

*P.T.C. Education Society's*  
**Sau. Rajanitai Nanasaheb Deshmukh**  
**Arts, Commerce & Science College,**  
**Bhadgaon Dist- Jalgaon 424105**

www.srndcollege.org.in  
www.srndcollibrary.in  
bhadgaoncollege@yahoo.com

NAAC Re-Accredited  
Grade - B

Phone No. (02596)213364  
Fax No. (02596) 213464

Hon'ble. Nanasaheb S.O.Wagh  
Chairman

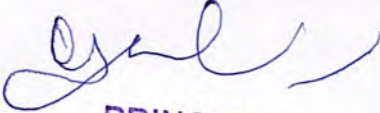
Dr. N.N.Gaikwad (M.A. Ph.D.)  
Principal

6.3.2.1. Number of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies year wise during the last five years

Clarification regarding above metrics we provided financial support for one faculty in 2019-20 in SSR. This data is given in SSR by our mistake. The faculty got financial support in 2021-22 not in 2019-20 **Please it will consider for academic year 2021-22.**

Similarly we provided financial support for two faculty in 2020-21 in SSR. This data is given in SSR by our mistake. These faculties actually got financial support in 2019-20 not in 2020-21. **Please it will consider for academic year 2019-20.**



  
**PRINCIPAL**  
SAU. RAJANITAI NANASAHEB DESHMUKH  
ARTS, COMMERCE & SCIENCE COLLEGE,  
BHADGAON DIST. JALGAON (424105)



### 6.3.2 clarification regarding

Percentage of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies during the last five years.

**POLICY DOCUMENT  
ON  
PROVIDING FINANCIAL SUPPORT TO TEACHERS FOR ATTENDING CONFERENCE  
WORKSHOP**

**Preamble**-The policy of providing the financial support to the teachers is in force in order to attend the conference and workshop organized by Institute of National Repute, Universities and Colleges and towards membership fee of professional bodies.

#### Objectives

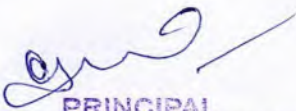
1. To encourage the teaching staff for presentation of research paper in conferences of National and International Repute.
2. To support the teaching staff to avail opportunity for discussing the novel development, the emerging challenges, future perspectives in their field of interest.
3. To support teaching staff to promote teaching learning, research extension activities and governance through participation in conference and workshops.
4. To enhance their academic credential in line with expectations.

#### Policy regarding attending of conference / workshop/seminar

Regular faculty is allowed to attend Conference/ Seminar/ Workshop at University /State/National / International Level once in a financial year on Govt. expenses (i.e. Registration fee or TA and DA) subject to fulfilment of the following conditions:

1. The faculty member has to present a paper or chair a session & has been officially invited to this effect.
2. Conference/ Seminar/ Workshop is in public interest.
3. 50% of the faculty is on duty at a time in the College.
4. No DA will be paid & faculty members will be granted academic leave. In case of local conferences etc. only registration fee will be paid and academic leave granted.
5. Fulfilment of instructions issued by the Govt. of India from time to time for going abroad.
6. In case of attending International conference, the applicant should have cleared his/her probation successfully.



  
**PRINCIPAL**  
SAU, RAJANITAI NANASAHAB DESHMUKH  
ARTS, COMMERCE & SCIENCE COLLEGE,  
BHADGAON DIST., JALGAON (424105)





The Bodwad Sarvajaniik Co-operative Education Society Ltd.  
Arts, Commerce and Science College, Bodwad Dist Jalgaon



**National Conference**  
Indian Science Congress Association Amravati Chapter Sponsored


50/12


**Certificate**


This is to certify that Avinash Namded Bhargale of S.R.N.D. A.S.C. College, Bhadgaon actively participated in the science deliberations and also presented research paper entitled Reporting a new species of the genus stilesia from capra hircus at Bhadgaon M.S. India. in ISCA sponsored National Conference on Challenges in Life Sciences and Agrobased Industries for Rural Development, Organized by Department of Botany and Zoology, Arts, Commerce and Science College, Bodwad Dist - Jalgaon on 21<sup>st</sup> December 2019.


PAID & CANCELLED

ATTESTED BY

  
Dr. Geeta Patil  
Organizing Secretary

  
Principal  
SARVJANIK CO-OPERATIVE EDUCATION SOCIETY LTD.  
ARTS, COMMERCE & SCIENCE COLLEGE  
BODWAD DIST. JALGAON

  
Dr. Chetankumar Sharma  
Organizing Secretary

  
Principal  
SARVJANIK CO-OPERATIVE EDUCATION SOCIETY LTD.  
ARTS, COMMERCE & SCIENCE COLLEGE  
BODWAD DIST. JALGAON

Professor Arvind Chaudhari  
Principal



Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon  
S.Y.B.Sc. (CBCS) Syllabus Framing Workshop - 14<sup>th</sup> March 2019

Sponsored By *Self*



NAAC Reaccredited  
B Grade

SATPUDA SHIKSHAN PRASARAK MANDAL'S VIDYAWADI, DHULE

VASANTRAO NAIK ARTS, SCIENCE & COMMERCE COLLEGE

SHAHADA, DIST. NANDURBAR



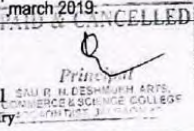
## Certificate

This is to certify that, Prof. *V. T. Bagul*  
of *SRND ASC college, Bhadgaon* has attended and actively participated in one  
day Workshop on "Syllabus (CBCS Pattern) Framing for S.Y.B.Sc. Mathematics" organized by Department of  
Mathematics, V.N.College, Shahada Dist. Nandurbar on behalf of Kavayitri Bahinabai Chaudhari North  
Maharashtra University, Jalgaon on 14<sup>th</sup> march 2019.

ATTESTED BY



*G.S. Patil*  
Prin. G. S. Patil  
Organizing Secretary



*A.N. Patil*  
Principal  
VASANTRAO NAIK ARTS,  
SCIENCE & COMMERCE COLLEGE  
SHAHADA, DIST. NANDURBAR

*A.N. Patil*  
Prof. Dr. A.N. Patil  
Principal

PRINCIPAL  
*A.N. Patil*  
V.N. College, Shahada Dist. Nandurbar



# Visible Light Induced Photocatalytic Degradation of Victoria Blue by using ZnS and Co Doped ZnS Nano Catalyst

Sunil G. Shelar<sup>1</sup>, Vilas K. Mahajan<sup>2</sup>, Sandip P. Patil<sup>3</sup> and Gunvant H. Sonawane<sup>1\*</sup>

<sup>1</sup>Department of Chemistry, S.R.N.D Arts, Commerce and Science College, Bhadgaon, Dist. - Jalgaon- 424105 (M.S) India, E-mail: sunilshelar766@gmail.com

<sup>2</sup>Department of Chemistry, Kisan Arts, Commerce and Science College, Parola, Dist.- Jalgaon- 425111 (M.S) India, E-mail: mahajanvilas10@gmail.com

<sup>3</sup>Nano-Chemistry Research Laboratory, G. T. Patil College, Nandurbar - 425412 (M.S) India, E-mail: sandip.patiloc@gmail.com

<sup>1\*</sup>Department of Chemistry, Kisan Arts, Commerce and Science College, Parola, Dist.- Jalgaon- 425111 (M.S) India, E-mail: drgunvantsonawane@gmail.com

**Abstract:** ZnS and Co doped ZnS were synthesized by chemical precipitation method. Structure and morphology of synthesized Co doped ZnS nano catalyst was investigated using scanning electron microscopy (SEM), Electron dispersive X-ray spectroscopy (EDS) and X-ray diffraction (XRD). The photocatalytic activity of Co doped ZnS nano catalyst was investigated by degradation of Victoria blue solution under visible light radiation. The effects of various parameters such as the Victoria blue concentration, catalyst dose, effect of pH on the photocatalytic degradation were examined. The kinetics study shows that the reaction follows pseudo first order kinetics. Among the different amounts of dopant like 1, 2, and 5 wt% Co-doped ZnS nanocatalyst, it was observed that 5 wt % Co doped ZnS shows highest degradation rate for Victoria blue. The particle size, surface morphology and photo induced electron-hole pair generation are the key factors which has impact on photocatalytic activity.

