Annexure –VIII

UNIVERSITY GRANTS COMMISSION

BAHADUR SHAH ZAFAR MARG

NEW DELHI – 110 002.

PROFORMA FOR SUBMISSION OF INFORMATION AT THE TIME OF SENDING THE FINAL REPORT OF THE WORK DONE ON THE PROJECT

1. Name and address of the principal investigator: **Dr. Chavhan Namdeo Mangu, Dept. Of Chemistry, S. S. G. M. College, Kopargaon, Dist: Ahmednagar-423601.**
2. Name and address of the institution: **S. S. G. M. College, Kopargaon, Dist: Ahmednagar-423601.**
3. UGC Approval No. and Date: **47-1984/11(WRO), dated 28-05-2013**
4. Date of implantation:**28-05-2013**
5. Tenure of the project: **2 years** (28-05-2013 to 28-05-2015)
6. Total grant allocated: Rs. **1,60,000/-**
7. Total grant received: Rs. **1,15,000/-**
8. Final expenditure: Rs. **1,15,000/-** (I^{st} installment, received) + Rs. **45,000/- (II^{nd} installment, not received)**= Rs. **1,60,000/-**
9. Title of the project :**Synthesis & screening of biological activities of some important Pyrazoline derivatives.**
10. Objectives of the project: **a)To synthesize some newer derivatives of pyrazolines b) To characterize the synthesized compounds by different analytical techniques such as IR, NMR & Mass spectral data c)To screen the synthesized compounds for its antimicrobial activities.**

11. Whether objectives were achieved: Yes, we achieved following objectives.

i) We synthesize new biologically active compound *viz*. various Chalcones and Pyrazilines.

ii) We characterized prepared compounds by IR, NMR and Mass spectral studies.

iii) Antimicrobial activity test was performed by disc diffusion method.

12. Achievement from the findings:

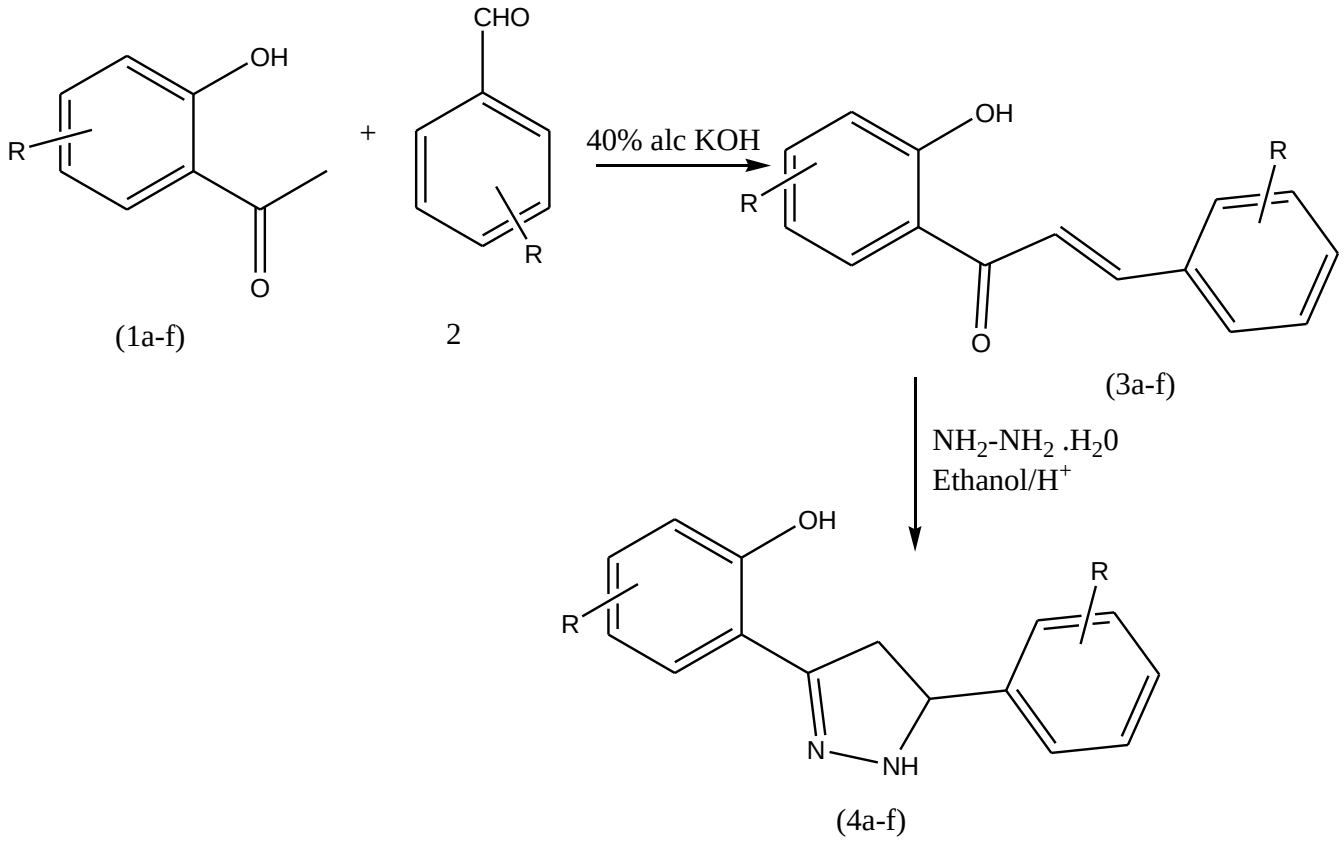
i) We synthesized new bioactive compound *viz*. various chalcones and Pyrazoline derivatives.

