022/013	Bodke Rohit Ganesh	28	17	45
5	AKN-2022/016	Chakor Atharva Balasaheb	29	16	45
6	AKN-2022/018	Chavan Mokshada Pravin	25	19	44
7	AKN-2022/019	Chavan Rudrakshi Gokul	27	25 15	42
8	AKN-2022/024	Datir Harshada Dattatray	26	18	44
9	AKN-2022/030	Ganore Sarthak Bapu	28	18	46
10	AKN-2022/031	Gawali Adinath Baban	29	20	49
11	AKN-2022/034	Gumbade Harsh Subhash	29	19	48
12	AKN-2022/035	Hyalij Mahesh Vijay	25	15	40
13	AKN-2022/037	Ingle Soham Udaising	23	17	40
14	AKN-2022/042	Jadhav Srushti Subhash	21	16	37
15	AKN-2022/045	Jagtap Janhavi Gangadhar	25	18	43
16	AKN-2022/046	Jagtap Pradnesh Raju	27	16	43
17	AKN-2022/047	Jeughale Ishwari Ravindra	22	17	39
18	AKN-2022/051	Kapse Sanskruti Balasaheb	21	19	40
19	AKN-2022/052	Kathe Tanvi Chandrakant	28	15	43
20	AKN-2022/057	Khedkar Sarthak Jalindar	25	17	42
21	AKN-2022/058	Kothavade Anuja Yogesh	23	16	39
22	AKN-2022/068	Nalawade Sahil Vitthal	25	14	39





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Sr.No.	Registration no	Name of the students	Theory marks (30)	Practical Marks (20)	Mark Out of Total 50
23	AKN-2022/070	Nayak Pushpendra Ambalal	27	15	42
24	AKN-2022/073	Pardeshi Priyanka Gopalsing	29	18	47
25	AKN-2022/074	Parekh Prayush Sunilbhai	25	19	44
26	AKN-2022/078	Patil Mayur Anil	26	17	43
27	AKN-2022/082	Patil Yash Dnyaneshwar	29	16	45
28	AKN-2022/090	Salunke Rushikesh Sanjay	22	18	40
29	AKN-2022/093	Sandhan Omkar Sanjay	28	17	45
30	AKN-2022/099	Shinde Diksha Rajendra	25	15	40
31	AKN-2022/100	Shinde Pooja Arun	27	17	44
32	AKN-2022/101	Shinde Pratik Vilas	22	19	41
33	AKN-2022/102	Shinde Samadhan Arun	23	18	41
34	AKN-2022/104	Shinde Snehal Madhukar	27	16	43
35	AKN-2022/105	Shinde Tanmay Vijay	25	15	40
36	AKN-2022/106	Shingote Avdhoot Sopan	23	16	39
37	AKN-2022/109	Take Shekhar Sachin	22	17	39
38	AKN-2022/110	Tambe Adesh Indrabhan	27	19	46
39	AKN-2022/116	Wagh Gaurav Ganesh	29	15	44
40	AKN-2022/123	Ruandal Ishwar Nitin	25	17	42

Course Coordinator

Principal

PRINCIPAL

K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik



29.

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K. K. Wagh College of Agriculture, Nashik
Department of Computer Science & Statistics
Academic Year 2022-23
Certificate course in
'Statistical Quality Control'

Theory Examination

Class:	5.Y. BSc agri	Semester	III
Day and Date	23/03/2020	Time	8:00-9:00 AM
Subject	Statistical Quality Control	Marks	30
Name of Student	Patil Yash Dnyaneshwar	Registration Number	AKN-20221032

Multiple Choice Questions

1. What is the primary purpose of Statistical Quality Control (SQC)?

- A. To reduce production costs
- B. To maintain consistent quality
- C. To improve employee productivity
- D. To increase sales

2. Which of the following is not a basic tool of SQC?

- A. Control charts
- B. Pareto charts
- C. Histogram
- D. Marketing surveys

3. What does a control chart help to identify in a process?

- A. The root cause of defects
- B. Variations over time
- C. Customer satisfaction levels
- D. Employee performance

4. In a control chart, what do the upper and lower control limits represent?

- A. Desired target values
- B. Limits within which the process operates in control
- C. Maximum and minimum possible values
- D. The average value of the process