**Keywords:** Victoria blue, ZnS and Co doped ZnS, photocatalysis.

## I. INTRODUCTION

Now-a-days environmental pollution becomes major area of concern worldwide. Nanotechnology could be the possible solution to this problem. The rapid development in the field of nanotechnology with time have gain attentions considerable attentions on the synthesis and manufacturing of ZnS (Xianfu W., et al.,2013; Gang-Juan L.et al.,2017; Sheshtawy H.et al.,2018). The ZnS has been extensively studied because of its potential applications in flat-panel display, light-emitting diodes (LEDs), infrared windows, electroluminescence, sensors, lasers and photocatalysis due to its diverse range of possible structures and morphologies, and superior chemical and thermal stabilities (Rao R., et al.,2005; Leary R. et al., 2011). Due to the stability of

present dyes, conventional treatment methods for industrial wastewater are ineffectual, causing frequently in an intensively discharge of colored pollutants from the effluent treatment plants

into the nearby water streams. In recent times, a number of researchers are focusing on heterogeneous photocatalytic degradation of variety of dyes (Augugliaro V., et al.,2002; Datta R., et al.,2002; Sarteep Z., et al.,2016). ZnS nanostructures are interesting entities for catalytic activities because of their notable chemical stability against oxidation and hydrolysis. Besides, ZnS is available in abundance and is nontoxic. Therefore, ZnS can play an important role as catalyst in environmental protection through the removal of organic and toxic water pollutants. ZnS is a wide band gap semiconductor with band gap of 3.77 eV which can be used as photocatalyst. It has a good photocatalytic property of generating rapid electron-hole pair by photo excitation (Langjam M., et al.,2015). Therefore, ZnS can play an important role as catalyst in environmental protection through the removal of organic and toxic water pollutants (Xiaosheng F., et al.,2011). However, for such application it would be desirable to extend the band gap excitations towards the visible region, and also to prolong the lifetime of photo generated charge carriers. Doping of Zinc sulphide with transition metal ions provides a relatively well-studied and convenient way of solving both problems described above. Zinc sulphide doped with transition metal ions can demonstrate extended band gaps and significantly higher photocatalytic efficiencies (Rathore P., et al.,2015; Pricilla A., et al.,2017). In such case dopant proportion is an important parameter to be considered, as the amount of dopant influences the processes of charge carrier trapping, separation and recombination (Nayereh S.,et al.,2012).Thus, the amount of

transition metal introduced should be within a so-called optimum concentration, as too low a dopant content does not affect the process of charge carrier generation while too high a content of doping metal results in the formation of extra recombination sites and shortens the lifetime of photogenerated electrons and holes. Consequently, setting the optimum concentration of doping metal is the very important aspect for successful doping. This optimum value may change considerably and it depends on many factors, like the type of dopant, annealing conditions etc. (Hajati S., et al.,2014). Present study involves the synthesis of ZnS and Co doped ZnS nano catalyst which was characterized by XRD, EDS and SEM. The effect of various parameters like pH of dye solution, contact time, dose of catalyst in photocatalytic degradation using visible light and the kinetics of degradation for Victoria blue using ZnS and Co doped ZnS nano catalyst were studied.

## II. EXPERIMENTAL

### A. Materials

A.R. grade Zinc chloride, Sodium sulphide and Cobalt Chloride were purchased from Loba Chemie Pvt. Ltd. Concentration of the Victoria blue was determined by measuring absorbance using UV-VIS double beam spectrophotometer (Systronics model-2203) at the  $\lambda_{max}$  560 nm. The pH was maintain using 0.1M HCl and 0.1M NaOH with pH meter (model no. EQ - 615.)

### B. Method

From stock solution of Victoria blue B at different concentrations were prepared in distilled water. The 50 mL Victoria blue solution mixed with ZnS and Co doped ZnS and taken in the photocatalytic reactor. The solution was stirred in the dark to allow equilibration of the system so that the loss of the compound due to adsorption can be taken into consideration. The dye having ZnS and Co doped ZnS catalyst was subjected to visible light irradiation in order to achieve the degradation of Victoria blue. The catalyst was separated from the solution by centrifugation and the solution was examined for determination of concentration of dye at  $\lambda_{max}$ 560 nm.

### III. Synthesis of ZnS and Co doped ZnS

ZnS and Co-doped ZnS nanoparticles are prepared by chemical precipitation method. For synthesizing ZnS nanoparticles 50 mL 0.1 M Sodium sulphide solutions was added drop wise to 50 mL 0.1 M Zinc Chloride solution kept stirring on magnetic stirrer at 70<sup>o</sup> C for two hours (Prabu J. et al.,2015). For synthesizing Cobalt doped ZnS of various compositions amount of Cobalt chloride was mixed with Zinc chloride solution before stirring. After stirring for two hours the precipitate was washed by ethanol and then by deionized water and dried in open hot air for four hours. Dry powder formed was calcinated in muffle furnace at 450<sup>o</sup>C for three hours then ground to fine size.

## IV. Results and discussion

Institute of Science, BHU Varanasi, India

### A. Characterization of photocatalyst

#### 1) SEM analysis

The SEM image of ZnS and Co doped ZnS nano catalyst are shown in Fig.1 (a, b, c and d). The SEM image of ZnS and Co doped ZnS nano catalyst shows flower like morphology for small dopent concentration and it get altered on increase in dopent concentration. It was observed that the particle size increases with increasing doping concentration of Co ( Bruno L.,et al.,2015).The size of ZnS crystals was observed to be 14 to 51 nm. Accumulation behavior is observed in the crystals to show a bunch of crystals.

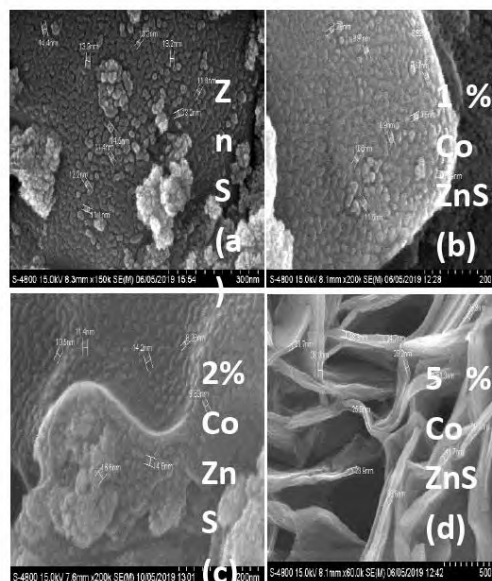


Fig.1 SEM image of ZnS and Co doped ZnS

#### 2) EDS analysis

The elemental analysis of ZnS and Co doped ZnS surface is carried out by EDS. Fig. 2 (a, b, c and d) shows that ZnS and Co doped ZnS nano catalyst contains Zn S 58.48 %, S K 41.52 %. The 1 % Co doped ZnS contains Zn K 51.59 %, S K 45.98 % and Co .41 % , The 2 % Co doped ZnS contains Zn K 51.59 %, S K 46.91 % and Co 1.39 %. And the 5 % Co doped ZnS contains Zn K 71.07 %, S K 25.88 % and Co 3.05% in EDS of ZnS and Co doped ZnS micrograph evidences existence of ZnS and Co doped ZnS in the nanocatalyst.



