2020年美国大学生数学建模竞赛

参赛步骤及注意事项

**During the Contest - Choosing and Solving the Problem**

1. The contest problems become available for teams to view at precisely 5:00 p.m. EST on Thursday February 13, 2020 on the contest web site:

https://www.comap.com/undergraduate/contests/mcm

No password is needed to view the problems. Simply go to the contest web site at or after 5 p.m. EST on Thursday, February 13, 2020 and you will see a link to view the problems.

2. The contest problems will also become available for teams to view precisely at 4:50PM EST on Thursday February 13, 2020 on the following mirror sites:

http://www.comap-math.com/mcm/index.html

http://www.mathismore.net/mcm/index.html

http://www.mathportals.com/mcm/index.html

http://www.immchallenge.org/mcm/index.html

If you cannot access any of the sites, there may be a problem with your local Internet connection. Contact your local Internet service provider to resolve the issue.

3. Each registered team may choose any one of the six problem choices and should submit a solution to only one problem.

• MCM problems are Problem A, Problem B or Problem C.

• ICM problems are Problem D, Problem E or Problem F.

4. Teams may use any inanimate source of data, materials, computers, software, references, websites, books, etc. Teams should reference all sources used using footnotes, endnotes, or in-line documentation, and include an associated reference list citing all sources.

5. Teams may not seek help from any person outside of team members as delineated in the Contest Rules (specifically Rule #6).

**（竞赛期间所有参赛队禁止向队外人员寻求帮助，否则将视为违规。）**

6. Teams should keep in mind the following guidelines when solving the problem and developing their solution.

a. **Summary Sheet**: The summary is an essential part of your MCM/ICM paper and should appear as the first page of your solution report. The judges place considerable weight on the summary, and winning papers are often distinguished from other papers based on the quality of the summary. Click here to download the Microsoft Word Summary Sheet.

**（论文摘要页：摘要是竞赛论文的重要组成部分，必须作为论文的第一页。论文摘要对于审阅人的评分有至关重要的影响。各参赛队务必仔细书写论文摘要。摘要页须使用固定模板，模板文件在群文件中给出。）**

• To write a good summary, imagine that a reader will choose whether to read the body of the paper based on your summary: Your concise presentation in the summary should inspire a reader to learn about the details of your work.

**（论文摘要的好坏可能直接影响审阅人是否会进一步阅读论文内容。）**

• You should write the summary last, as it should clearly describe your approach to the problem and, most prominently, your most important conclusions. Ensure you plan time after solving your problem to write a comprehensive and articulate summary.

**（建议在论文完成后再书写摘要，注意确保有足够的时间书写摘要。）**

• Summaries that are mere restatements of the contest problem, or are a cut-and-paste boilerplate from the Introduction are generally considered to be weak.

**（摘要不能是简单地重复问题内容，且不能简单地从论文内容中复制粘贴。出现这两种情况会严重影响论文评分。）**

b. **Overall**: The team’s solution should be articulate, concise, and organized in order to allow the reader to easily follow the solution process and conclusions. Key statements should present major ideas and results.

**（书写论文时应保证行文流畅以便阅读）**

• A Table of Contents assists the reader in previewing the organization of your report.

**（建议添加论文目录。）**

• Present a clarification or restatement of the problem as appropriate.

**（对竞赛问题进行重述。）**

• Present a clear exposition of all variables and hypotheses.

• State and justify reasonable assumptions that bear on the problem.

• Present an analysis of the problem, motivating or justifying the model being used.

• Summarize derivations, computations, or illustrative examples in the main body of the solution, and leave lengthy derivations and/or calculations and data in appropriate appendices.

**（比较长的推导过程或证明过程、计算过程、数据等应放在论文后的附录部分。）**

• Include a design of the model. Discuss how the model could be tested, to include error analysis, sensitivity, and/or stability.

• Discuss any apparent strengths or weaknesses to your model or approach.

**（论文中应讨论所提出模型或方法的优缺点。）**

• Provide a conclusion and report results explicitly.

**（论文应给出清晰的结论和结果。）**

• Document resources and references.

**（论文应给出引用的参考文献。）**

7. New! Follow COMAPMath on Twitter or COMAPCHINAOFFICIAL on Weibo for the most up to date information before, during, and after the contest.

**During the Contest – Preparing a Solution Document**

1. MCM/ICM solutions are judged as varying degrees of successfully completing the contest (from Successful Participant up to Outstanding). There is no passing or cut-off score, and therefore, partial solutions are acceptable and teams are encouraged to complete as much of the problem as they are able to do. MCM/ICM judges are primarily interested in the team’s thought processes, analysis of the problem, modeling approaches, and mathematical methods.

**（论文评分的主要依据为论文的完成度，部分完成的论文也可以提交，鼓励参赛队尽可能多地完成论文。竞赛评分时主要注重参赛队的思考过程、问题分析角度、提出的模型以及涉及的数学方法。）**

2. Teams must submit their entire solution in one **Adobe PDF** electronic file, consisting of written text, figures, charts, and supporting materials. Papers must be typed in English, with a readable font of at least 12-point type. Do not send additional “non-solution” files such as data or computer programs.

