**NOMENCLATURE**

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| **Units** | **Represents** | **Symbol** |
|  | Regression coefficient | b |
|  | Built up edge | BUE |
|  | Coefficient of Variation | C.V. |
| mm | Depth of cut | D |
| m | Original diameter | Do |
| m | Final diameter | Df |
| mm/rev | Feed | F |
| mm/min | Feed rate | Fr |
|  | Number of factors | k |
| mm | Turned length | L |
| mm3/min | Metal removal rate | MRR |
| Rev/min | Rotational speed | N |
|  | Number of ( replicates ) of the center points in the design | no |
|  | Multiple coefficient of determination  | R2 |
|  | Adjusted multiple coefficient of determination | R2adj |
|  | Prediction R-Squared | R2pred |
|  | error sum of squares  |  |
| min | Tool life | T |
| m/min | Cutting speed | V |
|  | The coded value of the parameters | Xi |
|  | Dependent variable ( response ) | Y |
|  | The original value of the parameter from ymin to ymax | y |
|  | The lower level of the parameter | Y min |
|  | The upper level of the parameter | Y max |
|  | significance level | α |
|  | Analysis of variance | ANOVA |
|  | Central composite design | CCD |
|  |  |  |
|  | High speed steel | HSS |
|  | Response surface methodology | RSM |