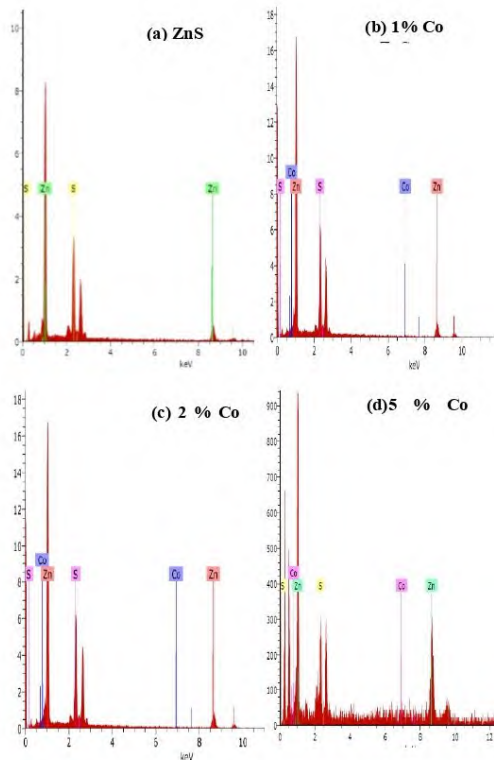


Fig.2 EDX spectrum of ZnS and Co doped ZnS.

3) X-ray diffraction analysis

Fig. 3 shows XRD pattern of ZnS and Co doped ZnS nanoparticles. The crystalline nature of the prepared nano size ZnS and Co doped ZnS powder is evident from the x-ray diffraction pattern. The phase identification carried out with help of standard JCPDS data base the three different peaks  $29.0^\circ$ ,  $48.1^\circ$  and  $57.0^\circ$  corresponds to (111), (220) and (311) planes of cubic crystalline ZnS respectively, which indicates that the prepared nano crystals belongs to the cubic zinc blende structure. The broadening of peak of nano crystal is due to their small size. Position of diffraction peaks is in well agreement with standard JCPDS No. 05-0566.

The typical broadening of the three diffraction peaks is also observed implying that the size of ZnS and Co doped ZnS nanoparticles is very small.

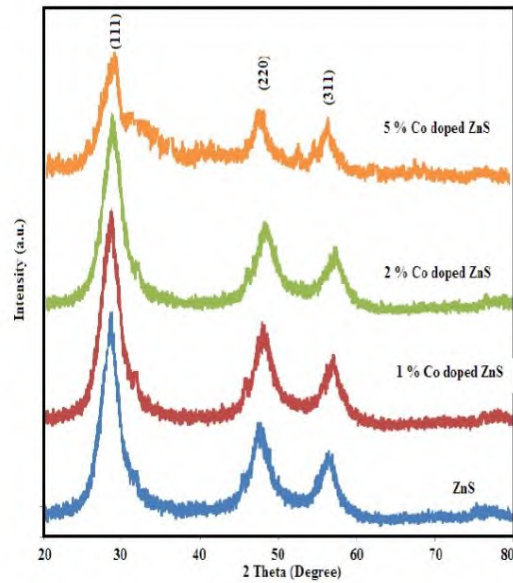


Fig.3 XRD of ZnS and Co doped ZnS

B. Photocatalytic study

1) Effect of pH

The influence of pH on photocatalytic degradation of Victoria blue was performed under UV-visible light source and results are shown in Fig. 4. The percentage degradation of Victoria blue increase with increase in pH up to 8 and higher degradation is observed in alkaline media. The pH 8 is favorable for degradation of Victoria blue in presence of ZnS nano catalyst for photocatalytic degradation.

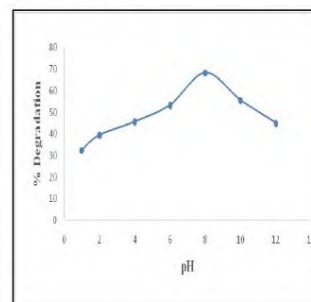


Fig. 4 Effect of pH on photocatalytic degradation of Victoria blue (Conc. 20 mg/L, catalyst dose 1.0 g/L and contact time 120 min).

2) Effect of catalyst

The effect of catalyst on initial dye concentration of Victoria blue was examined by varying the doping amount Co in ZnS as 1%, 2% and 5% using 2 g/L of ZnS and Co doped ZnS nano catalyst at pH 8. The results showed that dye concentration decreases with increasing in doping concentrations. For undoped ZnS initial concentration 20 mg/L was decreased to 3.90 mg/L, for 1% Co doped ZnS 20 mg/L dropped to 3.11 mg/L, for 2% Co doped ZnS 20 mg/L dropped to 2.24 mg/L, and for 5% Co doped ZnS initial concentration 20 mg/L fall down to 1.61 mg/L. (Fig. 5). The reason behind this is as doping percentage increases the concentration of unabsorbed dye in the solution decreases which causes more penetration of light through the solution on to the surface of ZnS and Co doped ZnS. It increase the concentration of 'OH radicals on the surface and hence increases the degradation rate (Mahajan V. ,et al.,2015).

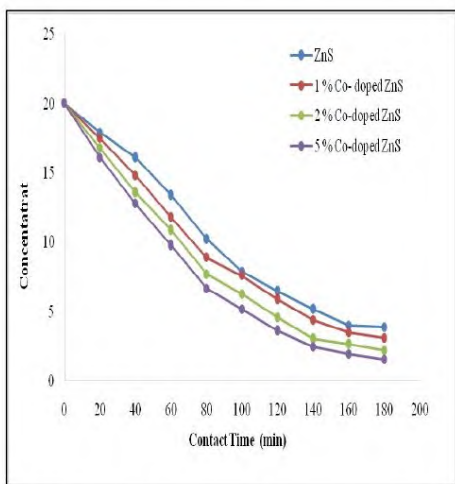


Fig. 5 Effect of catalyst on initial dye concentration Victoria blue pH 8, catalyst dose 2.0 g/L, and reaction time 180 min.

3) Effect of Dose

To avoid the excess use of catalyst, the optimum dose was determined by varying the dose of ZnS and Co doped ZnS. For this purpose 20 mg/L concentration of dye was used for degradation purpose. It was observed initially that rate of degradation increases with the increase in catalyst dose, upto certain limit but beyond that level it remained almost constant. In present case 1g/L was found to be the optimum catalyst dose. It was observed that as percentage of Co in ZnS increases percentage degradation of Victoria blue was increased. The increase in catalyst concentration causes increase in the number of photons absorbed and number of dye molecules adsorbed. It

further improves the rate of dye degradation. Beyond certain catalyst concentration, the numbers of substrate molecules are insufficient to fill the active sites of ZnS. Hence, further addition of catalyst does not cause the improvement in degradation rate. This is may be due to the reduction in the light penetration with excess amount of ZnS. The excess addition of the catalyst makes the solution more turbid and penetration of light is inhibited from the sample (Kaur S., et al.,2007).

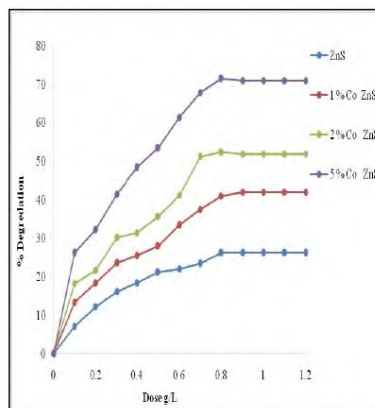
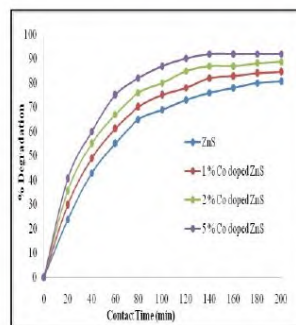


Fig. 6 Effect of dose on percentage degradation of Victoria blue.