ii) We characterized prepared compounds by IR, NMR and Mass spectral studies.
We got good result, which it is match with theoretical values.

iii) The investigation of antibacterial screening data has revealed that all the tested compounds such as chalcones and pyrazoline derivatives showed moderate to excellent antimicrobial activities against *E. Coli (grame –ve) and Pseudomones arruginosa, Staphylococcus aureus (grame +ve).*

13. Summary of the findings:

***Chemistry*:** In this project work, we report the synthesis and spectroscopic studies of pyrazoline derivatives. Scheme of the prepared compounds has been shown in **Scheme 1.** .



Scheme-1. Synthesis of Chalcones**(3a-f)** & pyrazoline derivatives **(4a-f)**

The aim of the present study was to investigate the antimicrobial activity of prepared compounds. Chalcones **(3a-f)** have been prepared from O-hydroxyacetophenone (**1a-f)** on treatment with aromatic aldehydes in presence of 40% alc. KOH. These compounds (**3a-f)** on treatment with hydrazine hydrate in presence of ethanol and few drops of glacial acetic acid gave compounds (4a-f). These compounds are prepared by conventional method. Compounds (**3a-f)** and (**4a-f)** were obtained in good yield. Each experiment was repeated three times to confirm the consistency of the results.

***Antibacterial Activity*:** Synthesized compounds had been screened for its in vitro antibacterial activity against gram negative organism E. Coli and gram positive organism pseudomonas aeruginosa and staphylococcus aureus using Gentamycin as a reference standard by paper disc diffusion method. Antifungal activity has been evaluated with Candida sp against Nystatin as a reference standard. The tested compounds have been evaluated at 100 μg/ml concentration. The Muller Hinton agar used as a culture media. The zone of inhibition was measured in mm after 24 hrs of incubation at 37^0C. Microbial data of synthesized compounds are summarized.

Compounds **3f, 4a, 4b, 4c, 4f** were found to be excellent antifungal activity for candida sp. (15-16mm).An observation of data showed that **4c** and **4d** have shown moderate activity for gram positive bacteria Staphylococus aureus ATCC 25923 (11-12mm).

14. Contribution to the Society:

► The newly synthesized pyrazoline derivatives exhibited moderate to promising antimicrobial activity against standard strains. This class of compounds certainly holds great promise to discover novel classes of antimicrobial agents. All these reactions are very easy to carry out giving high yield. These results make interesting lead molecule for further synthetic and biological evaluation and are used for designing and synthesizing new drug. This will be the ultimate contribution to the society in future.

15. Whether any Ph.D. enrolled / produced out of the project: No. But 2 M.Sc. students are trained under this project.

16. No. of publication out of the project (Re-print has been attached):

One International Research paper published entitled "Synthesis and Screening of biological activities of Some Important pyrazoline derivatives" . ***IJIRSET,*** 23 (2), **2015**, 417-421.

Signature of the principal investigator

Principal

S.S.G.M. College, Kopargaon