5. Which of the following is a type of control chart for variables?

- A. p-chart
- B. c-chart
- C. X-bar chart
- D. u-chart



6. What is the main difference between X-bar chart and R-chart?

- A. X-bar chart monitors process average, R-chart monitors process variability
- B. X-bar chart is for attribute data, R-chart is for variable data
- C. X-bar chart is used for large samples, R-chart is for small samples
- D. X-bar chart is more accurate than R-chart

7. Which chart is used for monitoring the proportion of defectives in a process?

- A. X-bar chart
- B. p-chart
- C. R-chart
- D. np-chart

8. What is the role of the Pareto chart in quality control?

- A. To identify the cause of defects
- B. To prioritize problems based on their frequency
- C. To display the trend of a process over time
- D. To measure process capability

9. Which term describes the natural variability in a process?

- A. Assignable cause
- B. Common cause
- C. Defect
- D. Out of control

10. What is the primary use of a scatter diagram in SQC?

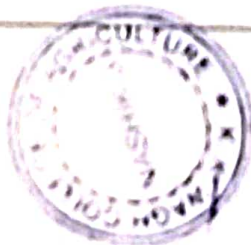
- A. To compare different processes
- B. To identify the relationship between two variables
- C. To measure process performance
- D. To track the frequency of defects

11. What is process capability?

- A. The ability of a process to produce defect-free products
- B. The range within which a process operates under control
- C. The consistency of a process to meet specifications
- D. The speed at which a process operates

12. Which of the following is not a component of a fishbone diagram?

- A. Materials
- B. Methods
- C. Management
- D. Marketing



13. What does the acronym DMAIC stand for in Six Sigma?

- A. Define, Measure, Analyze, Improve, Control
- B. Design, Manage, Act, Implement, Control
- C. Develop, Measure, Act, Improve, Check
- D. Define, Monitor, Act, Implement, Control

14. Which control chart is used to monitor the number of defects per unit?

- A. p-chart
- B. c-chart
- C. X-bar chart
- D. R-chart

15. What is the purpose of a histogram in quality control?

- A. To identify patterns and trends
- B. To show the distribution of data
- C. To compare different categories
- D. To track changes over time

16. What does a p-chart measure?

- A. The average value of a process
- B. The variability of a process
- C. The proportion of defective items
- D. The number of defects per unit

17. In SQC, what is meant by "out of control"?

- A. The process is producing defects
- B. The process variation is due to common causes
- C. The process variation is due to assignable causes
- D. The process is within control limits

18. Which statistical tool helps in determining the stability of a process?

- A. Histogram
- B. Control chart
- C. Pareto chart
- D. Scatter diagram

19. What is an assignable cause?

- A. A natural variation in the process
- B. A specific, identifiable source of variation
- C. An acceptable deviation from the process mean
- D. A defect found in the final product



20. In quality control, what is a defect?

- A. A unit that does not meet specifications
- B. A unit that exceeds specifications
- C. A process variation within control limits
- D. A common cause of variation

21. Which control chart is used for monitoring the number of defective items in a sample?

- A. p-chart
- B. np-chart
- C. c-chart
- D. u-chart

22. What is the main use of a cause-and-effect diagram?

- A. To identify the main causes of a problem
- B. To measure process performance
- C. To compare different processes
- D. To track changes over time

23. Which of the following is a characteristic of a process that is in statistical control?

- A. Variations are due to assignable causes
- B. Variations are due to common causes
- C. Process is unpredictable
- D. Process mean shifts frequently

24. What does the term "Cp" represent in process capability analysis?

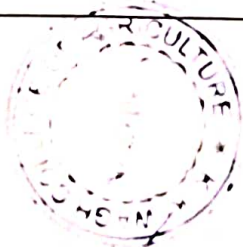
- A. Process mean
- B. Process variation
- C. Process capability index
- D. Process control limit

25. What does a scatter diagram plot?

- A. Frequency of defects over time
- B. Relationship between two variables
- C. Distribution of process data
- D. Control limits of a process