4) Effect of doping percentage

The effect of different doping percentage on the photocatalytic degradation of Victoria blue at 20 mg/L concentration, catalyst dose 1g/L and pH 8 was shown in Fig 7. From Fig. 7 it has been observed that as contact time increases, percentage degradation increases and after 100 min it is almost constant. As % of Co in ZnS increases from 1 to 5 % degradation increases. Photocatalytic activity of doping concentration increases with decreasing the band gap energy (Khataee A., et al.,2015). The rapid transfer of the electrons from the ZnS to the Co may improve the photocatalytic activity and increase the competence of photocatalysis.

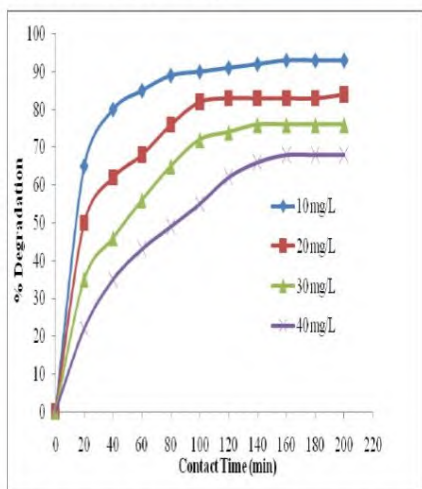




**Fig. 7** Effect of doping percentage on percentage degradation of Victoria blue (catalyst dose = 1.0 g/L, pH=8, dye conc. = 20 mg/L and reaction time 200 min.)

5) *Effect of Initial Dye Concentration*

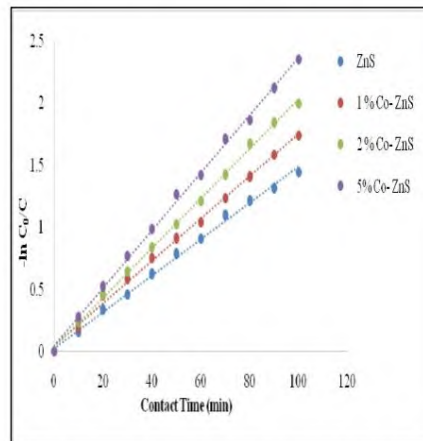
The degradation of Victoria blue at different concentrations (10,20,30 and 40 mg/L) for a catalyst dose of 1 g/L of 5 % Co doped ZnS nano catalyst and pH=8 was investigated. Fig. 8 shows that the maximum degradation 94% was found to at 10 mg/L for Co doped ZnS nano catalyst and 67% was found to at 40 mg/L for Co doped ZnS nano catalyst it indicates that as concentration of dye increases the percentage degradation decreases. The degradation efficiency was observed to be inversely proportional to the increase in concentration. This is because, as the dye concentration increases, the equilibrium adsorption of the dye on the catalyst surface active sites increases, therefore resulting in the lower formation rate of  $\cdot\text{OH}$  radicals which is the principle oxidant in this process (Chen X., et al.,2017; Khan M., et al.,2017).



**Fig. 8** Effect of initial dye concentration on Victoria blue (pH 8, Catalyst dose 1 g/L, 5% Co doped ZnS).

C. *Kinetic of degradation*

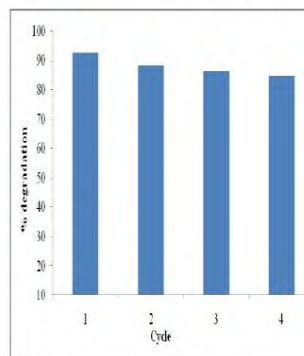
The kinetics of photocatalytic degradation of Victoria blue by ZnS nano catalyst was studied by pseudo-first-order kinetics model (Fig. 9). The linearity of the plot  $-\ln C_0/C$  vs contact time suggests that the photocatalytic degradation reaction follows pseudo first order kinetics.



**Fig.9** Pseudo First order kinetics plot for degradation of Victoria blue (conc. = 20 mg/L, ZnS conc. = 1 g/L, pH = 8, and reaction time 100 min.).

D. *Recycle study of Co doped ZnS nanocatalyst*

To find out the stability and efficacy of Co doped ZnS nanocatalyst as well as cost effectiveness of the process, the reusability of 5%Co doped ZnS nanocatalyst was investigated for the degradation of Victoria blue. For this purpose, the powdered nanocatalyst was centrifuged after completion of each photocatalytic cycle. The recovered catalyst sample was reused for 3 times under identical experimental conditions. Fig. 12 shows that % degradation of Victoria blue achieved at the end of 1<sup>st</sup> cycle and 4<sup>th</sup> cycle is 92.52% and 84.67% after 120 min. The catalytic activity was found to decrease marginally after 4<sup>th</sup> run. This decrease may be due to loss of reused catalyst during sampling every time and irreversible changes on the surface of the photocatalyst by pollutants. Fig. 10 shows that Co doped ZnS have admirable stability and do not suffer from corrosion.



**Fig.10** Recycle study of Co doped ZnS nano catalyst.

## CONCLUSION

Co doped ZnS have been successfully synthesized by chemical precipitation method. The results point out that it could be promising photocatalyst, exhibits improved photodegradation efficacy in Victoria blue removal as compare to bare ZnS. The photocatalytic results indicated that the catalyst dose and pH values significantly influences the degradation efficiency of Co doped ZnS. Secondly; the photodegradation efficiency might be improved with the increase of catalyst loading. The photocatalytic decomposition of Victoria blue was most efficient at pH 8 and 1 g/L catalyst dose within 120 min.

## ACKNOWLEDGEMENTS

The authors have gratefully acknowledged to Central Instrumentation Centre, University Institute of Chemical Technology, KBCNNU Jalgaon for SEM, EDX and Department of Physics, Shivaji University, Kolhapur for XRD analysis. The authors also thankful to Principal, Kisan Arts, Commerce and Science College, Parola, Dist. Jalgaon (M.S.) and Principal, S.R.N.D. Arts, Commerce and Science College, Bhadgaon Dist. Jalgaon (M.S.) for providing necessary laboratory facilities.

