

South East Asian J. of Mathematics and Mathematical Sciences
Vol. 16, No. 1 (2020), pp. 171-176

ISSN (Online): 2582-0850

ISSN (Print): 0972-7752

PATHOS VERTEX SEMI-MIDDLE GRAPH OF A TREE

Rajendra Prasad KC, Venkanagouda M. Goudar* and Niranjana KM**

UBDT College of Engineering, Davanagere-577004
A Constituent college of Visvesvaraya Technological University, Belagavi
Department of Mathematics,
Jain Institute of Technology, Davangere - 577003,
Affiliated to Visvesvaraya Technological University,
Belagavi, Karnataka, INDIA

E-mail : rajendraprasadkp@gmail.com

*Department of Mathematics, Sri Siddhartha Institute of Technology,
Tumkur - 572105, Karnataka INDIA

E-mail : vmgouda@gmail.com

**Department of Mathematics, UBDT College of Engineering,
Davanagere - 577004, Karnataka, INDIA

E-mail : niranjankm64@gmail.com

(Received: Dec. 25, 2019 Accepted: Jan. 29, 2020 Published: Apr. 30, 2020)

Abstract: In this communication, the pathos vertex semi-middle graph of a tree is introduced. Its study is concentrated only on trees. We present a characterization of those graphs whose pathos vertex semi-middle graph of a tree is planar, crossing number one and crossing number two. Also we establish a characterization of graphs whose pathos vertex semi-middle graph of a tree is noneulerian, hamiltonian.

Keywords and Phrases: Crossing number; Middle graph; Planar; Semientire graph.

2010 Mathematics Subject Classification: 05C05, 05C10, 05C45, 05C75.