26. Which chart is used for monitoring the average quality of a process over time?

- A. p-chart
- B. X-bar chart
- C. c-chart



D. np-chart

27. What is the purpose of a control limit in a control chart?

- A. To set the target value for a process
- B. To identify process variation limits
- C. To determine the sample size
- D. To calculate the process mean

28. Which of the following tools is used to prioritize problems or causes?

- A. Histogram
- B. Control chart
- C. Pareto chart
- D. Scatter diagram

29. In Six Sigma, what is the primary goal?

- A. To increase production speed
- B. To reduce process variation and defects
- C. To enhance customer satisfaction
- D. To lower production costs

30. What does a run chart show?

- A. The relationship between two variables
- B. The distribution of process data
- C. The trend of process data over time
- D. The frequency of defects



K. K. Wagh College of Agriculture, Nashik
Department of Computer Science & Statistics
Certificate course in Statistical Quality Control

Academic 2022-23

Answer Sheet

1. What is the primary purpose of Statistical Quality Control (SQC)?

- A. To reduce production costs
- B. To maintain consistent quality
- C. To improve employee productivity
- D. To increase sales

Answer: B

2. Which of the following is not a basic tool of SQC?

- A. Control charts
- B. Pareto charts
- C. Histogram
- D. Marketing surveys

Answer: D

3. What does a control chart help to identify in a process?

- A. The root cause of defects
- B. Variations over time
- C. Customer satisfaction levels
- D. Employee performance

Answer: B

4. In a control chart, what do the upper and lower control limits represent?

- A. Desired target values
- B. Limits within which the process operates in control
- C. Maximum and minimum possible values
- D. The average value of the process

Answer: B

5. Which of the following is a type of control chart for variables?

- A. p-chart
- B. c-chart

- C. X-bar chart
- D. u-chart

Answer: C

6. What is the main difference between X-bar chart and R-chart?

- A. X-bar chart monitors process average, R-chart monitors process variability
- B. X-bar chart is for attribute data, R-chart is for variable data
- C. X-bar chart is used for large samples, R-chart is for small samples
- D. X-bar chart is more accurate than R-chart

Answer: A

7. Which chart is used for monitoring the proportion of defectives in a process?

- A. X-bar chart
- B. p-chart
- C. R-chart
- D. np-chart

Answer: B

8. What is the role of the Pareto chart in quality control?

- A. To identify the cause of defects
- B. To prioritize problems based on their frequency
- C. To display the trend of a process over time
- D. To measure process capability

Answer: B

9. Which term describes the natural variability in a process?

- A. Assignable cause
- B. Common cause
- C. Defect
- D. Out of control

Answer: B

10. What is the primary use of a scatter diagram in SQC?

- A. To compare different processes
- B. To identify the relationship between two variables
- C. To measure process performance
- D. To track the frequency of defects

Answer: B

11. What is process capability?

- A. The ability of a process to produce defect-free products
- B. The range within which a process operates under control
- C. The consistency of a process to meet specifications
- D. The speed at which a process operates

Answer: C

12. Which of the following is not a component of a fishbone diagram?

- A. Materials
- B. Methods
- C. Management
- D. Marketing

Answer: D

13. What does the acronym DMAIC stand for in Six Sigma?

- A. Define, Measure, Analyze, Improve, Control
- B. Design, Manage, Act, Implement, Control
- C. Develop, Measure, Act, Improve, Check
- D. Define, Monitor, Act, Implement, Control

Answer: A

14. Which control chart is used to monitor the number of defects per unit?

- A. p-chart
- B. c-chart
- C. X-bar chart
- D. R-chart

Answer: B

15. What is the purpose of a histogram in quality control?

- A. To identify patterns and trends
- B. To show the distribution of data
- C. To compare different categories
- D. To track changes over time

Answer: B

16. What does a p-chart measure?

- A. The average value of a process
- B. The variability of a process
- C. The proportion of defective items
- D. The number of defects per unit

Answer: C

17. In SQC, what is meant by "out of control"?

- A. The process is producing defects
- B. The process variation is due to common causes
- C. The process variation is due to assignable causes
- D. The process is within control limits