## REFERENCES

- Augugliaro V., Baiocchi C., Bianco A. Prevot, E. Garcia-López, Loddio V., Malato S., Marci G., Palmisano L., Pazzi M. & Pramauro E. (2002). Azo-dyes photocatalytic degradation in aqueous suspension of TiO<sub>2</sub> under solar irradiation, *Chemosphere*, 49, 1223–1230.
- Bruno L. Chandramohan R. Vijayalakshmi, & S. Chandrasekaran, (2015) Preparation and characterization of Mn-doped ZnS nanoparticles, *International Nano Letters*. 571-575.
- Chen X., Wu Z, Liu D. & Gao Z. (2017). Preparation of ZnO photocatalyst for the efficient and rapid photocatalytic degradation of azo dyes, *Nanoscale Research Letters*, 12, 143-151.
- Datta R. & Ranganathan V.T. (2002). Variable Speed Wind Power Generation Using Doubly-Fe Wound Rotor Induction Machine-A comparison with Alternative Schemes, *IEEE Trans. Energy Convers.* 17, 414-421.
- Gang-Juan L. & Jerry J. W. (2017). Recent developments in ZnS photocatalysts from synthesis to photocatalytic applications, *Powder Technology*, 318, 8-22.
- Hajati S., Ghaedi M., Karimi F., Barazesh B., Sahraei R. & Daneshfar A., (2014). Competitive adsorption of Direct yellow 12 and Reactive orange 2 on ZnS: Mn nanoparticles loaded on activated carbon as novel adsorbent, *Journal of Industrial and Engineering Chemistry*. 20, 564-571.
- Kaur S. & Singh V., (2007). Visible light induced sonophotocatalytic degradation of Reactive Red dye 198 using dye sensitized TiO<sub>2</sub>, *Ultrason. Sonochem.* 14, 531-37.
- Khan M., Kurny A. & Fahmida G. (2017). Parameters affecting the photocatalytic degradation of dyes using TiO<sub>2</sub>, *Applied Water Science*. 7, 1569-1578.
- Khataee A.R., Soltani R.D. C., Karimi A. & Joo S.W. (2015). Sonocatalytic degradation of a textile dye over Gd-doped ZnO nanoparticles synthesized through sonochemical process. *Ultrason. Sonochem.* 23, 219–230.
- Langjam M., Devi, D. & Negi P.S. (2015). Synthesis of Zinc sulphide nanoparticles stabilized by Sodium dodecylsulphide micells and evaluation of photocatalytic activity, *Indian Journal of Chemistry*. 54A, 1440-1445.
- Leary R. & Westwood A. (2011). Carbonaceous nanomaterials for the enhancement of TiO<sub>2</sub> photocatalysis, *Carbon*. 49, 741–772.
- Mahajan V. K. & Sonawane G. H., (2015) Improved Photocatalytic Activity of CeO<sub>2</sub> Coupling Ultrasound for Eosin-Y Degradation, *J. Applicable Chem.* 4, 1500-1506.
- Nayereh S., Elias S., Mohd Z. Hussein Maryam E., Alam A., Ghazaleh B., Manizheh N. & Parisa V. (2012). Visible light-induced degradation of Methylene blue in the presence of photocatalyst ZnS and CdS nanoparticles, *International Journal of Molecular Science*. 13, 12242-12258.
- Prabu J. H. & Jhonson I. (2015). Greener cum chemical synthesis and characterization of Mg-doped ZnS nanoparticles and their engineering band gap performance *Journal of Engineering Research and Applications*, 5(8), 99-105.
- Pricilla A., eyakumari J, Sumathi M., Thirumagal N. & Uthaya Kumar M. (2017). Chemical precipitation synthesis of Fe, Ni, and Co doped Zinc sulphide nanoparticles, *IOSR Journal of Applied Physics* 64-70.
- Rao R. M. & Bopardikar A. S. (2005) Wavelet Transforms, Pearson Education, Low Price Edition, 39, 73-78.
- Rathore P., Chittora A. K., Ameta R.T. & Shartma S. (2015) Enhancement of photocatalytic activity of Zinc oxide by doping with Nitrogen, *Sci. Revs. Chem. Commun*, 5(4), 113-124.
- Sarteep Z., E. Pirbazari A. & Aroon M. A., (2016) Silver Doped TiO<sub>2</sub> Nanoparticles: Preparation, Characterization and Efficient Degradation of 2,4-dichlorophenol Under Visible Light, *J. Water Environ. Nanotechnol.* 1, 135-144.
- Sheshtawy H. S., Hosainy H. M, Shouir K. R., Mehaseb I.M. & Kemary M. (2018). Facile immobilization of Ag nanoparticles on g-C<sub>3</sub>N<sub>4</sub>/V<sub>2</sub>O<sub>5</sub> surface for enhancement of post-illumination, catalytic, and photocatalytic activity removal of organic and inorganic pollutants, *Applied Surface Science*, 467, 268-276.
- Xianfu W., Hongtao H., Bo L., Zhe L., Di C. & Guozhen S. (2013). ZnS nanostructures: synthesis, properties, and

applications, *Critical Reviews in Solid State and Materials Sciences*, 38(1) 57-90

Xiaosheng Fang, Tianyou Zhai b, Ujjal K.& Gautam, Liang Li, (2011). ZnS nanostructures: from synthesis to applications, *Progress in Materials Science* 56, 175-287.

\*\*\*





Pachora Taluka Co-op. Education Society  
SAU. RAJANITAI NANASAHEB DESHMUKH ARTS,  
COMMERCE & SCIENCE COLLEGE BHADGAON  
DIST. JALGAON

Voucher No.

Date : 31/03/2022

Please Pay To Prof. S. G. Shelar.

(Rs. 2500/- ) Rs. Two Thousand Five Hundred

on account of only. Amount Paid against Attend  
to conference / seminar.

and Debit to \_\_\_\_\_

Paid on Date \_\_\_\_\_

Accountant \_\_\_\_\_

**PAID & CANCELLED**

*Yes*  
Principal

SAU. R. N. DESHMUKH ARTS,  
COMMERCE & SCIENCE COLLEGE,  
BHADGAON DIST. JALGAON-424 105

*[Signature]*  
Receiver's Signature



01/7



Pachora Taluka Co-op. Education Society  
SAU. RAJANITAI NANASAHEB DESHMUKH ARTS,  
COMMERCE & SCIENCE COLLEGE BHADGAON  
DIST. JALGAON

Date : 05/09/2020

Voucher No.

Please Pay To Prof. A. N. Bhangale,

(Rs. 400/-) Rs. Four Hundred only.

on account of Amount Paid against Ancement Amount  
Year - 2019-20.

and Debit to \_\_\_\_\_

Paid on Date \_\_\_\_\_

Accountant \_\_\_\_\_

**PAID & CANCELLED**  
*[Signature]*  
**Principal**  
SAU. R. N. DESHMUKH ARTS,  
COMMERCE & SCIENCE COLLEGE  
BHADGAON DIST. JALGAON

*[Signature]*  
Receiver's Signature



LMC To 980.41907172 3201

01/2

Pachora Taluka Co-op. Education Society



SAU. RAJANITAI NANASAHEB DESHMUKH ARTS,  
COMMERCE & SCIENCE COLLEGE BHADGAON  
DIST. JALGAON

Date : 05/09/2020

Voucher No.

Please Pay To

Prof. V. T. Baghel

(Rs. 5801 - )

Rs.

Five Hundred Eighty only.

on account of

Amount Paid against Anamnet Amount

Year - 2019-20

and Debit to

Paid on Date

Accountant

PAID & CANCELLED  
*[Signature]*  
Principal  
SAU. R. N. DESHMUKH ARTS,  
COMMERCE & SCIENCE COLLEGE,  
BHADGAON DIST. JALGAON-431 001

*[Signature]*  
Receiver's Signature



# **AUDIT REPORT**

**SAU RAJANITAI NANASAHEB DESHMUKH  
ARTS COMMERCE & SCIENCE COLLEGE  
BHADGAON  
TAL BHDAGON DIST JALGAON**

**2019-2020**

**AUDITORS .  
JOGLEKAR & NANDARSHI  
CHARTERED ACCOUNTANTS  
JALGAON**



**P. T. C. EDUCATION SOCIETY'S**  
**SAU RAJANITAI NANASAHEB DESHMUKH ARTS, COMMERCE & SCIENCE COLLEGE BHADGAON**  
**RECEIPTS & PAYMENTS STATEMENT FOR THE PERIOD FROM 01/04/2019 TO 31/03/2020**