**（参赛队的论文必须为Adobe PDF文件，论文内容包含论文文字主题、图、表以及支撑材料。论文必须用英语书写，且字体大小应不小于12号。不要额外发送与解决问题无关的内容，例如大量的数据和计算机程序文件。）**

3. Each page of the solution must contain the team control number and the page number at the top of the page. Use a page header on each page - for example: **Team # 204321, Page 6 of 13.**

**（论文所有页的页眉必须包含参赛队的control number以及页码，页眉样式例如：Team #204321, Page 6 of 13。）**

4. Your solution report should start with the Summary Sheet followed by the team’s solution. Ensure your solution meets the page limit requirements as stated in the problem. A Table of Contents is encouraged and does not count toward the page limit. Reference list (or Bibliography), notes pages, and any appendices do not count in the page limit and should be included after the solution pages.

**（论文首页必须为摘要页，摘要页模板见群文件，摘要之后为论文内容。鼓励论文中给出论文目录，且目录不包含在页码中。参考文献、附录等应在论文的主体内容后给出。）**

5. Names of the students, advisor, and/or institution **must not** appear on any page of the solution. The solution file **must not** contain any identifying information other than the team Control Number.

**（论文中绝对不能出现学校名称、指导教师姓名以及参赛队员姓名，违反此规定可能导致论文失去评奖资格。）**

6. STOP making any changes to the solution at **8:00pm EST on Monday, February 17, 2020**.

**（美国东部时间2020年2月17日20:00后不允许对论文内容进行任何修改。）**

**During the Contest – Advisor Activities**

1. After the contest begins at 5 p.m. EST on Thursday February 13, 2020, and while the teams are preparing their solutions, the advisor should login to the contest web site at https://www.comap.com/undergraduate/contests/mcm. Click on Advisor Login, and then enter your email address and password.

**（此项目我校所有参赛队已完成，不需要再完成此项。）**

2. For each control number, if you have not done so already, enter the team member names and confirm that each name is spelled correctly. **This determines how the names will appear on the contest certificates. COMAP will not make any changes or reprint certificates for any reason.**

**（此项目我校所有参赛队已完成，不需要再完成此项。）**

3. Specify the problem that each team has chosen to solve.

**（各参赛队自行进入美赛官网系统，在自已队伍的control number中选择要求解的问题题号。）**

4. Click here to download a copy of the team Summary Sheet. (This should be used as the first page of each team’s electronic email submission.)

**（论文首页应为论文的摘要页，摘要页模板可在官网下载，群文件中也已给出。）**

**After the Contest - Submitting a Solution Document**

1. Teams must end all work on their solution by **8:00 p.m. EST on Monday February 17, 2020** and send an Adobe PDF electronic file of Solution Paper by email to COMAP by **9:00 p.m. EST on Monday, February 17, 2020. \*Note: Do not wait until the last minute. Send solution as soon as it is completed**.

**（参赛队须在美国东部时间2020年2月17日20:00之前完成论文，并通过电子邮件发送论文的PDF文件，发送电子邮件的截止时间为美东时间2020年2月17日21:00。务必注意不要等到最后时刻再发送邮件，一定要稍微提前完成论文并发送。以之前的经验，每年竞赛在最后截止时间前发送邮件时，无一例外会遇到因网络拥堵造成的发送邮件不成功。务必提前完成论文并发送邮件，以免耽误参加比赛。）**

2. No further modifications, enhancements, additions, or improvements may be made to the team’s solution paper after 8 p.m. EST on February 17, 2020. Any changes to the solution will constitute a violation of the contest rules and may result in disqualification.

3. Each team is required to submit an Adobe PDF electronic copy of its solution by email to **solutions@comap.com**. Any team member or the advisor may submit this email.

**（所有参赛队向邮箱solutions@comap.com发送论文的PDF文件，发送电子邮件由各参赛队自己完成，发送时须按照以下要求。）**

a. Your email with your electronic PDF solution file **MUST** be received at COMAP on or before the email submission deadline of **9:00 p.m. EST on February 17, 2020**.

b. In the subject line of your email write your team's control number. For example, **Subject: 2012345**. Limit one team solution file per email.

**（邮件的“主题”行须填写参赛队的control number，每个电子邮件只能发送一个参赛队的论文。）**

c. Use your team's control number as the name of your file attachment. For example: **2012345.pdf**. **\*Note: The attachment must be less than 17MB. Do not use a cloud service such as Google Docs. Your email must contain an Adobe PDF attachment.**

**（论文的PDF文件以电子邮件的附件发送，PDF文件的命名为参赛队的control number，例如control number为2007500，则文件名应为2007500.pdf。注意PDF文件必须小于17MB，严禁使用各类云服务添加邮件附件，每个电子邮件只能包含一个PDF文件。）**

d. Page 1 of the team’s PDF electronic solution should be the team summary, followed by the solution and any references and appendices.

**（论文的第一页必须为摘要页，参考文献及附录等在论文最后。）**

e. Do not include or send programs, software, databases, and/or other files with your solution email, as they will not be used in the judging process.

**（发送电子邮件时不要发送编程程序、软件、大量的数据或其他文件，这些内容再评分时不再考量范围之内。注意少量的、与论文模型相关的必要数据可以在论文中给出，建议以图表形式出现。）**

f. **The names of the students, advisor, or institution should NOT appear on any page of the electronic solution**.

**（论文中禁止出现学校名称，指导人员姓名以及参赛人员姓名，如果违反可能直接导致参赛队失去评奖资格。）**

g. COMAP will accept only an **Adobe PDF** of your solution. Limit one solution per email.

4. Failure by a team to submit a solution via email by **9:00 p.m. EST on February 17, 2020** in accordance with the above instructions may result in disqualification or reduction of award level.

**（如果在美东时间2020年2月17日21:00前未能成功发送论文邮件，则会使参赛队失去评奖资格或使评奖等级下降。）**