Answer: C

18. Which statistical tool helps in determining the stability of a process?

- A. Histogram
- B. Control chart
- C. Pareto chart
- D. Scatter diagram

Answer: B

19. What is an assignable cause?

- A. A natural variation in the process
- B. A specific, identifiable source of variation
- C. An acceptable deviation from the process mean
- D. A defect found in the final product

Answer: B

20. In quality control, what is a defect?

- A. A unit that does not meet specifications
- B. A unit that exceeds specifications
- C. A process variation within control limits
- D. A common cause of variation

Answer: A

21. Which control chart is used for monitoring the number of defective items in a sample?

- A. p-chart
- B. np-chart
- C. c-chart
- D. u-chart

Answer: B

22. What is the main use of a cause-and-effect diagram?

- A. To identify the main causes of a problem
- B. To measure process performance

- C. To compare different processes
- D. To track changes over time

Answer: A

23. Which of the following is a characteristic of a process that is in statistical control?

- A. Variations are due to assignable causes
- B. Variations are due to common causes
- C. Process is unpredictable
- D. Process mean shifts frequently

Answer: B

24. What does the term "Cp" represent in process capability analysis?

- A. Process mean
- B. Process variation
- C. Process capability index
- D. Process control limit

Answer: C

25. What does a scatter diagram plot?

- A. Frequency of defects over time
- B. Relationship between two variables
- C. Distribution of process data
- D. Control limits of a process

Answer: B

26. Which chart is used for monitoring the average quality of a process over time?

- A. p-chart
- B. X-bar chart
- C. c-chart
- D. np-chart

Answer: B

27. What is the purpose of a control limit in a control chart?

- A. To set the target value for a process
- B. To identify process variation limits
- C. To determine the sample size
- D. To calculate the process mean

Answer: B

28. Which of the following tools is used to prioritize problems or causes?

- A. Histogram
- B. Control chart
- C. Pareto chart
- D. Scatter diagram

Answer: C

29. In Six Sigma, what is the primary goal?

- A. To increase production speed
- B. To reduce process variation and defects
- C. To enhance customer satisfaction
- D. To lower production costs

Answer: B

30. What does a run chart show?

- A. The relationship between two variables
- B. The distribution of process data
- C. The trend of process data over time
- D. The frequency of defects

Answer: C



K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135 AISHE Code: C-50690

☎: (0253)2555221, 255522 ✉ - principal-bscagri@kkwagh.edu.in 🌐 <https://agri-bsc.kkwagh.edu.in>

Department of Computer Science & Statistics

Certificate course in ' Statistical Quality Control'
Academic Year 2022-23

Report

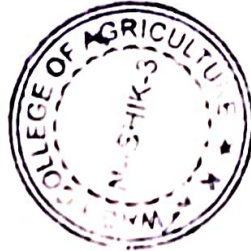
K. K. Wagh Education Society's K. K. Wagh College of Agriculture, Saraswatanagar, Nashik which provide education in agriculture at U.G. level students. College has to decide introduce new Certificate Course in ' Statistical Quality Control '. Total 40 students are enrolled from department of Computer Science & Statistics. Due to this certificate course in ' Statistical Quality Control ' Students get more knowledge

Course outcome

- Demonstrate a clear understanding of quality definitions, principles, and the importance of quality control in various industries..
- Understanding Quality Control Principles
- Calculate and interpret key descriptive statistics such as mean, median, mode, variance, and standard deviation.
- Make informed decisions based on control chart analysis, including identifying and addressing sources of variation.

Course coordinator is Ms. R.M.Raundal and member for this certificate course are,
Mr. S.S.Nikam & Ms. S .D. Kale

Course Coordinator



Principal
PRINCIPAL
K.K.Wagh College of Agriculture
Saraswatanagar, Panchavati, Nashik



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K K WAGH COLLEGE OF AGRICULTURE

(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)

Saraswatinagar, Panchavati, Nashik - 422 003

Certificate

This is to certify that Mr./Ms. Ishwar Nitin Raundal.....

Class S.Y...... has completed Certificate Course on Statistical quality control
..... from 13/3/2023 to 20/3/2023 organized by

Department of K.K. Wagh college of Agri...... in academic year 2022-23
(computer science & statistics)

Date : 2 /04/ 2023

Place : Nashik

Course Coordinator



Principal
K K Wagh College of Agriculture
Nashik