RECEIPTS	Rs.	Rs.	PAYMENTS	Rs.	Rs.
<b>To Opening Balance as on</b>			<b>By Salary</b>		
<b>01/04/2019</b>			<b>Teaching Staff</b>		
Cash in Hand		3073.00	Basic Pay	22932440.00	
			A G P	785000.00	
<b>To Grants Received</b>			D. A.	9413005.00	
Salary	38712845.00		H. R. A.	1998002.00	
Medical Reimbursement	87702.00		T. A.	268200.00	
Token Grant	1050.00		Other Allowances	24000.00	
P B Remuneration	37248.00		Licence Fee	16800.00	
Salary Difference	86515.00	38925360.00	Medical Reimbursement	87702.00	
			P B Remuneration	37248.00	
<b>To Misc. Receipts</b>			DA Arrears	66591.00	
MSACS Programme		5400.00	Salary Difference	86515.00	35715503.00
			<b>Admn. Staff</b>		
<b>To Bank Interest</b>			Basic Pay	282760.00	
Bank Interest		28155.00	A G P	50800.00	
			D.A.	440619.00	
<b>To Fees &amp; Fines</b>			H. R. A.	32476.00	
Admission Fee	20500.00		T. A.	9000.00	815655.00
Poor Student Aid Fund	32200.00		<b>Menial Staff</b>		
Out Of Turn	450.00		Basic Pay	790400.00	
Library Fee	100750.00		A G P	117800.00	
A.S.Competation Fee	24240.00		D.A.	1085389.00	
Medical Exam Fee	10085.00		H. R. A.	87612.00	
Student Group LIC	13710.00		T. A.	25600.00	2106801.00
Eligibility Fee	20150.00		Encashment of Leave		0.00
Gymkhana Fee	79900.00				38637959.00
Computerization Fee	16160.00		<b>By Fees &amp; Fines</b>		
Env. Science Fee	40300.00		Eligibility Fee	15360.00	
Tutorial Fee & Int Exam Fee	48060.00		Alunmini Association Fee	6626.00	
E-Suvidha (MKCL) Fee	40400.00		E-Suvidha MKCL Fee	38650.00	
G.K. Fees	32410.00		Medical Exam Fee & Expenses	1532.00	
Disaster Management Fee	8080.00		Student Group LIC	15460.00	
Gathering Fee	32160.00		Poor Student Aid Fund	9925.00	
N S S Unit Fee	8080.00		Identity Card Fee	29150.00	
Magazine Fee	31960.00		Laboratory Fee & Practical Exp.	3280.00	
Identity Card Fee	22010.00		Gathering Fee & Expenses	600.00	
T.C. Fee	7470.00		A. S. Competition Fee	24882.00	
Laboratory Fee	202900.00		Computerization Fee	7730.00	
Alumini Asso Fee	3975.00		College Development fund	49071.00	
Computer Laboratory Fee	61760.00		Magazine Fee	30000.00	
College Devp-Fund	60225.00		Environment Science Fee	21750.00	
Personality Devp Fee	20075.00		Tutorial & Internal Exam Fee	66000.00	
Student Activity Fee	32140.00		Students Activities Fee	21303.00	
Uni Misellaneous Fee	80000.00		Personality Devp & Career	16755.00	
Tuition Fee	1651850.00		Disaster Management Fee	7730.00	
N.M.U. exam Fee	445724.00		College Ad. Fee Refund	29810.00	
Computer Tuition Fee	95580.00		Computer Laboratory	53000.00	
Fine & Library Fine	2950.00		Subject Change Fee	600.00	
NMU Excess Fee	4777.00		Faculty Change Fee	800.00	
Migration TC Fee	250.00		University Miscellaneous Fee	109610.00	
Faculty Change Fee	900.00		Computer Tution Fee	144000.00	
College Change Fee	380.00		NMU Exam Fee	409089.00	
Readmission Fee	1735.00		NMU Excess Fee	777.00	
ICT Fee	68510.00	3322806.00	Tuition Fee	168800.00	
			College Change Fee	455.00	
			Readmission Fee	1970.00	
			G K Fee Exp.	3800.00	1288515.00
<b>Total C/F</b>		<b>42284794.00</b>	<b>Total C/F</b>		<b>39926474.00</b>





Total B/F		42284794.00	Total B/F	39926474.00
			<b>By Educational Expenses</b>	
			Advertisement	22470.00
			Affiliation Fee	15000.00
			Electricity	62030.00
			Binding Charges	2310.00
			Gymkhana Expenses	145515.00
			Newspapers & Periodicals	4960.00
			Postage & Revenue Stamps	239.00
			Sanitary Work Expenses	33750.00
			Electrical Repairs	26531.00
			Maintenance of Equipment	62484.00
			Printing	40535.00
			Bank Commission	2995.93
			Website Expenditure	35500.00
			Audit Fee	18880.00
			Tree Plantation	1500.00
			Internet Connectivity	43600.00
			NMU Grant Expenses	59000.00
			CAP Remuneration	105940.00
			Misc Expenses	86693.50
			Stationery	53789.00
			T. A. & D. A.	62080.00
			Telephone	6626.00
			Botanical Garden	36000.00
			Software Renewal Fee	29500.00
			Security Grand Expenses	51064.00
			Seminar	980.00
			Play Ground Development	76815.00
			Printing NMU Answer Sheet	64976.00
			Repairs to Furniture	44500.00
				1196263.43
<b>To Depreciation Fund</b>		50000.00	<b>By Depreciation</b>	50000.00
			<b>By Purchase of Assets</b>	
			Library Book	216950.00
			Office Equipment	20894.00
			Computer	170325.00
			Furniture	253954.00
				662123.00
<b>To Deposits</b>			<b>By Deposits</b>	
Library Deposit	39500.00		Library Deposit	0.00
Laboratory Deposit	18750.00	58250.00	Laboratory Deposit	0.00
				0.00
<b>To Advances</b>			<b>By Advances</b>	
Other Advances	217800.00		Other Advances	223900.00
Advances NMU Grant	59000.00		Advances NMU Grant	0.00
Advances UGC	438372.00		Advances UGC	0.00
Advance Exam Dept	125000.00	840172.00	Advance Exam Dept	125000.00
				348900.00
<b>Total C/F</b>		43233216.00		42183760.43





Total B/F		43233216.00	Total B/F		42183760.43		
<b>To Inter-Unit Accounts</b>			<b>By Inter-Unit Accounts</b>				
PTC Education Society	150000.00	1935210.00	PTC Education Society	300000.00	1495935.00		
L M C Transfer	1785210.00		L M C Transfer	1195935.00			
<b>To Scholarships</b>			<b>By Scholarships</b>				
GOI Scholarship	707632.50	805132.50	GOI Scholarship	1480630.00	1480630.00		
NMU EBC Scholarship	97500.00		NMU EBC Scholarship	0.00			
<b>To Bank Accounts</b>			<b>By Bank Accounts</b>				
I D B I Exam A/c 13380	810405.17	41511264.93	I D B I Exam A/c 13380	818491.00	41396600.86		
I D B I Misc A/c 13343	1933162.96		I D B I Misc A/c 13343	1920285.86			
Bank of Maharashtra Sal A/c	35331569.60		Bank of Maharashtra Sal A/c	35214997.00			
Bank of Maharashtra Sal A/c New	3406097.70		Bank of Maharashtra Sal A/c New	3411285.00			
I D B I Non Sal A/c 13342	0.00		I D B I Non Sal A/c 13342	149.00			
I D B I Gymkhana A/c 71558	30029.50		I D B I Gymkhana A/c 71558	31393.00			
<b>To Other Accounts</b>				<b>By Other Accounts</b>			
Services to University	193131.00		5419758.00	Services to University		198646.00	6034226.00
Anamat	621150.00			Anamat		823092.00	
Provident Fund	4520757.00			Provident Fund		4819508.00	
Earn & Learn	84720.00	Earn & Learn		192980.00			
<b>To Accounts as per contra</b>			<b>By Accounts as per contra</b>				
G S Credit Society Bhadgaon	2826850.00	13358758.00	G S Credit Society Bhadgaon	2826850.00	13358758.00		
Jalgaon College Credit Sty	2867478.00		Jalgaon College Credit Sty	2867478.00			
Disaster Fund	100864.00		Disaster Fund	100864.00			
Sainik Nidhi	20800.00		Sainik Nidhi	20800.00			
Yuvati Sabha	30000.00		Yuvati Sabha	30000.00			
Provident Fund Loan	450000.00		Provident Fund Loan	450000.00			
Govt. Accident Policy	10266.00		Govt. Accident Policy	10266.00			
D C P S	644645.00		D C P S	644645.00			
D C P S Arrears	2347.00		D C P S Arrears	2347.00			
Profession Tax	72100.00		Profession Tax	72100.00			
Group Life Insurance	8050.00		Group Life Insurance	8050.00			
Income Tax	5621000.00		Income Tax	5621000.00			
LIC	704358.00		LIC	704358.00			
<b>To Prior Period Items</b>				<b>By Prior Period Items</b>			
Difference in Opening Bal	0.20		1006325.22	Difference in Opening Balance		3063.66	879826.36
Advance Earn & Learn	108180.00			Credit Society		346.00	
Profession Tax CTD RD LIC	17704.00			Profession Tax CTD RD LIC		32623.00	
Anamat Grant	23371.00	Salary and Other Liability		8469.00			
Misc Receipts	44501.82	Misc Receipts		41075.00			
Bank A/c Balance Sheet	18318.50	Accounts Written off as Misc					
NMU Excess Fee	4002.00	Expenditure		760028.05			
Services to University	636150.00	Services to Pune University		34221.65			
Plot Sheet	401.80						
Advance Thev	140657.40						
College Dev Fund	11538.50						
Telephone Deposit	1500.00						
<b>Total C/F</b>		<b>107269664.65</b>		<b>Total C/F</b>		<b>106829736.65</b>	





Total B/F		107269664.66	Total B/F		106829736.66
<b>To Prior Period Items</b>			<b>By Prior Period Items</b>		
<b>UGC</b>			<b>UGC</b>		
UGC Capital Receipts	150000.00	438372.00	UGC Grant Not Utilized	438372.00	876744.00
UGC Revenue Receipts	288372.00		Equipment	150000.00	
			Books & Journals	35000.00	
			Contingency	32500.00	
			Special Needs	10000.00	
			TADA	38372.00	
			Chemicals	17500.00	
			Other Expenses	155000.00	
			Total Revenue Expenditure	288372.00	
<b>TOTAL</b>		<b>107708036.65</b>	<b>TOTAL</b>		<b>107708036.65</b>
					0.00

Sau R. N. Deshmukh Arts Commerce & Science  
College Bhadgaon  
Tal Bhadgaon Dist Jalgaon

Place : JALGAON

Date : 28/08/2020

UDIN : 20119780AAAAFR3499



As per our Report of even date  
For Joglekar & Nandarshi  
Chartered Accountants

Sujay Joglekar  
Partner  
Membership No 119780  
FRN - 104328W

# **AUDIT REPORT**

**SAU RAJANITAI NANASAHEB DESHMUKH  
ARTS COMMERCE & SCIENCE COLLEGE  
BHADGAON  
TAL BHDAGON DIST JALGAON**

**2021-2022**

**AUDITORS  
JOGLEKAR & NANDARSHI  
CHARTERED ACCOUNTANTS  
JALGAON**



Joglekar & Nandarshi  
Chartered Accountant  
12 Baliram Peth  
Sane Guruji Chowk  
Jalgaon 425001

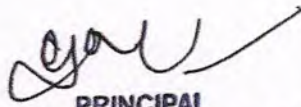
### AUDITOR'S REPORT

1. We have audited attached Balance Sheet of the P. T. C. Education Society's Sau Rajanitai Nanasaheb Deshmukh Arts Commerce & Science College, Bhadgaon Tal Bhadgaon Dist Jalgaon along with the Receipts & Payments Statement and Income & Expenditure Account for the year ended on 31/03/2022, with the Books of Accounts, Documents and vouchers relating thereto.
2. The preparation of Receipts & Payments Statement and Income & Expenditure Account & Balance Sheet is the responsibility of the College. Our responsibility is to express an opinion based on the examination of these statements. We conducted our audit in accordance with the auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. We believe that our audit provides reasonable basis for our opinion.
3. Further we report that subject to the comments mentioned in the Annexure :
  1. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purposes of our audit.
  2. In our opinion, proper books of accounts as required, have been kept by the College so far as appears from our examination of those books.
  3. The Balance Sheet, Income & Expenditure Account and Receipts & Payments Account dealt with by this Report are in agreement with the books of account.
4. In our opinion and to the best of our information and according to the explanations given to us, the said accounts give a true and fair view -
  - in the case of Balance Sheet, of the state of affairs of the College as on 31/03/2022;
  - in the case of the Income & Expenditure A/c, the excess of expenditure over the income.
  - in the case of Receipts & Payments Statement, of the transactions of the College for the year ended on that date.

Place - Jalgaon

Date - 30/07/2022

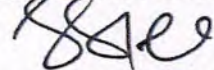


  
PRINCIPAL

Sau Rajanitai Nanasaheb Deshmukh  
Arts, Commerce & Science Collage  
Bhadgaon, Dist. Jalgaon (424105)



for Joglekar & Nandarshi  
Chartered Accountants



Sujoy Joglekar  
Partner

Membership No. 119780  
FRN 104328W

UDIN : 22119780AOLJDZ3489



**P. T. C. EDUCATION SOCIETY'S**  
**SAU RAJANITAI NANASAHEB DESHMUKH ARTS, COMMERCE & SCIENCE COLLEGE BHADGAON**  
**RECEIPTS & PAYMENTS STATEMENT FOR THE PERIOD FROM 01/04/2021 TO 31/03/2022**

RECEIPTS	Rs.	Rs.	PAYMENTS	Rs.	Rs.
<b>To Opening Balance as on 01/04/2021</b>					211336.00
Cash in Hand		1407.00	<b>By Building Rent</b>		
<b>To Fees &amp; Fines</b>			<b>By Fees &amp; Fines</b>		
Admission Fee	18175.00		Certificate Course Fee	27331.00	
Alumini Asso Fee	4825.00		College Admission Fee	2400.00	
Certificate Course Fee	37200.00		College Campus Devp	10800.00	
College Admission Fee	740.00		College Change Fee	40.00	
College Change Fee	40.00		College Development fund	75339.00	
College Devp-Fund	54475.00		Computer Tutition Fee	32000.00	
Computer Laboratory Fee	33625.00		Computerization Fee	7300.00	
Computer Tutition Fee	39950.00		Eligibility Fee	14080.00	
Computerization Fee	14540.00		Env. Science Fee	12750.00	
Earn and Learn	20480.00		E-Suvidha MKCL Fee	36500.00	
Competition Fee	2600.00		Faculty Change Fee	50.00	
Eligibility Fee	17600.00		G.K. Fees	2950.00	
Env. Science Fee	35000.00		ICT Fee	70411.00	
E-Suvidha (MKCL) Fee	36350.00		Identity Card Fee	4000.00	
Faculty Change Fee	50.00		Laboratory Fee	500.00	
Fine & Library Fine	50.00		Medical Exam Fee & Expenses	1408.00	
G.K. Fees	9100.00		N S S Unit fee	600.00	
ICT Fee	61795.00		NMU Exam Fee	144324.00	
Identity Card Fee	7220.00		NMU Excess Fee	6900.00	
Laboratory Fee	109105.00		Online Registration Fee	16800.00	
Library Fee	47095.00		Personality Devp Fee	5774.00	
Magazine Fee	29010.00		Poor Student Aid Fund	585.00	
Medical Exam Fee	8800.00		Readmission Fee	225.00	
Migration TC Fee	550.00		Student Group LIC	14600.00	
N S S Unit Fee	7260.00		Students Activities Fee	14732.00	
N.M.U. exam Fee	166250.00		Uni.Miscellaneous Fee	133687.00	636086.00
NMU Excess Fee	6000.00		<b>By Pay and Allowances</b>		
Online Registration Fee	20880.00		<b>Teaching Staff</b>		
Other Fee	11.00		Basic Pay	32847770.00	
Readmission Fee	300.00		D. A.	7059562.00	
Student Activity Fee	700.00		H. R. A.	2761953.00	
Student Group LIC	14540.00		T. A.	261120.00	
T.C. Fee	8550.00		Other Allowances	39000.00	
Tuition Fee	303672.50		Licence Fee	16800.00	
Tutorial Fee & Int Exam Fee	43465.00		P B Remuneration	452100.00	
Uni Misellaneous Fee	71900.00	1231903.50	Medical Bill	492093.00	
<b>To Grants Received</b>			Excess Salary Paid	201.00	
Salary	46716481.00			43930599.00	
P B Remuneration	452100.00		<b>Admn. Staff</b>		
Medical Bill	492093.00	47660674.00	Basic Pay	583480.00	
<b>To Bank Interest</b>			A G P	21200.00	
Bank Interest		6181.00	D.A.	349863.00	
<b>To Donation</b>			H. R. A.	54210.00	
		79700.00	T. A.	9000.00	
<b>To Yuvati Sabha</b>				1017753.00	
		15000.00	<b>Menial Staff</b>		
			Basic Pay	1648020.00	
			A G P	46200.00	
			D.A.	852561.00	
			H. R. A.	151742.00	
			T. A.	26400.00	
				2724923.00	47673275.00
<b>Total C/F</b>		48994865.50	<b>Total C/F</b>		48520696.00



*[Signature]*  
**PRINCIPAL**  
 Sau. Rajnital Nanasaheb Deshmukh  
 Arts, Commerce & Science Collage  
 Bhadgaon, Dist. Jalgaon (424105)





Total B/F		48994865.50	Total B/F	48620696.00
			<b>By Educational Expenses</b>	
			Advertisement	9450.00
			Affiliation Fee	22200.00
			Audit Fee	18880.00
			Bank Commission	3022.27
			Electrical Repairs	6885.00
			Electricity Charges	44890.00
			Gymkhana Expenses	65905.00
			Honarium to Research Lab Center	1400.00
			Internet Connectivity	16800.00
			ISO Certification Fee	11800.00
			Maintenance of Equipment	12750.00
			Miscellaeous	31270.00
			Municipal Tax	23742.00
			NAAC Expenditure	48000.00
			Newspapers & Periodicals	4950.00
			Non Agri Tax	40000.00
			Play Ground Development	5200.00
			Printing	15100.00
			Repairs to Furniture	3500.00
			Sanitary Work Expenses	35650.00
			Security Gaurd Expenses	48000.00
			Seminar Exp	2500.00
			Software Renewal Charges	5900.00
			State Level Essay Compition	6000.00
			Stationery	28463.00
			T. A. & D. A.	27880.00
			Tree Plantation	2380.00
			Website Expenditure	11666.00
			Research Lab Center	9000.00
				563183.27
<b>To Depreciation Fund</b>		50000.00	<b>By Depreciation</b>	50000.00
<b>To Deposits</b>			<b>By Deposits</b>	
Library Deposit	34600.00		Library Deposit	300.00
Laboratory Deposit	20100.00	54700.00	Laboratory Deposit	0.00
				300.00
<b>To Advances</b>			<b>By Advances</b>	
Other Advances		38005.00	Other Advances	31905.00
<b>To Inter-Unit Accounts</b>			<b>By Inter-Unit Accounts</b>	
PTC Education Society	302335.00		PTC Education Society	0.00
L M C Transfer	259102.00	561437.00	L M C Transfer	441684.00
			Building Construction A/c	1770.00
				443454.00
<b>To Scholarships</b>			<b>By Scholarships</b>	
GOI Scholarship	200587.50		GOI Scholarship	200587.50
NMU EBC Scholarship	0.00	200587.50	NMU EBC Scholarship	0.00
				200587.50
<b>Total C/F</b>		49899595.00	<b>Total C/F</b>	49810125.77



*[Signature]*  
**PRINCIPAL**

Sau. Rajnital Nanasahab Deshmukh  
 Arts, Commerce & Science Collage  
 Bhadgaon, Dist. Jalgaon (424105)





Total B/F		49899595.00	Total B/F		49810125.77
<b>To Bank Accounts</b>			<b>By Bank Accounts</b>		
ID B I Exam A/c 13380	3260.29		ID B I Exam A/c 13380	38857.00	
ID B I Misc A/c 13343	1542657.28		ID B I Misc A/c 13343	1471211.50	
Bank of Maharashtra Sal A/c	61940.80		Bank of Maharashtra Sal A/c	62069.00	
Bank of Maharashtra Sal A/c New	51921285.90		Bank of Maharashtra Sal A/c New	51907382.00	
ID B I Non Sal A/c 13342	0.00		ID B I Non Sal A/c 13342	35865.00	
ID B I Gymkhana A/c 71558	0.00	53529144.27	ID B I Gymkhana A/c 71558	0.00	53515384.50
<b>To Other Accounts</b>			<b>By Other Accounts</b>		
DA Arrears	46825.00		DA Arrears	46825.00	
Earnest Money Deposit	0.00	46825.00	Earnest Money Deposit	91000.00	137825.00
<b>To Accounts as per contra</b>			<b>By Accounts as per contra</b>		
G S Credit Society Bhadgaon	3342583.00		G S Credit Society Bhadgaon	3342583.00	
Provident Fund	6024316.00		Provident Fund	6024316.00	
Covid -19	57707.00		Covid -19	57707.00	
Govt. Accident Policy	9912.00		Govt. Accident Policy	9912.00	
D C P S	833997.00		D C P S	833997.00	
Profession Tax	71400.00		Profession Tax	71400.00	
Income Tax	9190440.00		Income Tax	9190440.00	
Group Life Insurance	5760.00		Group Life Insurance	5760.00	
LIC	715331.00		LIC	715331.00	
Jalgaon College Credit Sty	3526683.00		Jalgaon College Credit Sty	3526683.00	
PF Loan	750000.00		PF Loan	750000.00	
Encashment of Leave	61870.00		Encashment of Leave	61870.00	
Salary Difference	4346357.00		Salary Difference	4346357.00	
D C P S Arrears	13271.00	28949627.00	D C P S Arrears	13271.00	28949627.00
<b>To UGC Grant</b>			<b>By UGC Expenditure</b>		
Revenue Grant		0.00	Revenue Expenditure		8249.00
			UGC A/c		
<b>To Closing Balance</b>			<b>By Closing Balance</b>		
			as on 31.03.2022		
			Cash in Hand		3980.00
<b>TOTAL</b>		<b>132425191.27</b>	<b>TOTAL</b>		<b>132425191.27</b>
					0.00

*Sau R. N. Deshmukh*  
Principal  
Sau R. N. Deshmukh Arts Commerce & Science  
College Bhadgaon  
Tal Bhadgaon Dist Jalgaon

Place : JALGAON  
Date : 30/07/2022



UDIN : 22119780AOLJDZ3489

As per our Report of even date  
For Joglekar & Nandarshi  
Chartered Accountants  
*S. Joglekar*  
Sujay Joglekar  
Partner  
Membership No 119780  
FRN - 104328W